INTERNATIONAL PARTICIPANTS' XMOOC PERSPECTIVES

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Dedication

To those who believe in their loves ones even when they no longer believe in themselves

Abstract

Massive Open Online Courses (MOOCs) are an example of what is now possible through education technologies. Due to their unique reach and viral growth, many universities have developed MOOCs since 2011. Sometimes over 100,000 participants enroll in a single MOOC. MOOCs promise to increase the reach of higher education internationally especially to those who currently lack access. The mission of Coursera, one of the leading MOOC providers, is to "provide universal access to the world's best education". Multiple studies have noted that the overwhelming majority of MOOC participants are international, yet their experiences have not been thoroughly analyzed by geographical region. This dissertation analyzes data from five Coursera MOOCs. MOOCs developed by Coursera are considered "eXtended" MOOCs or "xMOOCs" which are different in format to "Connectivist" MOOCs or "cMOOCs".

This dissertation study analyzes international participant experiences in five MOOCs to improve our understanding of who these participants are, why they are participating, what are the positive and negative aspects of their experience, and what suggestions they have for improving these MOOCs. This study analyzes data collected during an evaluation of five Coursera MOOCs from 2012-2013. A pre-course survey (N = 21,178), a post-course survey (N = 2,793), a survey for international participants (N = 1,757), and focus groups with international participants (N = 81) were conducted. This study also takes into consideration the author's own experiences as an xMOOC participant. Surveys were studied through a series of chi-square tests. Focus groups were analyzed using theme analysis. While the majority of participants in xMOOC are

international, they participate in xMOOCs for a diverse series of reasons some of which are more prevalent depending on their geographical region. Participants' outlook on the future of MOOCs is also varied yet overall most participants considered xMOOCs to be a very positive opportunity for learners that was not available to them before.

This study found significant differences in international participants' experiences according to their geographical region, as well as similarities between all international participants. The study also identified two primary groups of international participants, those from lower HDI regions, and those from higher HDI regions. Some of the concerns shared by international participants have been addressed by MOOC developers but additional changes could be made to better address the needs of international participants.

Los Cursos Masivos y Abiertos en Línea (MOOCs) son un ejemplo de lo que ahora es posible a través de las tecnologías educativas. Debido a alcance de los MOOCs y su crecimiento viral, muchas universidades han desarrollado MOOCs desde el 2011. Algunas veces más de 100,000 se registran en su solo MOOC. Los MOOCs prometen aumentar el acceso a la educación avanzada a nivel mundial especialmente a aquellos que actualmente no tienen acceso. La misión de Coursera es "proveer el acceso universal a la mejor educación del mundo". Múltiples estudios han determinado que la que la gran mayoría de los participantes en MOOCs son internacionales sin embargo sus experiencias no han sido analizadas en detalle de acuerdo a su región geográfica. Esta tesis estudia cinco MOOCs de Coursera. Los MOOCs desarrollados por Coursera son considerados como MOOCs "eXtendidos" o "xMOOCs" que son diferentes en formato a los MOOCs "Connectivistas" o "cMOOCs".

Esta tesis analiza las experiencias de estudiantes internacionales en los xMOOCs y espera mejora nuestro entendimiento sobre quiénes son estos participantes, porque están participando, los aspectos positivos y negativos de sus experiencias, y como ellos sugieren mejorar los xMOOCs. Este estudio analiza información recolectada como parte de una evaluación de cinco xMOOCs de Coursera. Una encuesta fue distribuida antes de comenzar el curso (N = 21.178), al igual que una encuesta al finalizar el curso (N = 2.793), otra encuesta fue distribuida a participantes internacionales (N = 1.757), y grupos focales fueron conducidos con participantes internacionales (N = 81). Este estudio también considera mis observaciones con participante en xMOOCs. Las encuestas fueron estudiadas utilizando pruebas de chi cuadrado. Los grupos focales fueron estudiados con un análisis de temas. Mientras que la mayoría de los participantes en xMOOCs son internacionales, ellos participan en xMOOCs por una seria diversa de razones algunas de las cuales son más prevalentes dependiendo de la zona geográfica. Su visión sobre el futuro de los xMOOCs también es variada, pero en general la mayoría de los participantes consideran que los xMOOCs son una oportunidad muy positiva para aprendices que antes no estaba disponible.

Este estudio encontró varias diferencias significativas en las experiencias de los participantes internacionales por zona geográfica, al igual que similitudes entre todos los participantes internacionales. El estudio identifico dos grupos principales de participantes internacionales, aquellos en áreas con niveles de IDH más bajos, y otros en áreas con niveles de IDH más altos. Algunos de las preocupaciones compartidas por los participantes internacionales han sido cubiertas por las plataformas MOOC, pero

cambios adicionales ayudarían a cubrir mejor las necesidades de los participantes internacionales.

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Key Terms and Acronyms Used in This Study

Brain Drain (or Human Capital Flight): is an economic term referring to the emigration of individuals with higher levels of training from rural to urban areas, and to countries with higher living standards. This outmigration can accentuate economic differences between regions.

Communities of Practice (CoP): is a group of people who share a profession and/or craft. They can form a virtual community of practice (VCoP) when collaborating online. A CoP can be created, or it can develop naturally following the common interests of members in increasing their knowledge of a field.

Creative Commons (CC) Licenses: facilitate the sharing of resources online. Creative Commons (CC) licenses often include an abbreviation explaining the license that has been adopted. These abbreviations include SA for Share Alike, ND for Non-Derivative, NC for Non-Commercial, and BY for Attribution. More information available at CreativeCommons.Org.

Digital Divide: is the lack of access to, use of, and knowledge about ICTs by a category of individuals, often with lower socioeconomic status. There is a regional divide between individuals within a community, as well as a global divide between countries. As access increases, the quality of access and how these technologies are used is seen as a second order Digital Divide.

Learning Technologies (ET): *[Also Learning Technologies (LT) or Information and Communication Technologies for Education (ICT4E)]* are terms used to discuss the use and implications of technology in education. Education Technology is "the study and

ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources" (Richie, 2008).

Information and Communication Technologies (ICT): includes any communication device including the radio, television, personal computers, satellite systems, cellular phones, as well as services, applications and similar devices. ICT devices allow users to access, transmit, manipulate and store information.

Information and Communication Technologies for Development (ICT4D): refers to the use of ICTs in international development, and socio-economic development. Better information and communication can further the development of a society. ICT4D also requires an understanding of local conditions, and development practices.

Massive Open Online Course (MOOC): is an online course that is open, and massive. An open course is freely accessible to the public. A massive course has anywhere from over 148 participants to potentially thousands of participants. MOOCs include course materials or CourseWare, as well as support from TAs, professors, and peers.

Open Access (OA): refers to free, unrestricted online access to content. Open Access was initially discussed in relationship to academic journal articles. Open Access has since expanded to books, theses, scholarly monographs, and other resources.

Open Access Journals (OAJ): are scholarly publications that can be accessed online by anyone without technical, financial or legal barriers. Some OAJ are supported financially by academic institutions. Others are financed by a processing fee. A directory of Open Access Journals can be accessed at DOAJ.org.

Open CourseWare (OCW): are course materials released to the public via the internet. OpenCourseWare started in 1999 when the University of Tubingen released recorded videos of university lectures. OCW gained popularity following the release of MIT OCW in October 2002. Many higher education institutions have since joined the OCW Consortium.

Open Education (OE): "Open" in open education refers to the removal of barriers to opportunities for learning. Some institutions have eliminated admission requirements. Institutions have also made their courses more accessible. There has also been a move to develop and adopt Open Educational Resources.

Open Educational Resources (OER): OER are resources that “are freely accessible, openly licensed documents and media that are useful for teaching, learning, educational, assessment and research purposes” (Wikipedia, 2013). OER was a term developed by UNESCO in 2002.

Open Source Software (OSS): are computer programs whose source code is made available and are shared under an open license, allowing its study, modification, and distribution for any purpose. Open-source software is often developed by collaborations. Sites such as Github.com facilitate the sharing of projects.

Web 2.0: a second stage of development of the World Wide Web with higher average bandwidth levels as the Web became more interactive, extending beyond the retrieval of information and static content to dynamic websites, social networking sites, self-publishing platforms, and the growing use of web applications.

Chapter I: MOOCs and their International Participants

Massive Open Online Courses ("MOOCs") are online courses that allow for the participation of thousands of participants per course at no cost to the participants. Through a mixed methods analysis of survey and focus group data, this study provides a better understanding of international participants' MOOC experiences via four principal research questions: (1) Who were the participants in the MOOCs? (2) Why were they participating in MOOCs? (3) What were the positives and negatives of the MOOC experience? and (4) How would participants like to see MOOCs improve?

Since their initial development, two main subsets of MOOCs can be identified: "cMOOCs," which first emerged in 2008, and "xMOOCs," which began to appear in 2011. A cMOOC or Connectivist MOOC emphasizes a networked experience, participant-driven content, a distributed communication structure, and the autonomy of the learner. In contrast, xMOOCs more closely resemble traditional online courses with instructor-driven content, computer-marked assignments, video lectures, and utilizing a learning management system (Bates, 2014).

This study focuses on Coursera, the largest xMOOC provider[1], which offers over 1,000 courses. Out of the over 10 million participants who have enrolled in Coursera from countries all over the world, there are dozens of reasons why participants choose to participate in MOOCs. The mission of Coursera is to "provide universal access to the

[1] Other xMOOC providers include EdX, Future Learn, and Miriada X. Udacity started as another xMOOC provider but it no longer offer free access.

world's best education," including to millions of individuals internationally that currently lack access to tertiary education.

Overall, the majority of MOOC participants are international. Depending on the review or study, international participants account for 50% to 80% of participants in US-based MOOCs, yet their experience is not extensively documented in the literature (Schworm, 2014; ICEF, 2014; Wilson & Gruzd, 2014). A recent large-scale study of 68 MIT EdX courses, representing 1.7 million participants, from 2012-2014 found that only 27% of participants were based in the United States in Year 1, and 32% in Year 2 (Ho, et al., 2015). In the five MOOCs analyzed in this dissertation, 45.9% of participants were from the United States and 54.1% were international.

With thousands of participants per course, by their very nature, MOOCs facilitate in-depth statistical analysis. As a result, most MOOC studies take a quantitative approach and fewer qualitative studies on MOOCs have been published. As a mixed methods study, this study analyzes the international participant experience in greater depth, exploring geographical differences between participants by region. A series of surveys were conducted initially, followed by a series of focus groups. I also took part in a series of xMOOCs to gain a personal understanding of their value as an international participant.

The first chapter of this dissertation explains the significance of this study. With most MOOC participants being international participants and most studies being quantitative, a mixed method study on the international participant experience will be an important contribution to the literature. The second chapter includes a literature review

discussing MOOCs as a learning technology and their impact on the lives of international participants. The third chapter details the methodology of this study and why a mixed-methods approach was chosen. Chapter four includes an auto-ethnography of five MOOCs that I enrolled in as a part of this project to better understand the MOOC experience of an international participant from a personal perspective. The fifth chapter analyses the quantitative data from three different surveys. Survey questions were categorized to help answer four distinct research questions with all secondary variables being analyzed in relation to participants' geographical region. Chapter six analyses the qualitative data from five focus groups. Focus group dynamics allowed for a more in-depth and personal discussion. Many participants expressed how their xMOOC participation had been a transformative experience. Chapter seven includes my conclusions and recommendations for policymakers. This chapter summarizes the findings from the study and highlights areas for further research. MOOCs can do more to address the needs of international participants and meet Coursera's mission statement. This study hopes to help MOOCs improve to meet this challenge.

Significance of this Study

With over a billion learners without access to a higher education institution, and a growing number of college-ready participants, MOOCs offer new possibilities for learners worldwide (World Bank, 2009; Blake, 2013; Mazoue, 2013). For example, MOOCs can increase tertiary education options in developing countries (Becerra, 2013; Bonk, 2011; Trucano, 2013), and opportunities for lifelong learners (Haber, 2013; Kitsiri, 2013; Perrin, 2012; Bellum, 2013). MOOCs can also help re-envision learning objects

and textbooks (Thompson, 2013; Tsigaris, 2013). Through MOOCs, higher education institutions can share their resources with the rest of the world (Paradis, 2013; Bassi, 2013; Leber, 2013; Hill, 2013). Due to improvements in information and communication technologies (ICT), participants all over the world can access MOOCs and they have been (Ho, et al., 2015; ITU, 2013; IDC, 2012; Johnson, et al., 2013; Austrade, 2013). Despite the high level of participation in MOOCs from international participants, the experiences of participants by geographical region has not been the focus of a major study. Significant differences between participants' experiences in relationship to their geographical region were found by this study.

Individuals' ability to learn through digital technologies has improved over the last few decades and should continue to improve in the future (Siemens, 2013; Friedman, 2013; Toyama, 2013). MOOCs are a part of broader transformational technological change with individuals increasingly able to access information anytime and anywhere, which is of particular importance to learners who lack access to higher education in developing regions. Rather than an educational "apocalypse", MOOCs provide participants with new opportunities. MOOCs expand the boundaries of education, distance learning opportunities, and are a valuable tool for increasing access to previously underrepresented groups of individuals (Watters, 2013; Stommel, 2012). Despite the potential MOOCs have in reaching communities with limited access to higher education, it is surprising how little information is available about international participants' experiences, the local benefits of MOOCs, and how MOOCs transformed the lives of these learners (Jordan, 2013; Trucano, 2013; Fisher, 2013). This dissertation provides an

in-depth analysis of their experiences. Taking into consideration the global challenges faced in the expansion of tertiary education and the constant need for retraining occasioned by the ever-changing needs of an increasingly globalized economy, the advent of MOOCs is opportune and better understanding MOOCs to help increase their impact is of great importance to education now and in the future.

Statement of Study Purpose and Related Research Questions:

This paper will explain who the international participants in MOOCs are and give a detailed account of their experiences through an analysis of my experience as a participant observer, surveys, and focus group data. The study focuses primarily on participants' own opinions. The overall goal of this study is to understand the nature of the international MOOC participant experience from their perspective and ways for improvement. To answer the overarching question, the following questions are posited:

- Who were the participants in the MOOCs?
- Why were they participating in MOOCs?
- What were the positives and negatives of the MOOC experience?
- How would participants like to see MOOCs improve?

While various studies have analyzed MOOC participants' demographics and outcomes, most studies have focused only in a quantitative analysis of survey data. Through the use of mixed methods, including an auto-ethnography, focus group analysis, and multiple surveys, this study provides a broader analysis into international participants' experience. Despite offering no academic credit or a path to a degree, millions of individuals are taking part in MOOCs. Over 10 million participants have

registered in Coursera. This study provides an insight into why people all over the world are participating in these courses in large numbers with an emphasis on differences between geographical regions.

While most MOOC participants are not living in the United States, their reasons for participating in MOOCs vary. In addition to analyzing participants' responses by geographical region, other variables such as age, gender, and education level were also examined. Participants shared the positive and negative aspects of their experience and discussed the challenges experienced as participants. I analyzed participant's responses to various questions regarding the impact of MOOCs on their personal lives, employment opportunities and their communities, and asked them questions about the future of MOOCs and how to improve them. Learning more about participants' experiences will help Coursera achieve its goal of providing "universal access to the world's best education" to millions who only a few years ago considered higher education to be impossibly out of reach.

Chapter II: MOOCs and Educational Development

This literature review analyzes peer-reviewed articles, institutional reports, and blog posts and summarizes their conclusions regarding how recent education technology developments are bringing forth new possibilities in education. Literature on how to define and classify MOOCs is discussed, in order to situate MOOCs, and the particular courses studied in this dissertation, within the broader field of education technologies. In addition, existing research on challenges or issues involved in using MOOCs as an educational tool, and international participants' MOOC experiences are explored. Articles were found through the EBSCO database on November of 2014. Articles that included keywords "MOOC" and "Massive Open Online Courses" were reviewed. If an article included either keyword in the title, I reviewed the article without exceptions. Journal articles about MOOCs in open, distance, and e-learning journals such as IRROLD, JIME, EUROLD, AACEJ, ITID, JIOL were also reviewed even when not available through the EBSCO database.

A number of literature reviews on MOOCs were also reviewed as well as relevant primary and secondary sources in their bibliographies. The data gathered, the survey tools, and focus group questions were developed based on the state of MOOC literature and technologies in 2013 and 2014. As the study was developed, relevant and pertinent articles that have been published since were also included following a series of revisions and improvements. MOOC literature has expanded quickly over the last few years (Zancanaro & Domingues, 2017). The literature selection was as extensive as possible in an emerging research area. Moreover, due to the rapid pace of change in MOOCs and

their status as an emerging research topic, blog posts and press reports were also included to incorporate some of the newer developments in the field. Recent articles have focused more on the international impact of MOOCs as MOOC literature as continued to be published (Adham, et al., 2018; Bayeck & Choi, 2018; Zawacki-Richter, et al., 2018). Articles about MOOCs have been published in various fields, primarily in education (52.4%) and computer science (59.4%) (Lund, et al., 2018). Lund et al. (2018) discusses the importance of improving interdiciplinary communication and the potential for interdisciplinarity MOOC research.

Web searches for blog posts and press articles that included keywords "Information and Communication Technologies for Development", "ICT4D", "Development", "International", "Global", "ICT" together with "MOOC" or "Massive Open Online Courses" were also reviewed. Information and Communication Technologies for Development (ICT4D) sources discussing MOOCs' impact in the developing world were also incorporated. Additional articles were found in the bibliography of relevant publications. A similar approach has been used in other MOOC literature reviews (BIS, 2013; Liyanagunawardena, et al., 2013; Shema, et al., 2012).

Learning Technology Improvements

Improvements in Information and Communication Technologies (ICT) and learning technologies are transforming education worldwide (Kurzweil, 2006; Cobo & Moravec, 2011; ITU, 2013; Tømte, Fevolden, & Aanstad, 2017). MOOCs are possible in part due to technological advances including improvements in Learning Management Systems (LMS), internet access, internet speed, faster computing, and online video

(Kurzweil, 2006; Cobo & Moravec, 2011; Prensky, 2011). Consequently, the number of students studying online has grown rapidly over the years, from less than 10% of students enrolling for courses online in 2002 to 32% by 2012 (Allen & Seaman, 2013). MOOCs are possible thanks to greater connectivity, as well as other technological improvements. As the world becomes increasingly interconnected, learning online anywhere is now possible for many (Kamenetz, 2011; Bonk, 2011).

Today, through the internet, participants can access and copy digital resources, including OER and OA resources, at practically no cost. This makes it far easier for digital resources to reach a larger number of learners compared to using traditional, non-digital educational tools. For example, whereas only one person can use a physical calculator at a time, through the internet a digital calculator can be used by many people simultaneously. The global reach of the internet also makes it possible for an OER to become accessible to millions. For example, Sir Ken Robinson’s TED Talk "How Schools Kill Creativity" has been watched by over 20 million viewers at TED.com (Robinson, 2006; TED, 2014).

The internet facilitates learning both formally and informally (Cobo & Moravec, 2011). MOOCs have gained visibility, among other online learning opportunities, due to the large number of participants who can enroll in a single course simultaneously and the prestige of the universities offering these courses. Yet without adequate access to the internet, and above average English comprehension, the usability of MOOCs remains limited. In terms of internet access, only 46.1% of the world's population had access to the internet in 2016, influencing who is more likely to benefit from MOOCs (Internet

Live Stats, 2017). Fortunately, access is quickly increasing and cellular networks are now the primary the point of entry to the internet for millions. According to the ITU (2014) there should be close to 7 billion mobile subscriptions by the end of 2014, or a 96% penetration rate, and 90% in developing countries. There was also a four-fold mobile broadband penetration increase in from 2010 to 2014 (ITU, 2014). By 2017, 70% of the world's youth (15 to 24 years old) was online, with 94% in developed countries, 67% in developing countries, and only 30% in least developed countries (ITU, 2017) There is unfortunately a gender gap in adoption, with men having more access to the internet in most countries with exceptions of most of the Americas (ITU, 2017)

A quote from Friedman (2013) shares some of the optimism about MOOCs for addressing global educational challenges: "I am convinced that within five years these platforms will reach a much broader demographic. Imagine how this might change U.S. foreign aid. For relatively little money, the U.S. could rent space in an Egyptian village, install two dozen computers and high-speed satellite Internet access, hire a local teacher as a facilitator, and invite in any Egyptian who wanted to take online courses with the best professors in the world, subtitled in Arabic (Friedman, 2013)". Some of these changes have happened over the past few years, but internet access remains far from ubiquitous especially in countries with lower HDI levels (Rohs & Ganz, 2015). Due to uneven access to the internet, MOOCs could "enlarge the knowledge gap rather than close it" (Rohs & Ganz, 2015, p. 6)

Prior Initiatives Related to MOOCs

Perhaps the best starting point for an analysis of MOOCs is to recognize that they are simply the latest iteration in a series of educational initiatives designed to make education accessible for geographically dispersed participants. Over the decades, education technology projects have utilized radio, correspondence, and television to reach millions of learners. MOOCs are simply a new way by which participants can learn remotely. Various distance education and ICT4D projects have reached participants from all social classes, including millions of learners in countries with low Human Development Index (HDI) levels (Anderson & Dron, 2011). Some of these projects have been more successful than others with varying cost-benefit ratios including programs that were ineffective with equipment left underutilized or unused (Cuban, 2001; Walsh & Bowen, 2010; Chapman, 2004; Kim, et al., 2009). MOOCs can be seen as a disruptive innovation, or as another learning technology that is being adopted and implemented nationally (Tømte, Fevolden, & Aanstad, 2017).

Perhaps one of the most important early forays into widespread distance learning were open universities. These have provided access to education to international participants via distance learning for decades, offering courses similar to MOOCs in many respects, but using other technologies such as correspondence, television, and radio. These universities play a crucial role in lowering barriers to entry, allowing many participants that are college ready but would otherwise not attend a university to pursue a higher education degree. Unlike most MOOCs, however, open universities courses are often accredited and grant their graduates credentials. Some criticism of MOOCs has

been that they take away resources from initiatives like open universities that, by providing participants with credentials, offer a clearer way by which to improve the lives of their participants (Daniels, 2012). For example, an alumnus Dr. Wichit Sri-saan of my department at the University of Minnesota helped create and served as the first President of Sukhothai Thammathirat Open University (STOU) in Thailand. STOU was established by royal decree in 1978, and it was the first open university in Southeast Asia to use a distance learning system. STOU, a university without walls, that has over a million of Thai students all over the nation and currently has over sixty-four thousand enrolled students in a bachelor's or master's degree program (STOU, 2018).

One of the first Open Universities was the Open University (OU) in England, which first opened its doors in 1971, accepting over 20,000 students. It currently has over 250,000 students enrolled, and more than 1.5 million students have studied its courses. Many more people have viewed its television and radio programs, often broadcast on the publicly accessible BBC channels in the United Kingdom. The OU also joined the OER Movement in 2006, launching OpenLearn, through which it shared Open CourseWare (OCW) resources. Other Open Universities have also joined the OCW Consortium (see discussion below). Despite concerns with MOOCs and MOOC providers offering a less helpful educational program, more recently, some Open Universities have also developed MOOCs as a way by which to increase access to learning resources.

Two online learning initiatives with a similar goal to Coursera that preceded MOOCs were Fathom.com (2000) and Allearn.org (2001). Fathom.com was established by Columbia University and Allearn.org (Alliance for Lifelong Learning) was created by

Oxford, Yale, and Stanford. Both projects hoped to provide access to content from prestigious institutions to the public and shared a similar vision to that of current MOOC providers (University Business, 2006; Walsh & Bowen, 2010). Despite the involvement of highly regarded institutions including Columbia University, the London School of Economics, the British Library, the New York Public Library, Oxford University, Yale University, Stanford University, Cambridge University Press, and various others, these initiatives attracted a much smaller audience than would participate in MOOCs just a few years later. These earlier projects were thwarted by a less accessible internet with lower average connectivity speeds, a less sophisticated Web, and the collapse of the dot-com bubble. Fathom.com closed in 2003, and Alllearn.org in 2006.

Another important precursor to MOOC is OpenCourseWare (OCW) that started in 1999 at the University of Tübingen in Germany. OpenCourseWare are course materials released to the public via the internet often with an open license as Open Educational Resources (OER). OCW has helped millions access high quality educational content online (Carson, 2006). OCW gained popularity following the release of the Massachusetts Institute of Technology (MIT) OpenCourseWare Initiative and the Open Learning Initiative at Carnegie Mellon University in October 2002. MIT has shared resources from over 2,150 courses and reached over 125 million learners. Materials included video recording of lectures (often without editing), and course assignments (without interactive components). Some of these resources were translated into Chinese by CORE and into Spanish by Universia. Over 250 higher education institutions have since joined the OCW Consortium, sharing over 13,000 courses by 2013. OCW resources

have been translated into various languages and continue to be used worldwide to this day. Participants have used these materials to learn all the content taught in university courses, including all of the course work needed to obtain a degree.

Like MOOCs, OCW resources are helpful to many independent learners. Young (2013), a blogger and learning enthusiast, claimed to have completed all the computer science OCW courses materials needed to obtain a computer science degree from MIT in just a year. Unlike an enrolled participant, however, he did not receive a degree or any other official qualification. Like MOOCs, OCW does not award learners credentials. As with Fathom.com and Allearn.org, the state of learning technologies at the time helps to understand some of the differences in the success and format of MOOCs in comparison to the OCW Consortium, Fathom.com, Allearn.org, and other similar initiatives.

MOOCs are both an extension of OCW and a new type of online course. Today, many MOOCs incorporate OERs and can include OCW resources (Israel, 2015). EdX, one of the main MOOC providers and Coursera competitor, is considered by MIT as an extension of their OCW initiative, providing participants with a learning opportunity with greater structure. MOOCs are also a spiritual successor to Fathom.com and Allearn.org. Unlike Fathom.com and Alllearn.org, however, MOOCs began as sites that were free for learners and benefit from broader worldwide internet access, and higher connectivity speeds. Today, most MOOCs are free to access but require payment to receive a certificate. These differences have enabled MOOCs to help millions of learners internationally, including participants in developing countries (Young, 2012, Farmer, 2012; Haywood, 2012; Koller, 2013). With the costs of developing OCW and MOOCs

being covered by the universities producing them, the adoption of MOOCs does not include a financial cost, apart from an opportunity cost, for learners (Young, 2012, Farmer, 2012; Haywood, 2012; Koller, 2013). The free to use aspect of MOOCs is more surprising when one considers the spiraling tuition costs experienced by participants enrolled in traditional courses in recent years.

Shirky (2012) and Friedman (2012) equated MOOCs and, more specifically, Coursera, to the changes brought by Napster to the music distribution industry. While Napster is no longer available, Mp3 are now the standard for music file sharing and distribution. Music is now transferred digitally at a low cost, and some artists distribute their music free of charge to increase its circulation (Shirky, 2013; Shirky, 2012). Education costs have increased rapidly, and student debt in the United States alone is over $1 trillion dollars (Schoen, 2015). In the United States currently students graduate with an average debt of over $30,000 from their undergraduate studies (Furst, 2014). MOOCs could increase pressure towards decreasing the cost of tuition in universities. Baumol's (1966) cost disease affects education as overall higher education costs and employee salaries continue to rise despite no marginal increases in labor productivity, while other professions experience productivity growths (Baumol, 1966). MOOCs may be a way to address effectively Baumol's concerns and as a global disruption (Tømte, Fevolden, & Aanstad, 2017). Online education is expected to continue to grow, while innovators and entrepreneurs continue to look for solutions to current higher education cost problems affecting students in the United States and over the world.

Others are less optimistic about the transformative capacities of the MOOC model. For example, Shirky's support for MOOCs has been criticized due to his perceived oversimplification of education, and his limited emphasis on instruction (Bady, 2013; Bady, 2012; BIS, 2013). Aaron Bady (2012) argues against a "Borg Complex" or solving problems through increased automation and technology. To him the MOOC is just "a fantasy of potential." Bady (2012) believes MOOC advocates are "forgetting that universities have never grown without being planted, for trusting that just as students can teach themselves, universities will magically grow themselves, too" (Bady, 2012). Some caution against seeing technology as a panacea, as it will not solve all of the higher education system's problems (Postman, 1999; Cuban, 2003). Unfortunately, since xMOOCs started most providers some providers including Coursera now require a payment for students to receive a certificate. Coursera currently charges $49 for most certificates. Auditing a course continues to be offered at no cost. Participants could receive a free certificate before, and only had to pay for a verified certificate. Some Coursera MOOCs have also changed in that they now allow participants to work towards a degree, including full masters and bachelors degree programs (Lunden, 2018)

What exactly is a MOOC?

MOOCs are "massive" "open" "online" "courses" (Downes, 2012). Some MOOCs include thousands of participants, and any course with more participants than an instructor can reasonably provide personalized support for should be considered "massive" (Kaplan & Haenlein, 2016). According to Dunbar (1992), humans can only comfortably maintain an average of 148 stable relationships in which an individual

knows who each person is and how they relate to every other individual in the group. A course can be considered massive when an instructor can no longer provide individualized support for all participants. In this study, that threshold is set at Dunbar's number. Downes (2012), who helped coin the term MOOC, also considered Dunbar's number to be the threshold between a traditional online course and a massive course. There is no upper limit to the number of participants that may participate in a MOOC. In fact, many MOOCs have thousands of participants.

The degree to which a MOOC is "open" varies (Wiley, 2012; Conole, 2016; Rohs & Ganz, 2015). For open universities, "open" referred to an open-door academic policy, or having no barriers to entry. For open access journals (OAJ), open refers to the ability to freely access information (Suber, 2012). Open Educational Resources (OERs) allow individuals to revise, reuse, redistribute, and remix educational materials (Abeywardena, 2012; Wiley, 2010). OERs often adopt Creative Commons (CC) licenses (as opposed to prohibiting unauthorized reuse under copyright laws) to facilitate the localization, modification and free distribution of resources (Ivins, 2011; Cisco, 2008). However, while MOOCs are free to participants, their financial model can limit their degree of "openness". The development of MOOCs can be costly, ranging from $38,980 to $325,330 per MOOC, and can require over 200 hours from instructors, instructional designers, and support staff (Hollands & Tirthali, 2014; Bitters, 2013).

MOOC efforts to become financially sustainable and/or profitable may affect the extent to which MOOCs remain "open" as an Open Educational Resource (OER) or Open Access (OA) in the future. Some MOOC providers like Coursera and Udacity are

for-profit endeavors whereas Edx and others are non-profits. It is unclear how important remaining “open” is for all MOOC providers, as some, including Coursera, no longer offer the full range of services to participants free of charge. (Daniel, 2012). Certain monetization ideas may limit how “open” a MOOC remains, as well as limit future efforts at localization (Amiel, 2013; Abeywardena, 2012). Other MOOCs have been packaged with outside resources, or “wrapped” limiting also their online accessibility (Norberg, Händel, & Ödling, 2015). Some MOOC providers such as Coursera have opted to remain open for people wishing to audit a course but requiring a payment of $30 or more to receive a certificate as shown on Figure 2.1. Other MOOCs are now offering participants a path towards obtaining a degree (Lunden, 2018).

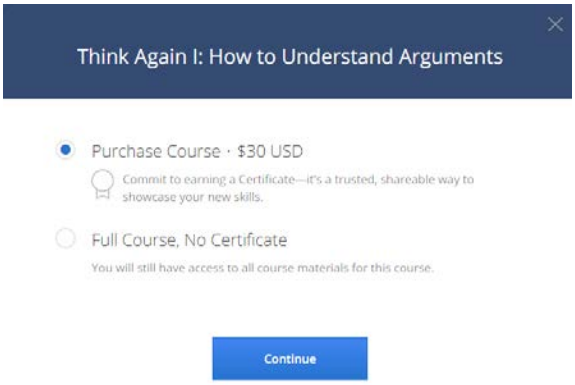


Figure 2.1 – Cost of MOOC Certificates

MOOC-like courses began to take shape a few years before the first official MOOC, “CCK08”, was developed in 2008 by George Siemens and Stephen Downes to explore connectivist pedagogy (Siemens, 2013; Shirky, 2012; Pappano, 2012; Morris & Stommel, 2012, Zancanaro & Domingues, 2017). One of the first open courses was a

2007/08 class on *Social Media and Open Education* by Alec Couros at the University of Regina, Canada. David Wiley, of Brigham Young University in Utah, also offered a free online course called an *Introduction to Open Education* (Fini, 2009). Other early MOOC-like courses include *Go North!* (2001-Today) which has taught participants about climate change, adventure learning, and the challenges facing the arctic. *Go North!* has reached over 15 million participants, 7,000 schools, 34 countries, and 5 continents (Doering, 2014). Doering's course is "arguably the world's first massive open online course" (Marty, 2013). Shimon Schocken's *Nand2Tetris* (2005) course could also be considered a MOOC before the term was coined (Nisan & Schocken, 2005; Schocken, 2012). In *Nand2Tetris*, Schocken and Nisan encouraged learners to build a computer and software from the ground up.

Whereas other MOOC-like courses preceded CCK08, CCK08 represents the first time a course was actually referred to by this terminology (Booker, 2013; Marty, 2013). Since then various articles were written regarding participants' experiences in similar connectivist MOOCs (Fini, 2009; Kop, 2011; Bell, 2011). In these courses, participants shared comments and assignments through forums and blogs (Mackness, et al., 2010; Mak, et al., 2010). George Siemens' and Stephen Downes' MOOCs (cMOOCs) emphasized learner autonomy, connectedness, openness, and diversity (Tschofen & Mackness, 2012). No certificates were given to completers for participating in CCK08, apart from to a small group of participants who enrolled in the course for credit. Connectivist MOOCs or "cMOOCs" encourage interactions via blogs, which are aggregated and shared with all course subscribers as a way to stimulate debate and further

discussion. CCK08 had roughly 2,200 participants and 1,870 subscribers who received a daily summary (Downes, 2009; Fini, 2009). The structure of the course was deliberately designed to allow learners to engage with the course in different ways and to form connections between groups of participants interested in exploring certain aspects in more detail. cMOOCs were not designed to mirror traditional course structures or tasks, but rather to represent a new way of learning. According to Fini (2009), cMOOCs are a type of Open Educational Resource (OER) rather than a distinct category of educational technology.

While cMOOCs were developed first, they are not as popular as the xMOOCs, a shift also reflected in the MOOC literature (Bell, 2001; BIS, 2013; Zancanaro & Domingues, 2017; Anders, 2015; Zawacki-Richter, et al., 2018). Of the various eXtended (xMOOC) MOOC providers, Coursera is the most popular "xMOOC" platform, and the platform analyzed in this study (Bousquet, 2012; Cormier, 2010; EDUCAUSE, 2013; Fini, 2009). eXtended MOOCs emphasize reaching a larger number of participants while many incorporate some of the elements and structure of traditional higher education courses. Most xMOOCs utilize short videos, peer-review assessments, virtual labs, and automated quizzes (Reilly, 2013; Bates, 2012; BIS, 2013; Cuban, 2012). When prestigious universities developed xMOOCs, the courses gained widespread visibility and today, most MOOCs are xMOOCs. MOOC platforms such as Coursera, EdX, Udacity, MiriadaX, and UDemy provide access to courses to millions of participants (Siemens, 2013; BIS, 2013; Austrade, 2013). Participants from all over the world, including

participants living in war-ridden Afghanistan can learn more about subjects like artificial intelligence (Murray, 2012).

Sebastian Thrun, Peter Norvig, Andrew Ng, and Daphne Koller helped popularize the term MOOC in 2011 by opening their Stanford University courses to the public (Norvig, 2012; Koller, 2012). Salman Khan, an MIT educated former financial analyst, who reached millions of participants though his YouTube educational videos (via the channel "Khan Academy") was an inspiration to Sebastian Thrun (Chafkin, 2013; Norvig, 2012; Rodriguez, 2012). In 2011, over 150,000 participants enrolled in Thrun's course on Artificial Intelligence (Pappano, 2012; Watters, 2012). Convinced about MOOCs' potential, Thrun left a tenured faculty position at Stanford to start Udacity. Andrew Ng and Daphne Koller started Coursera in January 2012. Of the two, Coursera has been more successful with over 10 million participants registered. Coursera provides courses in over 10 languages from over 100 institutions.

In addition to cMOOCs and xMOOCs, Lane (2012) identifies a third subset, namely task-based pMOOCs, which focus on completing a project. There are also other ways to classify MOOCs, however these classification systems have not been widely adopted in the literature. A more recently classification system focused on three types of MOOCs, xMOOCs, Hybrids, and cMOOCs, with hybrids being community and task-based MOOCs (Anders, 2015). Another classification system looks at MOOCs from twelve dimensions including "the degree of openness, the scale of participation (massification), the amount of use of multimedia, the amount of communication, the extent to which collaboration is included, the type of learner pathway (from learner

centred to teacher centred and highly structured), the level of quality assurance, the extent to which reflection is encouraged, the level of assessment, how informal or formal it is, autonomy, and diversity" (Conole, 2016, p. 9)

Bonk (2012) possibly has the most extensive typology of MOOCs classifying them into no fewer than twenty different variants: (1)Alternative Admissions Systems or Hiring System MOOCs; (2) Just-in-Time Skills and Competencies MOOCs; (3) Theory-Driven or Trend-Driven MOOCs; (4) Professional Development (PD) (practical) MOOCs; (5) Loss Leader (dip toe in water) MOOCs; (6) Bait and Switch MOOCs; (7) Experimental MOOCs; (8) Degree or Program Qualifier or System Bottleneck MOOCs; (9) Personality MOOCs; (10) Name Branding MOOCs; (11) Goodwill MOOCs; (12) Interdisciplinary MOOCs; (13) Recruiting MOOCs; (14) Marketing MOOCs; (15) Conference MOOCs; (16) Learning Room MOOCs; (17) Religious Revival MOOCs; (18) Rotating MOOCs; (19) Repeatable MOOCs; and (20) Reusable MOOCs (Bonk, 2012). Under this classification, a MOOC can be categorized under several types simultaneously for example, an xMOOC can be a "Bait and Switch MOOC" or a "Goodwill MOOC".

Clark (2013) proposed classifying MOOCs according to their pedagogical elements. Under this framework, MOOCs can be split into TransferMOOCs, MadeMOOCs, SynchMOOCs, AsynchMOOCs, AdaptiveMOOCs, GroupMOOCs, ConnectivistMOOCs and MiniMOOCs. TransferMOOCs transfer a professor's university course to a MOOC environment. MadeMOOCs include innovative uses of video. SynchMOOCs include fixed dates, and a clear end date. AsynchMOOCs have no or

looser deadlines and potentially no end date. AdaptiveMOOCs use algorithms to personalize learning experiences. GroupMOOCs divide participants into smaller groups and promote collaboration. ConnectivistMOOCs focus on connectivism and networks. MiniMOOCs tend to be shorter, benefiting programs like Open Badges (Clark, 2013). Udacity, which stated offering MOOCs, has moved away from offering free courses online, to low cost courses that combine into a nanodegree (Friedman, 2016). Overall, the diversity in MOOC-types and the growth of MOOC-like courses illustrates the flexibility of the format and the potential for improvements. This also suggests that MOOCs can also be optimized to better serve the needs of international participants and that many MOOCs providers are transforming the format to better fit the needs of its target audience (Kaplan & Haenlein, 2016; Tømte, Fevolden, & Aanstad, 2017)

Along with possibilities, there are also challenges posed by MOOCs as an educational tool. The most well documented challenge MOOCs face is the low participant completion rates. MOOCs' scale allows an educator to teach, in a single course, the same number of participants he or she could previously have taught in 250 years (Koller, 2012). However, one striking and troublesome feature of MOOCs is that most participants do not complete the courses. According to Watters (2013), only about 14% of participants who enrolled in Thrun's 2011 *Artificial Intelligence* course passed the class. In Jordan's (2013) research, the average MOOC completion rate was even lower, at just 7.6% (Jordan, 2013). A four-year study of edX MOOCs shows a certificate rate of 5.5% and a median certificate rate of 7.7% (Chuang & Ho, 2016). Most MOOC participants are "lurkers. Lurkers are individuals who access online sites and forum

boards but mostly read rather than comment or participate more extensively in the online community. Because of their reduced engagement, lurkers may benefit less from the courses than more active participants and MOOC discussion spaces may be dominated by the voices of a relatively small percentage of participants.

Despite the clear challenge this poses, surprisingly, for various MOOC providers, increasing the completion rate is not their biggest concern. This is due, in part, to the fact that MOOCs are not seen by many participants as the equivalent of a traditional course and, with no credential at stake, the negative consequences of failure to complete the MOOC are minimal. For example, Koller and Ng (2012) compare “failing to complete” a free open online class to “failing to complete” an issue of the New Yorker. Nevertheless, despite the low completion rates, thousands of participants do complete MOOCs, a number of participants that is still greater than enrollment in a traditional course. Despite the low completion rates, MOOC surveys have generally shown high satisfaction rate among participants. For completers MOOCs represent a unique opportunity to increase their knowledge and learn from known experts in the field.

With thousands of participants in most MOOC, clear patterns of participation have been documented, allowing for the classification of participants into distinct groups. Various scholars argue that MOOCs are unlike a traditional course, by being open to anyone with access to the internet, and, therefore, participation in MOOCs should not be compared to that of a traditional online course. Hill (2013) organizes MOOC participants into four groups: lurkers, drop-ins, passive, and active students. Lurkers, who represent most participants, primarily observe or sample a few items at the most. Drop-Ins are

participants who become partially or fully active participants for a select topic within the course. Passive participants are students who typically watch videos, or perhaps take quizzes, but tend to not participate in activities or class discussions. Active participants are students who fully participate in the MOOC, including participating in discussions through discussion forums, blogs, and social media.

In another participant typology, Koller and Ng (2013) explain that only around 10% of all participants submit the first MOOC assignment. To illustrate, in a course with 20,000 participants only 2,000 will submit the first assignment! According to Koller and Ng, those participants who submit the first assignment can be considered “committed learners” and many will stay for most of the course. The committed learners can, in turn, be classified into 3 groups: passive participants, active participants, and community contributors. Passive participants engage with a MOOC predominantly through watching lecture videos and have limited participation on course activities. Active participants engage in course content by completing activities including all activities necessary to obtain a “Statement of Accomplishment”. Community contributors also actively participate but, in addition, they generate new content by, for example, contributing to subtitling in foreign languages or engaging in forum discussions.

These classifications, while useful, do not differentiate between United States and international participants, and those with limited access to education. This is somewhat surprising, as many articles have also been written about the promise of MOOCs to transform education worldwide, and in light of the data from most MOOC surveys indicating the high participation rates of international participants in these courses.

International Participants and MOOCs

In a widely watched TED Talk, Koller (2012) highlights the new possibilities brought by MOOCs in supporting large-scale peer review, mass analytics, and inter-institutional collaboration. MOOCs could enable anyone around the world to obtain a higher education degree (Koller, 2012). MOOCs potential to deliver education around the world in an emerging area of MOOC research (Zawacki-Richter, et al., 2018). Koller argues that MOOCs "establish education as a fundamental human right, where anyone around the world with the ability and motivation could get the skills that they need to make a better life for themselves, their families, and their communities" (Koller, 2012). The data suggest that international participants have been quick to take advantage of this opportunity. A large scale EdX MOOC study found that only 27% of participants were based on the United States in its first year (Ho, et al., 2015). In its most recent report, EdX noted an increase of participants from the United States at 29% (Chuang & Ho, 2016). An early Coursera study also established that 74% of registrants in its first year were from outside of the United States (Kolowich, 2012). In the MOOCs analyzed for this dissertation, however, international participation was lower than the average, with only 54.1% of participants not being from the United States.

The degree to which international participants participate in MOOCs highlights the need to better understand their experience. Anecdotes of participants in developing countries who have benefited from MOOCs developed in the United States abound, from Rwanda, to Tibet, to India, to China, and Afghanistan (Bassi, 2013; Chen, 2012; Friedman, 2013; Fisher, 2013; Knox, et al., 2012; Lane, 2009; Protalinski, 2013;

Trucano, 2013). This diversity was generally seen as a positive aspect of the MOOC phenomenon. One participant shared how his peer evaluators included a Saudi physician, a medical researcher in the Philippines, and a nursing student in Nigeria. Despite the diverse forms of participation, the “different backgrounds and levels of language skill did not diminish the quality of our interaction or the value of the course” (Davidson, 2013).

Similarly, Thrun (2012) shared a transformative story from an international participant living in Afghanistan who studied for the course “under incoming mortar and rocket attacks.” The participant explains how he “had about an hour of fairly solid internet connectivity to be able to get the assignments done”. Nevertheless, the participant still managed a respectable score (Murray, 2012). Agarwal (2013) reported that a participant in Mongolia completed a “Circuits” course with a perfect score and is now applying to Berkeley. A MOOC connection also helped a Kenyan radio broadcaster to exchange ideas with a Swiss HIV AIDS expert, helping to develop a project that has increased awareness of the latest evidence-based information about HIV AIDS treatment in Kenya (Fisher, 2013).

Some international MOOC participants have completed multiple MOOCs, even dozens of MOOCs in Coursera about topics that they would be unable to easily study elsewhere (Liao, 2013). In addition to mastering new content, through MOOCs, participants can also learn about other styles of teaching. In one anecdote, Sun, a Chinese participant who graduated from Shanghai Jiao Tong University, explained how "Chinese courses on economics provide theories and knowledge... but in some American business and history courses… the professor will ask so many questions… [Something that]

doesn't happen in China" (Chen, 2012). This exposure to different pedagogical methods may be influencing institutions around the globe, as well as individual MOOC participants. Tsinghua University, one of China's most prestigious universities, recently started offering a course based on Dr. Sandel's Harvard OCW on "Justice". Sandel initially shared his course materials as OCW and later developed a MOOC for the same course.

Multiple international education technology projects have adopted MOOCs as CourseWare, an approach with various advantages (Mazoue, 2013). Local instructors can enhance their lessons through MOOC materials. If the MOOC uses an open license, the content can be legally modified and localized. Components can be shared offline in places with low connectivity. If a MOOC's content remains accessible, it can continue to be used after the culmination of a course. While some Coursera MOOCs have now changed to only offer grading if a participant pays, access to the content remains open and can be used as CourseWare for participants around the globe. In addition to being used as CourseWare, MOOCs are also used as part of other international education technology initiatives as a way in which to increase access to education.

A project known as Generation Rwanda used the content in a series of MOOCs as CourseWare and provided local support to fifty participants as they completed a locally accredited program. While local universities charge $1,500 a year for enrollment, a sum few in Rwanda can afford, the MOOCs' materials were available to participants at no cost (Bartholet, 2013). Another learning technology and ICT4D project utilizes MOOCs in Africa to accelerate youth education and employment (Koller, 2013). A project in

Tanzania funded by the World Bank helps participants improve their skills for the knowledge economy through the use of MOOCs (Trucano, 2013). Kamenetz (2013) also shares similar examples including projects in India and El Salvador. These projects were utilizing MOOC materials developed in the United States to educated tens of thousands of individuals worldwide. According to Kamenetz (2013), MOOCs can be used to enhance educational programs, rather than to compete with the existing national educational systems.

A US State Department initiative, MOOC Camp, has encouraged the use of MOOCs in over 60 countries and enrolled over 4,000 participants (https://eca.state.gov/programs-initiatives/mooc-camp). MOOC Camp has provided support to courses in Armenia, Benin, Bermuda, China, Czech Republic, Egypt, India, Tanzania, and many other countries. Through MOOCs, the United States government has reasserted its commitment "to identifying new models that offer broad learning opportunities, help meet the aspirations of young people around the world and offer skills and knowledge that they can use to succeed in life". MOOC Camp has attained a 40% to 60% completion rate, much higher than the average MOOC completion rate that is between 7% and 15%. Courses on English language, and business were most popular.

However, not all opinions on MOOCs' international impact are positive. Dr. Sandel (2013), who teaches a Harvard MOOC on Justice, believes that OCW and MOOCs cannot alone supplant the engagement of teachers and participants in the classroom. A broader criticism of MOOCs from the United States concerns MOOCs in terms of trade and knowledge exchanges. Although theoretically a MOOC can be

developed anywhere, the vast majority are currently developed in the global “North”. When this research project started, there were very few examples of MOOCs developed in the global “South”.

While global access to MOOCs helps participants learn more about a subject, the exchange of information remains primarily a “North” to “South” “exchange” of information. MOOCs adopted around the world, can increase the cultural hegemony of western knowledge systems (Czerniewicz, et al., 2014). Many developing regions experienced colonization, which eroded indigenous knowledge (Lange, et al., 2006; Doxtater, 2004, French & Short, 2005; Purcell, 1998). Wealthy governments have marketed their MOOCs over those of other countries, including US President Barack Obama (Carey, 2013). In the United Kingdom, Prime Minister David Cameron similarly commented on the benefits of UK MOOCs over other MOOCs and their potential benefits to higher education in the UK, asserting:

> "Britain boasts some of the best universities in the world. This innovative new offer led by The Open University will mean that Indian participants can access some of the best teaching and learning online from their home in Mumbai or Delhi… I hope it will encourage many more Indian students to take the next step and study with a UK university" (FutureLearn, 2013).

MOOCs are officially considered an “export” by the United States Government, which has sometimes lead to complications in expanding access to participants located in countries with restrictive trade policies. For example, Coursera was forced to interrupt access to users in Cuba, Sudan and Iran for not having licenses to “export” Coursera as a “service” as required by the US Government. Coursera requested a change to this policy to the State Department (Jue, 2014) and, fortunately, its lobbying activities ultimately

succeeded, and the US Government permitted it to restore access to these countries and continue working to fulfill its goal of educating participants everywhere (Coursera, 2014; Collins, 2014; Lumb, 2014; Fatemian, 2014).

Due to the predominance of MOOCs produced by the world's wealthiest nations, despite their educational content, most current MOOCs do not address most educational challenges faced by participants in the global "South" (Peña-López, 2013). Therefore, it is important to promote the local development of MOOCs with local content (Czerniewicz, et al., 2014). For Peña-López (2013), context and the human factor, rather than technological capabilities, should be front and center. The idea of MOOCs educating masses of poor participants is to some pretentious (Sharma, 2013).

Sharma (2013), concerned about this one-way transfer of educational resources, as well as the disregard and erosion of local knowledge and promotion of foreign experts, compares this uneven transaction to intellectual neo-colonialism. MOOCs emphasize making education accessible without considering geopolitical differences and are unwilling to acknowledge geopolitical dynamics that shape learning experiences on a global scale (Sharma, 2013; Blackall, 2009; Glennie, et al., 2012). Would a MOOC on Peruvian history benefit from having an instructor or co-instructor from Peru? And a MOOC on Russian military history from having a Russian instructor or co-instructor? Many MOOCs could do more to encourage local subject experts to share their experiences.

Although some MOOCs promote this form of diversity, it is absent in many others. As a few countries share their educational models with the rest of the world,

MOOC providers should consider the benefits of translation and localization of resources, as well as the value of local knowledge, and of sharing the expertise of scholars from other parts of world (Lau & Yang, 2013; Agarwal, 2013; Carey, 2013). With greater openness, by allowing the reuse, remixing, redistributing, and revision of content, institutions could localize and adapt courses to be more locally relevant. More MOOCs could also be co-developed and co-taught by institutions with different approaches and perspectives. The criticism of the transfer of information primarily from the global "North" to the global "South" also applies to OERs.

Another major criticism of MOOCs' international impact on higher education is their detrimental effect on already existing alternatives. MOOCs have been criticized for a lack of acknowledgement of previous distance learning initiatives promoting MOOCs as revolutionary (Bates, 2012). Currently competing alternatives that offer credentials at low or no cost to participants are available in many developing countries. Distance learning contributed to the rapid expansion of education worldwide from 419.9 million students worldwide in 1965 to 1,105.4 million students in 1995 (Perraton, 2010). The World Bank, the European Commission and other bodies have promoted and funded distance learning initiatives with other initiatives being arguably more effective than MOOCs (Fassil, 2009; & Chapman & Mahlck, 2004; Trucano, 2005; Yeh, 2011). For instance, since the development of the National Extension College in 1963, distance learning initiatives have improved the education of people in Africa, the Middle East, and Asia (Deb, 2011; Perraton, 2010).

To Bates (2012), MOOCs' purported emphasis on assisting participants in developing countries is mostly a myth. MOOCs, for example, do not help participants obtain academic credit. Most MOOCs are developed in the United States, whereas many distance learning initiatives are administered locally. Africa's leading open distance learning institution, UNISA, has over 160,000 students that are enrolled in accredited programs. Many participants in South Africa also lack internet access at home so MOOCS would not be a realistic option for these participants (Bates, 2012). Daniel (2012), who served as the Open University (OU) Vice Chancellor from 1990-2001, a university system that enrolls over 250k students, also discusses that importance of other distance learning initiatives and lack of acknowledgment of such alternatives by many MOOC proponents. In 2012, the OU was the highest rated university in the National Student Survey 2012, which measured overall student satisfaction (Casey, 2012; Daniel, 2012). Despite Daniel's (2012) criticism of MOOCs, however, the Open University recently joined the MOOC arena with FutureLearn.com. FutureLearn.com, which launched in October 2013, is owned by the Open University of England and has 36 institutional partners, including the British Museum and universities in South Korea, China, and South Africa.

Another criticism of MOOCs in relation to its use by international participants is that currently, most MOOCs cannot be completed offline and are not easy to download. While some ICT4D initiatives like MOOC Camp and Project Rwanda include offline access to resources and provide local support for participants, this level of support is unusual and more expensive. Consequently, many participants are unable to access these

courses. Another limitation to the impact of MOOCs is that, in most cases, they do not provide participants with academic credit or a path towards an accredited degree. Consequently, MOOC participants are often not individuals who lack access to higher education. Many individuals who participate in MOOCs have already completed a bachelor's or master's degree, have a high level of English proficiency, own a personal computer, and have access to a reliable internet connection (Kolowich, 2012; Bates, 2012; Emanuel, 2013; Fisher, 2013). MOOC participants benefit from having prior digital literacy skills, language skills, and subject knowledge. MOOCs require internet access, which is available to only 39% of the world's population, and 31% of people in developing countries (ITU, 2013; Molinary, 2011).

This is a rapidly changing area and there are signs that some MOOC providers are recognizing and responding to some of these criticisms. For example, projects such as OER University hope to make it possible for participants to obtain a degree after completing courses and MOOCs from different universities addressing MOOCs' credential problem (Attwood, 2011). Some MOOC pilot projects have also provided participants with academic credits and may include additional benefits to completers in the future (Fain, 2012; Hill, 2013). MOOCs have also been used as remedial courses.

There is much room for improvement, and much ground to cover before the goal of universal access to higher education can be realized. In many countries, tertiary educational possibilities remain limited and many also lack access to primary and secondary education. Higher Education institutions in developing countries place lower in international rankings with only three universities in Latin America and four South

African institutions ranked in the top 400 universities worldwide (TSL Education, 2013). Even taking into consideration the recent growth in MOOCs and changes in Udacity, Thrun's prediction of there being only ten universities left in 50 years seems unlikely (Leckart, 2012). However, MOOCs' impact could increase if greater emphasis was given to the translation and localization of educational materials and courses.

Students from least developed countries (LDCs) appear to perform worse in MOOCs. A student found that this may be due partly to a social identity threat, or "fear of being seen as less capable because of one's group" (Kizilcec, et al., 2017, p251). Beyond material improvement, improving the psychological climate in MOOCs could improve participant success from LDCs and countries with lower HDI levels. There seems to be a strong relationship between certificate prevalence in MOOCs and a participants' country HDI level (Chuang & Ho, 2016). While there is an interest in participating in MOOCs all over the world, including Sub-Saharan Africa. Sub-Saharan Africa and other places with low average HDI levels, are hindered by low internet bandwidth (Dewar, et al., 2014).

A step to the effective reuse of educational materials is often translation or localization (Beaven, et al., 2013). Successful crowdsourcing educational projects like Wikipedia Translation and TED Open Translation Project have helped translate and localize materials. Currently, MOOC participants often contribute as volunteers to the translation of videos and other online activities. Using open licenses more learners and instructors will have the additional freedom needed to modify and adapt MOOCs to solve local challenges becoming more accessibly (Amiel, 2013).

Recent International MOOC Developments

From the start of this research project to its conclusion (2013-2018), there were many changes to the MOOC landscape. While this dissertation focuses on the perceptions of international participants taking MOOCs offered by United States institutions and the differences in their experiences by region, other countries have also invested in developing their own MOOCs. This section briefly summarizes some of these recent developments (2015-2018) to highlight the growing number of options that learners have internationally, in addition to U.S. MOOCs published on platforms such as Coursera.

In 2015, a MOOCs for Development International Invitational Conference in South Africa (MOOCs4D) took place where participants discussed the potential of MOOCs for low and middle-income countries (Castillo, et al., 2015). The conference emphasized going beyond translation of MOOCs produced in the United States and Europe, and the importance of producing MOOCs that are accessible to audiences with lower levels of education. The conference also discussed the potential of mobile devices for MOOCs, due to their rapid penetration of the market in developing countries and their internet capabilities. At the conference, MOOCs were heralded for their potential to address inequalities of health, economic, and social outcomes that continue to hamper opportunities in many countries around the world (Castillo, et al., 2015).

This dissertation discusses the experience of MOOC participants and the differences in their experiences by region. In the section below, I briefly summarize some of the other opportunities participants now have in these regions, including new developments in Africa, Latin America, Europe, Asia, and Oceania.

Adham & Lundqvist (2015) analyzed the different MOOC platforms available or in development for the Arab world including four platfoms that became available in 2013: Edraak (Jordan) translated selected MOOCs into Arabic; Rwaq (Saudi Arabia) and MenaVersity (Lebanon) offered MOOCs in Arabic; and SkillAcademy (Egypt), which offered MOOCs in English. The research concluded that MOOCs in the Arab world can help address challenges such as overcrowded classrooms, a rapidly growing population, expensive private universities, shortage of teachers, and people living in remote areas without access to higher education (Adham & Lundqvist, 2015, p. 133)

A subsequent study by Adham, et al. (2018) analyzed the experiences of females teaching MOOCs in Rwaq. From 2015 to 2016 in Rwaq there were 125 courses run, yet only 25 of them were run by female teachers, due to strict rules about gender segregation in Saudi Arabia. Adham's study investigated whether, through the use of an avatar, women would feel comfortable teaching in Rwaq. It concluded that, while avatars can help increase participation of female instructors, the use of them also increases workload for course organizers (Adham, et al., 2018).

In addition to Coursera and platforms based on the United States, other platforms such as OpenHPI, a German-based non-profit MOOC platform, have been adopted for Chinese MOOCs www.openHPI.cn (Che, et al., 2016). In OpenHPI.cn MOOCs "all learning materials such as lectures, self-tests, homework and exams are offered in Chinese, with Chinese subtitles used in the English instructional videos" (HPI, 2015). In addition to OpenHPI.cn, more China-based MOOC platforms are becoming available, allowing learners to learn in their native language without cultural barriers. Another

study of Chinese MOOC participants found it important to accommodate to “learners’ different needs and types of motivation” (Zhou, 2016, p. 201). It also found it important for institutions to provide adequate facilitation and guidance to increase student success.

A report was published in 2015 that discussed MOOCs in Japan, Malaysia, the Philippines, Thailand, India, and China (Kim, et al., 2015). These governments in Asia adopted policies to promote open education. India developed a MOOC platform called “Swayam” (Study Webs of Active-Learning for Young Aspiring Minds). Over 60,000 benefited from Swayam in its first year, and more than 350 MOOC are available via the platform. These MOOCs are accessible via https://swayam.gov.in. JMOOCs or Japanese MOOCs are accessible at www.jmooc.jp (Yamada, 2015). There are currently over 140 JMOOCs with over 500,000 enrollments. The three top MOOC platforms in Japan are “Gacco” (www.gacco.org), “OUJ MOOC”, and “OpenN Learning Japan”. Japanese MOOCs are taught in Japanese with a few exceptions, and therefore the overwhelming majority of participants are Japanese. By contrast, the few Japanese MOOCs offered in English included more international participants.

Various Korean MOOCs have been developed at KNOU, the Korea National Open University. KNOU’s initiative emphasizes increasing access to free higher education and lifelong learning. Most KNOU MOOCs use the KNOU learning management system (Lee, 2015). Malaysia also recently decided to expand its MOOC offerings. By 2015 there were already 36 MOOCs offered by six different higher education institutions in Malaysia (Fadzil, et al., 2015). Unlike larger Coursera MOOCs, however, Malaysian MOOCs were more modest in enrollment with only at most a few

thousand participants per MOOC. In the Philippines, several MOOCs have been developed by UPOU, http://model.upou.edu.ph/, (Gervacio, 2015). Other MOOCs in the Philippines were developed by TESDA, the Technical Education and Skills Development Authority (TESDA) www.e-tesda.gov.ph. In contrast to the Japanese model, both of these Filipino MOOC initiatives offer MOOCs primarily in English instead of Filipino.

A study of Asian MOOC learners found that Korean learners had "showed a tendency of social interaction, a sign of emphasizing relationships rather than work tasks", and Chinese students and instructors had formed online communities reflecting a collectivist-feminist attribute of Chinese culture (Chen, 2013, p. 9). "Pedagogical culture in the East is group-based, teacher-dominated, and centrally organized" (Chen, 2013, p. 9). These differences are being taken into consideration by some when developing MOOC regionally.

Outside of North America, Europe is the region that has been most involved in developing MOOCs since MOOCs rose to the forefront of education policy debates. The European Commission stated in 2013 the importance of "opening up education" (Schuwer, et al., 2015). However, Europe has a diversity of languages, educational policies, and frameworks that make it different to the United States (Schuwer, et al., 2015). To research MOOCs, the E.U. founded the HOME project or Higher education Online: MOOCs the European way in 2014. Jansen, et al. (2015) compared the E.U. MOOC strategy to that of the U.S.A. Most European countries have adopted policies supporting Open Education, yet most European MOOCs remain concentrated in Western Europe (Santos, et al., 2017). The study concluded that MOOCs are likely to become

increasingly mainstream in Europe and, unlike in the United States, the ECTS framework that "faciliates recognition of credentials across institutions and national borders" in Europe (Jansen, et al., 2015, p. 134). More information about European open education and MOOC policy adoption is available at the Open Education Europa (www.openeducationeuropa.eu) website.

A very interesting implementation of "wrapped MOOCs" was implemented in northern Sweden in the Nordplus Horizontal project 2014-2016 (Norberg, Händel, & Ödling, 2015). A wrapped MOOC includes additional activities that complemented the online component. These MOOCs focused on a Sami community in Arvidsjaur. This pilot project was done in conjunction with learning centers and Lund University. These MOOCs incorporate the classic Swedish "study circle" where individuals gather locally to study together. These MOOCs were "glonacal" emphasizing both the global and the local (Norberg, Händel, & Ödling, 2015, p. 137). All participants in the "wrapped MOOC" passed the MOOC. These wrapped MOOCs can help these communities survive as they learn useful skills in "a time of depopulation and brain drain" impacting these local communities (Norberg, Händel, & Ödling, 2015, p. 146). The article promotes this model of wrapped MOOC as a way to be "consciously glonacal" and "emerge as Foucauldian heterotopias, connecting many places into one" (Norberg, Händel, & Ödling, 2015, p. 147).

A study of Norwegian MOOCs (Tømte, et al., 2017) discussed the motivations for developing Norwegian MOOCs, with MOOCs helping to market Norwegian education nationally and internationally as well as offering an opportunity to individuals that face

barriers to accessing higher education, such as disability, geographical distance or employment. Norwegian MOOCs can be accessed at www.MOOC.no. As with many European MOOC providers, these MOOCs are offered in the local language (in this case, Norwegian).

MOOCs have also been developed in Latvia (Birzina, 2015), Slovakia (Ilavska–Pistovcakova, 2015), and Denmark (Buhl, Andreasen, & Mondrup, 2015). MOOCs developed by the University of Latvia were offered in Latvian. Slovakia was a part of the OpenupEd initiative, working with other countries in the European Commission to develop MOOCs. As with Latvia, Slovakia has a smaller target in its MOOC development, with only a small percentage of the world's population understanding Latvian or Slovakian (Latvia and Slovakia have a population of 1.9 and 5.4 million respectively).

Despite the rapid adoption of MOOCs in Europe, Rohs and Ganz (2015) have been disillusioned with the empirical data. To them, MOOCs are currently benefiting people with higher socioeconomic and educational status, and, in doing so, may actually "enlarge the knowledge gap rather than close it" (Rohs & Ganz, 2015, p. 6). In addition, barriers such as having most MOOCs in English, can be an "insurmountable barrier for the underprivileged", with few OER and MOOCs developed in Arab or Swahili (Rohs & Ganz, 2015, p. 9).

Oyo & Kalema (2014) write about the importance of developing MOOCs for Africa by Africans. They illustrate how MOOCs can help invert the traditional ivory tower model, where the majority of potential students are excluded from the system, to a

future where MOOC participants constitute a larger group than students at private and state higher education institutions. For Oyo & Kalema (2014), MOOCs are a way for Africa to provide access to higher education "without direct dependence on international grants or loans" (Oyo & Kalema, 2014, p. 5). Due to poor internet bandwidth in many parts of the continent, however, it is important for African MOOC providers to develop a platform that functions both online and offline, and for there to be a continuous quality improvement framework and a sustainability strategy. The article highlights some of the challenges experienced by individuals living in Rwanda, Ghana, Nigeria in accessing MOOCs. In Africa, often the teaching staff at higher education institutions does not have a PhD or an advanced degree limiting the courses that can be offered locally and their quality (Escher, et al., 2014). In addition to MOOCs in English which represent the majority of MOOCs, millions of students in Africa could be reached as more MOOCs in French are developed. Out of the 180 million people that communicate in French, 115 million are in Africa (Escher, et al., 2014). In addition, there are many local languages spoken throughout Africa. However, surprisingly, and in contrast to the European MOOC literature discussed above, the scholarly literature to date regarding the creation of African MOOCs does not promote developing local MOOCs in local languages.

The African Virtual University (AVU) is utilizing MOOCs and OERs to substitute for the textbook, which previously represented a major cost for students. By contrast, now OER textbooks at AVU are provided in English, French, and Portuguese at no cost to its students. The World Bank's New Economy Skills for Africa Program-

Information and Communication Technologies (NESAP-ICT) and Kepler project in Rwanda are other innovative initiatives.

The Kepler project is “using MOOCs from leading universities, a customised degree course was developed to meet the needs of the Rwandan market” (Escher et al, 2014, p. 204). In Africa as in Europe, however, most studies agreed that, so far, MOOCs are primarily used by privileged individuals and are “failing to reach the disadvantaged” (Escher, et al., 2014, p. 198).

MOOCs have also expanded in Latin America since 2015 (Sanagustin, et al., 2016). By March 2016, 418 MOOCs had been developed in Latin America, with Colombia leading the way in publishing 101 MOOCs, followed by Mexico at 93, and Brazil at 66 (Sanagustin, et al., 2016). EdX has a number of partners in Latin America including IDB, Javeriana (Colombia), Galileo (Guatemala), Technological Institute of Monterrey (Mexico), Tenaris (Argentina), Veduca (Brazil), and others (Basañes, 2015; Sanagustin, et al., 2016). Coursera has also partnered with various institutions in the region, ultimately accounting for over 50% of MOOCs developed in Latin America. Half of the MOOCs in Latin America are available via open platforms such as Open edX or their own platforms (Sanagustin, et al., 2016), including that developed by Mexico’s National Autonomous University of Mexico (UNAM) (Garcia-Febo, 2010).

Spain has worked closely with Latin America in developing MOOCs in Spanish (Pérez-Álvarez, et al., 2017). Unfortunately, over time, instead of attracting greater participation from Latin Americans, Spanish MOOCs overwhelmingly attract participants from Spain. For example, in the Spanish MOOCs studied by Castrillo and Mañana-

Rodríguez, participants from Spain increased from 77.63% in the first edition of Spanish MOOCs to 95.89% in the second edition (Castrillo & Mañana-Rodríguez, 2017). Among those Latin Americans that did participate in the Spanish MOOCs, individuals from Costa Rica, Colombia and Ecuador participated proportionally more in MOOCs than individuals from Uruguay, the Dominican Republic, and Argentina (Castrillo & Mañana-Rodríguez, 2017).

In summary, in addition to most participants in U.S MOOCs being international participants, people around the world increasingly have access to local MOOCs. The growing number of alternatives helps meet some of the demand for higher education in developing countries. MOOC initiatives and policy have expanded quickly over the years. This section included only some of these initiatives. By better understanding the experience of international participants, both MOOCs in the United States and MOOCs offered by regional providers can better address the needs and concerns of these participants.

This chapter provided an overview of MOOCs as a learning technology, summarized projects that preceded MOOCs, and described MOOC characteristics in detail, including the different types of MOOCs that have been developed. It also explained the existing literature on international participants' MOOC experiences, including both challenges and criticism, as well as the transformative impact that MOOCs have had on the lives of many participants.

In the following chapter, I discuss the methodology of this study. This study focuses on the experience of the participants who took part in the first five University of

Minnesota MOOCs. This study looks at the positive and negative aspect of participants' experiences while also considering broader arguments in support of and in criticism of MOOCs.

Chapter III: Methodology

In this study, a mixed methods approach is used, and both quantitative survey data and qualitative focus group data are analyzed. I also analyzed my own experience participating in a series of five MOOCs in an auto-ethnography. While many MOOC studies survey participants, very few studies focus on qualitative data and utilize online focus groups or auto-ethnographies (BIS, 2013; Chiappe-Laverde, et al., 2015; Safana & Nat, 2017, Zancanaro & Domingues, 2017).

The surveys and focus groups included in this study were conducted between April 24, 2013 and December 8, 2013. Close to twenty thousand participants (19,738) answered the pre-MOOC survey out of 71,020 MOOC participants. There were 21,178 responses to the pre-MOOC survey, but 1,440 respondents were removed for lacking geographical data. Of the 19,738 respondents to the pre-MOOC survey, 2,540 responded to the post-MOOC survey and 1,721 participants to the International Participant MOOC Survey. Eighty-seven participants took part in a series of online focus groups with 17, 17, 17, 16 and 16 members respectively.

Table 3.1
Surveys Administered and Response Rates

Survey	Population	Responses	Response Rate
Pre-MOOC	71,020	19,738	27.79%
Post-MOOC	19,738	2,540	12.87%
International Participants	11,147	1,721	15.44%

The survey and focus group questions provide insight into each of the four research questions in this study and help us to better understand the international MOOC

participant experience: (1) Who were the participants in these MOOCs? (2) Why were they participating in MOOCs? (3) What were the positives and negatives of the MOOC experience? (4) How would these participants like to see MOOCs improve? Below I explain how I analyze the data to answer each question. A series of tables are included to illustrate how each research question was analyzed from the available data. As an international MOOC participant, I also reflect on my personal experience. This chapter discusses my approach to research, the methodology selected, and how each research question was operationalized. The finalized surveys are included as annexes.

This study adopts a pragmatic methodology and a mixed methods approach (Johnson & Onwuegbuzie, 2004; Creswell, 2014; Morgan, 2007). According to Guba and Lincoln (1994) a paradigm “represents a worldview that defines, for its holder, the nature of the "world," the individual's place in it, and the range of possible relationships to that world and its parts, as, for example, cosmologies and theologies do” (Guba & Lincoln, 1994, p. 107). Paradigms represent the most sophisticated and informed view devised by proponents of an ultimate foundational criterion (Guba & Lincoln, 1994). Pragmatism, or the efficient use of different methodological approaches, emphasizes what works best in practice rather than confining the study to a rigid epistemological or ontological approach. This approach allows the researcher to consider different theories to identify those that work best in each scenario. Some classical pragmatists include Charles Sanders Peirce, William James, and John Dewey. Adopting a pragmatist, pluralist, or balanced position can help improve interactions between researchers from different perspectives in their quest to advance knowledge. Similarly, advocates of mixed methods emphasize the

use of a “workable solution”. To them "the bottom line is that research approaches should be mixed in ways that offer the best opportunities for answering important research questions” (Johnson & Onwuegbuzie, 2004, p. 16).

Pragmatism’s focus on “what works” has been criticized as an academic euphemism for “anything goes,” promoting unreflectiveness and paying too little attention to the deeper epistemological issues involved in the design of a research project. For example, Smith and Heshusius (1986) argue that “in the end, what works is not a firm foundation to stand on. What works depends on the kind of work one wants inquiry to do, which in turn depends on the paradigm within which one is working.” Advocates of pragmatism have responded to such criticisms by asking “why should paradigms determine the kind of work one may do with inquiry?” and noting that for authors such as Smith and Heshusius (1986), “the possibility of modifying a paradigm…in response to the demands of research…seems to go unnoticed.” (Howe, 1988, p. 13)

To Johnson and Onwuegbuzie (2004) pragmatism is a research paradigm “whose time has come” (Johnson & Onwuegbuzie, 2004, p. 14). Pragmatism has a philosophical foothold in methodological pluralism, and mixed methods (Cameron, 2009). It provides for the flexibility to emphasize what works over epistemological and ontological limitations. Becoming a pragmatic researcher offers a myriad of advantages for individuals. First and foremost, it enables researchers to be flexible in their investigative techniques, as they attempt to address a range of research questions that arise. Pragmatic researchers also are more likely to promote collaboration among researchers, regardless of philosophical orientation. Based on Newman and Benz’s (1998) conceptualization of

the role of theory in quantitative and qualitative inquiries, pragmatic researchers are more likely to view research as a holistic endeavor that requires prolonged engagement, persistent observation and triangulation (Lincoln & Guba, 1985). By having a positive attitude towards both techniques, pragmatic researchers are in a better position to use qualitative research to inform the quantitative portion of research studies, and vice versa.

Pragmatism as a research paradigm has received relatively little scholarly attention to date, and its inclusion within the pantheon of acceptable social science research paradigms has generated opposition from some scholars who rely on more traditional classifications. In response, pragmatism's supporters have raised questions about the nature of paradigms within social science research methodology, and who gets to define and label acceptable paradigms (Morgan, 2007). There is growing recognition that pragmatism is a paradigm that should be considered more often, as it has been used by many researchers in practice even where not explicitly acknowledged as such.

Despite its limitations and unanswered questions, "pragmatism, when regarded as an alternative paradigm, sidesteps the contentious issues of truth and reality, accepts, philosophically, that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical problems in the real world" (Feilzer, 2010, p. 8). Through pragmatism, the researchers do not have to be the prisoner of a particular research method (Robson, 1993, p. 291). Pragmatists often cite Dewey's comments on an "existential reality", the problems with seeking either an objective or subjective "truth" when there are "ambiguities, uncertain possibilities, processes going on to consequences as yet indeterminate" (Dewey, 1925, p. 40-47; Feilzer, 2010).

Mixed Methods

In recent years, a growing number of researchers have adopted mixed methods as they hope to increase the validity and/or clarity of their results by adopting both qualitative and quantitative methodologies (Creswell, 1994; Cameron, 2009; Bryman, 2006). Consequently, Creswell observes that "[m]ixed methods research has come of age. To include only quantitative and qualitative methods falls short of the major approaches being used today in the social and human sciences" (Creswell, 2002, p. 4). Green, Caracelli, and Graham (1989) have conducted meta-studies of mixed-methods evaluations to improve the theory behind the practice, as well as to help develop a guide for the design and implementation of mixed-methods evaluations. Creswell (2002) has also written extensively about mixed-methods and when best to apply them. To Creswell (2002) each particular use of mixed methods needs to be carefully considered: "Each major design has its own history, purpose, considerations, philosophical assumptions, procedures, strengths, challenges, and variants" (Creswell, 2002, p. 53).

Sieber's (1973) work highlights the inherent strengths and weaknesses of both qualitative and quantitative research, and advocates for researchers to utilize the strengths of both techniques in order "to understand better social phenomena" (Onwuegbuzie & Leech, 2005, p. 377). According to Onwuegbuzie and Leech (2005), "epistemological purity doesn't get research done" and as pragmatists the research question should drive the method(s) (Miles & Huberman, 1984, p. 21). To them "epistemological purity" limits the "tools" or research methodologies that are available to researchers, thereby diminishing their understanding of a problem and the world. Instead, Onwuegbuzie and

Leech suggest “that methodological pluralism should be promoted” (Onwuegbuzie & Leech, 2005, p. 381). They advocate for dismantling or reducing barriers, including de-emphasizing the terms quantitative and qualitative in favor of “exploratory” and “confirmatory” methods.

Depending on your toolset and the goals of a study, mixed methods are not only helpful but seem natural and most adequate for answering a particular research question. There is a growing body of work in support of mixed methods and “authors have increasingly recognized the advantages of mixing both quantitative and qualitative data collection in a single study” (Creswell, 2002, p. 163). Creswell (2002), one of the most renowned writers on mixed methods, builds on the earlier definitions by Fielding and Fielding (1986) and Greene, et al. (1989) and defines a mixed methods study as one that “involves the collection or analysis of both quantitative and/or qualitative data in a single study in which the data are collected concurrently or sequentially, are given a priority, and involve the integration of the data at one or more stages in the process of research” (Creswell, 2002, p. 165).

Gathering data through mixed methods can be performed sequentially, concurrently or through a multiphase combination (Creswell, 2002, p. 66). Concurrent timing refers to the implementation of both the qualitative and quantitative parts of the study during a single phase. Sequential timing refers to the use of two distinct phases in the research process. Sequential timing allows for the analysis of data at different intervals, with the researcher being able to analyze the qualitative or quantitative data first depending on the sequence of the study. A multiphase study may include a series of

sequential and/or concurrent phases. This study is designed as a multiphase study. While the evaluation study was initially designed in a sequential way, various components, such as the simultaneous gathering of qualitative and quantitative data from the same survey were concurrent.

Epistemologically, a researcher influences a study by deciding which questions to ask, what variables to consider, and the degree and lens by which these are analyzed. In this study, I utilize surveys, focus groups, and an auto-ethnography to better understand the participant experience and answer the research questions both through a quantitative analysis of the data, as well as thick description from both the online focus group data as well as the auto-ethnography and participant observations.

The mixed methods in this study complemented one another, with some methods contributing to answer some research question more directly than others but together providing a comprehensive perspective of the international participant experience. Trends observed in the qualitative aspect of the study, the online focus groups and the auto-ethnography, often complemented the statistical findings from the survey data. For the first two research questions, “who were the participants” and “why are they participating”, the quantitative data was more helpful in helping understand their experience. In contrast, when determining “what were the positive and negative aspects of their experience” and “how would participants like to see MOOCs improve”, the qualitative data was more useful in understanding the student experience. In this regard, none of the methods used was consider the primary method but each question was answered by a combination of both qualitative and quantitative methods.

Using mixed methods resulted in a number of limitations, primarily due to having mostly conducted qualitative research in the past with limited quantitative experience. I also had not used mixed methods previously. While using mixed methods led to a few challenges, as discussed in the limitation section of the conclusions, using mixed methods strengthened the findings of this study as the different methodologies utilized complimented one another. Mixed methods also allowed for a comparison between the findings of the qualitative portion of the study to the quantitative portion of the study, allowing for triangulation and strengthening the quality of the results.

Value Premises

A researcher's ontology, or nature of being, and epistemology, or theory of knowing, influences their methodology. As discussed by the late Nobel laureate Gunnar Myrdal (1969), it is important for a researcher to formulate their value premises "explicitly in concrete terms and relate them to actual valuations of social groups," as well as to renounce "all pretensions to postulate universal laws and norms." In addition, Ruth Behar (1997) a prominent cultural anthropologist at Michigan, similarly emphasizes the need to make positionality and value premises explicit (Behar, 1997). Ruth Behar's (1997) work weaves ethnography and memoir, proposing an anthropology that is lived and written in a personal voice to provide a better understanding. As a researcher, I hold a subjective view of reality, aligning myself closely with subjectivist epistemology and relativist ontology. These premises have often been associated with constructivism. However, rather than a constructivist, I consider myself a pragmatist.

I consider beliefs to be flexible and dynamic and that research benefits from the insights of both qualitative and quantitative methods as we attempt to better understand phenomena. An individual can simultaneously consider some elements to be objective while others subjective and we benefit from considering both positions when we analyze a problem. Across disciplines, theories are often revised as new ways of looking at problems are developed, and our understanding of the universe, and nature, has changed over time consequently. Pragmatism allows a researcher to focus more on “what works” based on qualitative or quantitative findings, instead of emphasizing the potential incompatibilities between qualitative and quantitative methods.

In addition to discussing my value premises, this dissertation further explores my positionality and experience by including an auto-ethnography as a method (Ellis, Adams, & Bochner, 2011). This research is very personal to me, as someone who has felt restrained by what was financially possible in his studies and who personally see MOOCs as an alternative for those without the means of studying. Growing up in Venezuela with both parents working at a higher education institution, I also noticed the limitations of educational systems in a developing country, and the reason why studying abroad is so appealing to many international students. It is a decision I made myself, to study abroad and to not necessarily study exactly what I wanted to study due to financial limitations and being unable to secure a loan as an international student. In the upcoming sections, I discuss the methods used, surveys, focus groups, and autoethnography in detail.

Online Autoethnography

An online auto-ethnography with participant observations further enriches the study by incorporating my own experiences as a MOOC participant. As an international participant from Venezuela, I have a personal interest in better understanding the role of MOOCs in international education and these methods provide a framework for sharing my personal insights about MOOCs. I consider participant observations and autoethnography to be very valuable methods for providing the "thick description" often missing in quantitative studies (Geertz, 1973). To better understand MOOCs, I completed a series of MOOCs, and had the opportunity to interact with other participants, the course instructors, and learn more about Coursera from the participants' perspective. Online ethnographies as a methodology is increasingly used to better understand virtual words and environments (Hine, 2017). Best practices in online ethnographies include participant observation, presence, and skill in navigating the medium (Proctor, 2015; Hine, 2008). To protect the privacy of participants it is important to utilize pseudonyms. Often in online ethnographies not only is the name of the participants changed but the name of the community (Hine, 2008). While I created pseudonyms for participants, I did not change the names of the MOOCs, as I did not consider it necessary due to the type of questions and purpose of the study.

To Hine (2017) online ethnographies have been instrumental in "enabling us to explore new cultural formations that emerge online" (Hine, 2017, p. 401). Hine (2017) mentions that auto-ethnographers online tend to be full participants in the situation that they study. As a result, the auto-ethnographer needs to utilize the same technologies that

the participants are using. “In order to be an ethnographer of a gaming site, for example, it may be necessary for the ethnographer to become highly skilled at playing the game just in order to stay alive long enough to experience the setting, quite apart from any aspirations to an epistemological purchase offered by the immersive experience” (Hine, 2017, p. 410). One of the first studies of online community interactions was a study by Rheingold (1993) who highlighted the rich interpersonal dynamics of people coming together to discussing topics of interest in text-based bulletin boards (Rheingold, 1993). Markham (1998), a pioneer of auto-ethnographies online, focused on the experience of navigating and interacting in online spaces, as well as the importance of reflexivity (Markham, 1998). Within studies of higher education, Lee (2008) wrote an auto-ethnography about his experience teaching an online course (Lee, 2008). Beer and Penfold-Mounce (2009) as internet users conducted an auto-ethnography exploring celebrity gossip (Beer & Penfold-Mounce, 2009).

Auto-ethnographies often begin with a personal story and draw upon the experience of the author (Wall, 2008). In an autoethnography, the “writer tells a story that allows readers to enter and feel part of a story that includes emotions and intimate detail and examines the meaning of the human experience” (Wall, 2008, p. 44). While participating in a series of MOOCs I documented my experience in detail, to provide “insider” insights into the MOOC experience and applied autoethnographical methods when analyzing my experience (Denzin & Lincoln, 2000; Wall, 2006; Ellis, Adams, & Bochner, 2011). Autoethnographies should include strategies like observation, note

taking, interviews, memory work, and narrative writing (Hamilton, Smith, & Worthington, 2008)

In addition to sharing a personal experience, an autoethnography also tries to produce accessible texts that make personal experience meaningful and cultural experience to engage a wider and more diverse audience (Ellis, Adams, & Bochner, 2011, p. 5). Such narratives can be very valuable. An autoethnography also shares "epiphanies" or remembered moments of significant impact to a person's life that are made possible "by possessing a particular cultural identity" (Ellis, Adams, & Bochner, 2011, p. 7). While including personal ethnographies can be seen as controversial, in this study it will be accompanied by a more traditional methods and analysis, and the findings will be situated within the relevant academic literature. The motivation for conducting this study were personal, as I saw MOOCs as promising for learners and people like me who were not born in the United States and countries with high HDI levels. Autoethnography focuses on writing about "the personal and its relationship to culture", displaying "multiple layers of consciousness" (Hamilton, Smith, & Worthington, 2008, p. 22)

In autoethnographies other participants are, by their participation in the researcher's experience, also a form of co-researchers who invite the author into their world and experiences. Ruth Behar's work *The Vulnerable Observer* is a good example of including one's personal narrative to relate the researcher's experience to the subject he or she is researching. In her work, Dr. Behar includes her personal experience as a

Jewish Cuban-American in her formal studies of rural communities in Spain as well as the lives of immigrant Cuban women living in the United States.

For this study, I analyzed my experiences in six different MOOCs. I selected these courses to explore an area of study that greatly interested me. Having a long-time interest in educational game development, I completed a series of Coursera MOOCs in 2015 on "Game Design: Art and Concept". The MOOCs included *Introduction to Game Design, Story and Narrative Development for Video Games, World Design for Video Games, Character Design for Video Games,* and a final *Game Design Document*. The California Institute of the Arts developed these MOOCs. Each MOOC lasted four weeks. I completed the specialization certificate on June 2, 2016. In addition to these MOOCs, I also completed a MOOC by the University of Minnesota on *Creative Problem Solving*. This course also lasted four weeks. I selected these MOOCs out of interest in these subjects and a previous inability to take courses in these areas.

As an international participant, I offer an emic perspective or an insider view. My initial interest in MOOCs and OER comes from my interest in improving my education. To me, MOOCs are not only interesting because of what they are but also because of what they can be. Through MOOCs, I can learn about any subject for free or for a minimal cost. I recorded notes daily throughout my participation and visited the course forum extensively. I visited the forum as a student, to find out answers to questions I had about the course, and to learn more about other individuals taking part in the MOOCs. Participants shared their reasons for enrolling the MOOC and their prior expertise in the forum. The forum was the primary way through which I interacted with other participants

in the course. I completed all assignments and every aspect of the course successfully. I also decided to take the course as I would normally take a course, with a similar effort that I have given courses throughout my academic career.

As a part of the autoethnography, this study includes participant observations. As a participant observer, I recorded my own experiences and my impressions of other learners, the course, and the learning environment. Participant observation has been influential in anthropology, sociology and other social sciences (Guest, et al., 1994). Guest, et al. (2012) considers participant observation both the most natural and most challenging qualitative data collection method, “connecting the researcher to the most basic of human experiences, discovering through immersion and participation the hows and whys of human behavior in a particular context” (Guest, et al., 2012, p. 75).

Reasons for conducting participant observations include: opening up the areas of inquiry to collect a wider range of data; reducing the problem of reactivity; enabling researchers to know what questions to ask; gaining intuitive understanding of the meaning of your data; and addressing problems that are simply unavailable to other data collection techniques (Bernard, 2006). The researcher may need a considerable amount of time to build rapport, observe, and participate to gather their data documenting a large range of experiences (Mack, et al., 2005, p. 14). Participant observation is inherently subjective p. 83). It is important to keep one’s eyes open for scenarios that may suggest new directions for the research (Mack, et al., 2005, p. 22).

While through the auto-ethnography I share primarily my opinions and my experience, I consider it a cornerstone of this study, as it was my personal educational

journey and my experience as a person who grew up in a developing country, in the "Global South" that motivated me to study the implications of MOOCs for international participants. When thinking of the research questions, I asked myself who I am as a person and a student, why I was participating in MOOCs, what were the negative and positive aspects of my experience, and how I would personally like to see MOOCs improve. I then analyze the focus group data and quantitative data to answer these questions based on the responses of participants.

Surveys

Survey research has become increasingly popular in recent years due to its versatility, efficiency, and generalizability (Schutt, 2011). Surveys have been used to study a large number of subjects and, unlike other methods, new variables can be analyzed without substantially increasing the time and cost of the study. They also facilitate the sampling of a large population, which can help in developing a representative picture of the characteristics and attitudes of a population. The three surveys analyzed in this study followed multiple stages of design including: designing the survey process, developing questions, testing and training, and collecting data (Dykema, et al., 2010). Think-aloud and brainstorming sessions helped improve the surveys and focus group questions. When designing the surveys, questions were developed in relation to the goals of the study and refined with the aim of improving the reliability and validity of responses (Dykema, et al., 2010).

Questions were designed to work well together or "maintain a parallel structure" (Dykema, et al., 2010, p. 9). The survey included mostly closed questions with a few

open-ended questions. The closed questions allowed for an in-depth statistical analysis, and the open-ended questions allow respondents to express themselves in detail. Only a few open-ended questions were included. Including too many open-ended response questions increases the burden and time required from participants to complete the survey and were therefore avoided to maximize survey participation among MOOC participants. Open-ended questions are also difficult to analyze when there are thousands of responses. Qualtrics also facilitated the incorporation of logic elements and skip patterns. The survey also includes other formatting elements like whitespace to aid navigation and avoid confusion (Schutt, 2011).

A major concern when designing a survey for an international population is whether the questions will have the same meaning for all participants. First, participants' ability in the survey language can complicate survey design for international participants and place limitations on the responses the survey elicits from participants. In some instances, researchers have attempted to resolve this problem by translating the surveys into participants' native languages. For this study, however, the questions were not translated, and respondents were required to answer in English. Given that the MOOC participants included hundreds of nationalities, translating each survey into every participant's native tongue would not have been feasible. Moreover, the MOOCs were administered in English, so it was reasonable to assume participants would have some degree of English proficiency. In addition to having different English language skills, there are also differences in culture among MOOC participants, who come from all over the world. Even though a word may exist in both languages it may not have the same

exact meaning: “for example, the wording of a question about family and the available response categories would need to account for cultural differences in both the boundaries used to establish membership in a family and the expectations and obligations of family members” (Schutt, 2011, p. 180).

Despite these language and cultural complications, there is still a great deal that researchers can do to maximize the effectiveness of a survey. For example, effective surveys should have a simple, clean and consistent layout and be subjected to rigorous testing prior to implementation. For example, Dykema, et al. (2010) recommend that the researchers test the survey more than once, even when the questions have been used before on a different survey and consult an expert and test the survey with other members of the research team or advisors. Consequently, in this study, each of the surveys were tested by various team members and went through various iterations before being administered to MOOC participants.

With MOOCs taking place online, the surveys were designed as online surveys, collecting data from online participants. When “the entire sample has access and ability, Web-based surveys can be very effective” (Schutt, 2011, p. 178). Online surveys date back to 1986 with the first asynchronous email surveys, whereas synchronous web-based surveys appear to have started in 1994 (Andrews, et al., 2003). Since then, there have been many improvements in online survey technologies. Newer platforms such as Qualtrics can provide unique URLs to each participant, save partial data, and allow them to complete a survey later. Today, “Web-based surveys have the advantage of low cost and quick distribution. Additionally, Web-based surveys provide the ability to transfer

survey responses directly into a database, eliminating transcription errors and preventing survey alteration by the survey respondent" (Andrews, et al., 2003, p. 4). Some limitations of web surveys include being prone to low response rates due to difficulty in utilizing an online form, poor internet quality, or receiving too many random requests via email. Despite these limitations, web surveys appeared the most natural fit for MOOC participants as, by definition, they were all already participating in online courses and familiar with completing tasks using a computer.

It was therefore reasonable to assume that most participants would not find it overly difficult to complete an online form and have access to sufficiently reliable internet to permit them to complete the survey. The software Qualtrics was selected for these surveys for the reasons described above, and because of its easy to use point and click interface that did not require respondents to install any additional software to answer the survey. Participants were contacted via email and answered via Qualtrics. Qualtrics allows for the use of panels and automated mailings. Qualtrics also keeps track of survey completion and sends reminders to those who have not completed the survey(s).

In this dissertation, I analyze three surveys, a pre-MOOC survey (PEMS), post-MOOC survey (POMS), and an international participant MOOC survey (IPMS). These surveys were developed for a 2013 MOOC evaluation project. The 2013 evaluation team included members from the Office for Information Technology (OIT), the Center for Teaching and Learning (CTL), the College of Education and Human Development (CEHD) and the office of eLearning at the University of Minnesota. As a member of the

evaluation project, I included various questions in the surveys that I explore in this dissertation. While these tools were developed initially for a different project, the 2013 project answered different research questions and focused primarily on the PEMS and POMS, without an emphasis on regional differences and the IPMS.

As a member of 2013 MOOC evaluation project, the research team, I included questions about participants' country of residence (Question 13), their mother tongue (Question 10) and English language proficiency (Question 11). In this dissertation, I analyze participants' responses by geographical region based on responses to Question 13. By knowing participants' country of primary residence, I was able to group participants by United Nations' geographical regions.

With the help of two graduate students, Alison Link and Pano Liao, I also designed the international participant MOOC survey (IPMS). Unlike the other surveys whose development was led by the head of the evaluation project, Dr. JD. Walker, I oversaw the development of this IPMS survey. The international participant MOOC survey was developed to further understand the international participant experience, asking participants to elaborate on their reasons for participating in MOOCs. These responses were compared by geographical region. This survey is a key component of the quantitative analysis in this dissertation. The international participant MOOC survey includes 40 different questions including various Likert scales and Likert-type scales (Boone & Boone, 2012). Table 3.2 displays the survey questions that were analyzed from all three surveys and how they contribute to answering each of the research questions.

The statistical analysis was conducted in Statistical Package for the Social Sciences (SPSS) version 23.

Table 3.2
Survey Questions Analyzed Per Research Question

Who were the participants in the MOOCs?
PEMS: Q01, Q03, Q04, Q05, Q06, Q08, Q09, Q10 POMS: Q05, Q07 IPMS: Q01, Q02, Q03, Q04, Q05, Q08, Q10, Q15, Q19, Q20, Q21, Q22, Q23, Q24, Q27, Q33
Why were they participating in MOOCs?
PEMS: Q02 POMS: Q01 IPMS: Q07, Q09, Q12, Q13, Q14, Q16, Q34
What were the positives and negatives of the MOOC experience?
IPMS: Q26, Q38
How would participants like to see MOOCs improve?
IPMS: Q28, Q29, Q30, Q31, Q32, Q39

Each of the survey questions was also analyzed based on participants' geographical region. Most of the questions in the surveys are of nominal and ordinal levels of measurement. According to Stevens (1946) scales of measurement, there are four categories of data: nominal, ordinal, interval, and ratio. The nominal scale uses numbers only as labels such as gender, male and female or categories such as race. Ordinal scale includes rank ordering such as a scale on the hardness of minerals. To Stevens (1946) "in the strictest propriety the ordinary statistics involving means and standard deviations ought not to be used with these scales, for these statistics imply a knowledge of something more than the relative rank-order of data" (Stevens, 1946, p. 679). However, in some instances 'illegal' statisticizing can lead to fruitful results

(Stevens, 1946). Interval level data allows for a more rigorous statistical analysis. Examples of these scales are temperature scales such as Fahrenheit and Centigrade when there are equal intervals of temperature and "a numerical value on one of the scales is transformed into a value on the other by means of an equation of the form x = ax + b" (Stevens, 1946, p. 679). In ratio scales, an absolute zero is meaningful allowing for meaningful ratios.

With participants' geographical identification being a nominal level variable, this study relies heavily on bivariate analysis, cross tabulations and Chi-square tests. The surveys included various Likert attitudinal scales and Likert-type scales. Various researchers have debated whether to classify Likert scales as interval level data (Boone & Boone, 2012; Carifio & Perla, 2007; Jamieson, 2004). I decided for this study to consider Likert and Likert-style questions as ordinal level variables. When a "wrong statistical technique is used, the researcher increases the chance of coming to the wrong conclusion about the significance of his research" (Jamieson, 2004)

While there are more rigorous statistical analyses that can be conducted with interval and ratio level data, and t-test can be very useful when comparing means such as demographic variables in relationship to participants' final grades, I did not focus on participants' grades but participants' perception of their experience (Mujis, 2004). I was interested in whether they had completed or not the MOOC and their initial expectations but not their grade or score in the MOOC.

Cross tabulations are recommended when comparing a nominal and an ordinal variable or two ordinal variables (Mujis, 2004; Michael, 2001). A frequently used

statistical test of statistical significance used in cross tabulations is Chi-square (McHugh, 2013). Chi-square test of independence is considered “one of the most useful statistics for testing hypotheses when the variables are nominal” (Scheffe, 1947, p. 143). Chi-square test is a non-parametric statistic. In addition to determining whether differences are significant, chi-square provides information on which categories account for differences found. These tests should be use when any of the following conditions apply: 1) the level of measurement is nominal or ordinal, 2) the sample sizes of the study groups are unequal, 3) the original data was measured at an interval or ratio data, but it violates one of three parametric test assumptions. These assumptions are: 1) equal variance or homoscedasticity; 2) data distribution was seriously skewed; 3) continuous data was collapsed into a small number of categories or converted into ordinal data (Scheffe, 1947).

Having a large data set, chi-square was appropriate as the expected frequencies were large, and no more than 20% of the expected frequencies were less than five. In most cases due to the large sample size, the results were statistically significant. A more extensive statistical analysis examining participants’ educational outcomes is needed but it is beyond the scope of this dissertation, as this study emphasizes the participants’ experience through their own perception and self-reporting. In the following section, I discuss in detail the development of each survey and its administration. Complete copies of the surveys are included as annexes.

Pre-MOOC Survey (PEMS)

As previously stated, both the pre-MOOC and post-MOOC survey were developed as part of an earlier UMN MOOC 2013 evaluation study. Each Pre-MOOC survey was administered at the beginning of each of the first five University of Minnesota MOOCs. Answering the survey was optional but it had a 27.79% response rate, counting only the responses that answered question 13 or "country of primary residence". There were a total of 19,738 valid responses out of 71,020 participants with 1,440 responses being removed for lacking an answer to question 13 regarding country of primary residency. Assumptions are often made about individuals from different parts of the world, the quality of the education in the region, their access to technology, and individuals' ability to pay for higher education. While these assumptions are grounded in data including average HDI levels, the average individual from a particular country is not the average international MOOC participant. The Pre-MOOC survey (PEMS) provides an insight into the average MOOC participant.

This study focuses on international participants' experiences in MOOCs. "International participant" was operationalized as any participant whose primary residence is not the United States and who is participating in the MOOC from another part of the world. This definition unfortunately excludes MOOC participants who are international students but who are currently living in the United States. In retrospect, participants should have also been asked their nationalities, as many international residents may have been living temporally in the United States while taking a MOOC, while some United States citizens may have been living abroad temporarily when taking

the MOOC. Not all international participants may have identified properly when asked for their “country of primary residence” as individuals may interpret country of primary residence differently. For example, while I was living in the United States for a number of years during my higher education studies, I had a non-immigrant student visa throughout most of my studies until 2017, and as a result, the United States was not my permanent residence.

I also consider foreign students who are temporary residents in United States to be international students, as they do not have an immigrant visa or a permanent status in the United States and will likely have to return to their country of origin. However, the way in which I drafted the question may have resulted in international students temporarily living in the United States to select the United States as their country of primary residency. When analyzing the differences between participants IPs and their country of residence, 54 participants out of 1736 participants in the IPMS had IP addresses located in the U.S.A. but selected a different country as their country of residence in PEMS Q13. IP addresses and primary residence self-reporting matched 88.9% of the time.

One of the most important questions in the pre-MOOC survey for purposes of this dissertation therefore requested participants’ country of primary residence as I used it to determine who was an international participant and which geographical region they represented. Instead of relying on their IP addresses to classify participants by regions, participants self-reported their country of residence.

The pre-MOOC survey (included in the annex) was composed of 17 questions. Table 3.3 illustrates how different survey questions were analyzed to help answer the

different research questions. Various questions were helpful for better understanding who are these participants including: Q08 - What is your gender? Q09 - What is your age? Q05 - How many hours per week do you have available in total to dedicate to all online courses you are taking? In total, 16 of the 17 questions in the PEMS were analyzed in relationship to the first research question or "Who were the participants in the MOOCs?" Regional differences in responses were analyzed in cross tabulations. Questions such as number of online courses and MOOCs previously taken, and participants' level of prior expertise in the field were also useful in providing a more nuanced answer to the research question regarding who participates in MOOCs.

Table 3.3
Pre MOOC Survey Questions – Classification

Research Questions	Survey Questions			
Who were the participants in the MOOCs?	Q01	Q03	Q04	Q05
	Q06	Q08	Q09	Q10
	Q11	Q12	Q13	Q14
	Q15	Q16	Q17	
Why were they participating in MOOCs?	Q02			

To understand the language challenges faced by international MOOC participants, survey respondents were asked to self-assess their level of English proficiency (basic, low intermediate, high intermediate, advanced, or advanced proficient). It was anticipated that language might have been a major obstacle for some international MOOC participants, whereas others may not have experienced any language difficulties, particularly if English was their primary language (such as participants from the UK, Australia and some Indian participants).

Participants were also asked if they worked in a related field, as well as if they were graduate or professional participants or undergraduate participants, as other studies have shown that many MOOC participants have a high level of education. They were also asked if they knew other participants enrolled in the course. One potential benefit of participating in a MOOC is networking with participants in similar fields. Potentially, MOOCs could help participants' network professionally and find new career opportunities. These questions provide an insight into why learners participate in MOOCs.

While most of the PEMS questions were analyzed to understand "who are the participants", the second question of the survey, "why did you enroll in this course?" was very similar to the second research question of this study, "Why were they participating in MOOCs?" Participants were asked to answer on a Likert scale how much they strongly agreed to strongly disagreed with the following reasons for participating in the course: (1) This subject is relevant to my academic field of study; (2) This class teaches skills that will help my job/career; (3) Because this course is offered by a prestigious university; (4) I think taking this course will be fun and enjoyable; (5) I am not geographically close to educational institutions; (6) Traditional courses are too expensive; (7) I was interested in taking a course with this professor; (8) This course is offered by the University of Minnesota; (9) General interest in the topic, (10) To help me decide whether to take further college/university classes; (11) To make professional connections; (13) To obtain a badge or certification that will be useful to me

professionally. Consequently, this survey question provided many insights into the second research question “why were they participating in MOOCs?”.

I conducted a crosstabulation and a Chi-square test for each of these variables in relationship to participants’ country of residence. First, I investigated the differences between international participants and US participants by survey question. Then, I explored the differences between participants from different geographical regions. With international participants accounting for most participants in the MOOC, an analysis of responses by regions helps to gain a better understanding of who were these participants and if there are differences depending on their global region.

Post-MOOC Survey (POMS)

The post-MOOC survey was shared only with respondents to the pre-MOOC survey after the completion of the MOOC. Like the PEMS, the 2013 MOOC evaluation team developed this survey. This survey included 11 questions. The survey was administered the week after the culmination of the MOOC. Out of the 21,178 respondents for the pre-MOOC survey, only 2,793 participants responded to the post-MOOC survey. After removing answers from participants that did not respond to PEMS question 13 or shared their “country of primary residence”, there were 2,540 valid responses out of 19,738 participants, or a response rate of 12.86%. The survey was sent to all participants who completed the pre-MOOC survey including participants who did not complete the course to gather a diversity of opinions. It is possible that participants who completed the MOOC were more likely to self-select and respond to the post-MOOC survey, which may have provided a more positive picture of international students’ experiences within

the courses than the reality, but course completion was not required for participation in the post MOOC survey.

Table 3.4 illustrates how different survey questions answer the research questions explored in this dissertation. As with the pre-MOOC survey, each of these questions were analyzed using a Chi-square test to explore the differences between participants in the US and international participants.

Table 3.4
Post MOOC Survey Questions – Classification

Research Questions	Survey Questions			
Who were the participants in the MOOCs?	Q05	Q07		
Why were they participating in MOOCs?	Q01			
What were the positives and negatives of the MOOC experience?	Q02	Q03	Q04	Q06
	Q08	Q09	Q10	

Two questions, Q05 and Q07 provided additional insights into “who are these participants?”. Q05 asked participants “To what degree did each of the following negatively impact your participation in this course?” (1) Unfamiliarity with technology used in the course; (2) Problems with my internet connection; (3) Problems with my computer; (4) Time zone issues; (5) Lack of time due to family responsibilities; (6) Lack of time due to work responsibilities. These variables together help in understanding more about the challenges faced by these participants, differences between geographical regions, and in doing so better understanding who are the participants. In Q07 participants were asked how many hours a week they had spent on homework, reading, and projects for the course. These and other variables may provide only a small insight into answering the research question individually, but when looking at regional

differences as well as responses provided to other questions, including qualitative responses, they help develop a better understanding of who these participants are.

Question 1 asked participants how much of the MOOC they had completed: more than planned, about as much as planned, or less than planned. This question provided additional insights into the participants' lives and why they were participating in MOOCs, and the differences between their goals and what they completed. Were they hoping to complete all the MOOC materials or were they only interested in completing a part of it? In these and many other survey questions participants were not able to elaborate in their responses, by adding a qualitative component to the study the response to this and other questions were able to be understood more holistically.

Most of the post-MOOC survey questions focused on the positive and negative aspects of the participants' experiences. This included seven different survey questions: Q02, Q03, Q04, Q06, Q08, Q09, and Q10. Unlike the PEMS, the POMS included questions that asked them about their recent experience. For example, Question 3 asked participants about different factors that prevented them from completing (or made it more difficult to complete) the course including time constraints, losing interest in the subject matter, losing interest in its style and presentation, falling behind in their course progression, and beginning another course. Question 4 asked them about factors that would "have made you more likely to complete the class?" such as: (1) Reducing the weekly time commitment needed to take the course; (2) Making the course material easier; (3) Making the course material more difficult; (4) Making the credential more valuable; and (5) Making the course shorter.

Q08 asked participants if they had learned more, about the same, or less in the MOOC in comparison to other MOOCs or online courses they had taken. Q09 was a similar question asking participants about the difficulty of the course in comparison to other MOOCs or courses. Question 10 asked participants about the degree to which various factors contributed to their learning: (1) Video content (lectures, discussions, etc), (2) Assigned readings, (3) Practice assignments/tests, (4) Interactions with instructor/TAs, (5) Interactions with classmates in the class forum, (6) Feedback from classmates through peer grading. These questions provided additional details to their experience and the positive and negative aspects of MOOCs. Questions 4, 6, 10 used a

Likert scale provid ordinal level data. While Q11 would have provided additional valuable qualitative data, it was not analyzed in this study due to the way in which the question data was gathered and the difficulty in analyzing it. Focusing instead on analyzing the qualitative data from the online focus groups, and auto-ethnography and participant observations. Custom questions were also added to some of the surveys at the request of the instructors, although these course-specific questions will not be analyzed in this study.

International Participant MOOC Survey (IPMS)

A more extensive survey composed of 40 questions, including various open-ended and compound questions was conducted after the post-MOOC survey to understand international participant experiences more deeply. This survey was administered only to participants who completed the pre-MOOC survey and who indicated that their country of primary residence was not the United States. As with the

other two surveys, each variable considered to help answer the research question was analyzed using a Chi-square test. Unlike the other two surveys, this survey did not allow for comparisons between international participants and US participants, as only international participants responded to this survey.

There were 1,721 valid responses to this survey, representing a response rate of 15.44%. Table 3.5 illustrates how different survey questions were analyzed to answer the specific research questions discussed in this dissertation. Many of the survey questions help in answering the research questions when analyzed in conjunction with other questions, and by taking into account the differences between regions. The analysis of some survey questions provided valuable insights into more than one research question. Survey questions were grouped and analyzed with the research question that it would most help answer.

Table 3.5
International Participant MOOC Survey Questions - Classification

Research Questions	Survey Questions			
Who were the participants in the MOOCs?	Q01	Q02	Q03	Q04
	Q05	Q08	Q10	Q15
	Q19	Q20	Q21	Q22
	Q23	Q24	Q27	Q33
Why were they participating in MOOCs?	Q07	Q09	Q12	Q13
	Q14	Q16	Q34	
What were the positives and negatives of the MOOC experience?	Q26	Q38		
How would participants like to see MOOCs improve?	Q28	Q29	Q30	Q31
	Q32	Q39		

Sixteen different questions from the survey help provide a more detailed answer to the first research question, “Who are the participants?” Some of these questions were

similar to the pre-MOOC survey questions but asked participants for additional details. Q02 asked participants to rate their overall English proficiency in terms of listening, speaking, reading, and writing. Participants were also asked about their highest degree or level of school completed, as well as if they were still attending school part-time or full-time and the program they were completing. Q24 asked participants if they had completed a college or university level course. Q08 asked participants if they were employed. Q10 asked participants how many years they had of professional experience. In addition to broad demographic questions, participants were asked in Q15 if they had enrolled in Signature Track, the identity verification initiative used by Coursera.

Q19 asked participants if they had previous online learning experiences, followed by Q20 that asked participants if they were comfortable utilizing online learning environments. These two questions provide an insight into participants' online learning preferences. Q21 asked participants about ownership of certain devices. These information helps both reveal their level of access to technology as well as highlight potential financial limitations. Participants were asked if they owned a desktop computer, a laptop or netbook, a handheld device or an internet capable phone. Ownership of smartphones and laptops has increased quickly in recent years around the world, but the devices are far from universally accessible to all students around the world.

Q22 asked participants about their study time preferences. Work and family obligations can limit an individual's ability to devote time to their studies. Q23 asked participants about their willingness to pay for the MOOCs if they were no longer available at no cost. Participants were also asked in Q27 about the number of people they

knew locally that had enrolled in a MOOC in the past. Q32 asked participants how they believed the new relationships they had made in the MOOC would help them in the future. Lastly, Q34 asked participants if they were able to attend a course with similar content near their current residence.

Seven questions were analyzed to better understand "why were they participating in MOOCs?" As with the previous surveys, each question was analyzed for differences by region. In Q07, Participants were asked which reason more accurately reflected their reasons for participating in the MOOC, including self-improvement, improved job outlook, curiosity, or boredom/to pass time. To learn about the relationship between the MOOC and their employment as a reason for participating, in Q09 participants were asked "how relevant is the completion of this MOOC to your employer?" Question 12, 13, 14 similarly asked about relationships between their MOOC participation and their current employment, desired employment, and professional career. Q16 asked participants how important the Signature Track program is for them.

While the qualitative data from the focus group and the auto-ethnography were more helpful in answering the third research question, two questions provided an insight into the third research question, "What were the positives and negatives of the MOOC experience?" Q38 asked participants how important various factors are to a successful MOOC experience including: (1) English proficiency, (2) Internet connection, (3) time requirements, (4) prior knowledge, (5) face to face interaction, and (6) instructional support. Q26 asked participants the extent to which they agreed or disagreed that they

MOOC difficulty was comparable to a traditional university / college course, and whether the quality of the MOOC was comparable.

Several survey questions also spoke to the fourth research question “How would participants like to see MOOCs improve?” Question 28 to 32 asked whether local and online friends and acquaintances had expressed an interest in enrolling in a MOOC based on the participant’s experience. Participants were also asked if they had expanded their social network online or locally by participating in the MOOC. These questions help enrich the understanding of the participant experience and add additional context to the qualitative analysis. Q39 asked participants about the future importance of various factors in their community or place of employment. Specifically, participants were asked about the importance of: (1) “as needed” learning opportunities, (2) MOOC certificates of completion, (3) mobile learning opportunities, (4) higher education and advanced degrees, and (5) badges to demonstrate competency.

While this survey included more questions than the pre-MOOC and post-MOOC questionnaires, as with the other two surveys, there were various limitations to the data collected. One of the main limitations of all three surveys is that they are limited to MOOC participants. Equally important would be to learn more about potential international MOOC participants who are not currently participating in MOOCs and what factors would increase their likelihood of participating. For example, international participants in these MOOCs must have had at least some degree of access to computers and the internet in order to enroll in the courses. However, the surveys do not capture the number of international students who would have wanted to participate but could not due

to their lack of access to the required technology. It is crucial to acknowledge such limitations when discussing this study's findings regarding positive and negative aspects of MOOCs for international participants, and recommendations for improvements.

Focus Groups

Participants who completed the international participant survey were also asked to participate in an online focus group. Focus groups are a research technique that allows for the observation of group dynamics. They are often considered to be in between an interview and participant observation (Morgan, 1997). Although focus groups could also be regarded as a type of group interview, they are more than a group of people talking: "A focus group is a special type of group in terms of purpose, size, composition, and procedures" (Krueger & Casey, 2014, p. 2). Focus group methodology can be traced back to Emory Bogardus' group interviews for his 1926 social psychology research (Liamputtong, 2011). Focus groups are often considered "collective conversations" (Liamputtong, 2011) because, in a focus group, the participants have the voice and freedom to help define what is relevant.

Focus groups take place in a permissive, nonthreatening environment and offer an open-ended approach that provides "ample opportunity to comment, to explain, and to share experiences and attitudes" (Krueger & Casey, 2014, p. 3), and for participants to play a greater role in directing the conversation. Focus groups do not aim for consensus, instead they hope to gather different responses to better understand the opinions, attitudes, and perceptions of participants (Hennink 2007). Focus groups can therefore be helpful in better understanding "the gap between what people say and what they do"

(Conradson, 2005, p. 131). Ideally, focus groups should be conducted until reaching "saturation," or the point where the researcher is not gaining any new insights into the research questions. Participants must be invited to participate out of a homogenous population that can be "broadly or narrowly defined" (Krueger & Casey, 2014, p. 6).

Criticism of focus groups include participants' tendency to intellectualize, difficulty tapping into emotions, participants making up answers, producing trivial results, and dominant individuals controlling the discussion and influencing the results, which has even led some scholars to argue that you cannot depend on the results (Krueger & Casey, 2014, p. 16). Focus groups may also experience problems with members showing up. In fact, poor planning and research design may be the biggest factor in low focus group attendance: "Inadequate recruitment efforts (may be) the single most common source of problems in focus group research projects" (Morgan, 1997, p. 38). Attendance issues can often be minimized by sending participants a reminder or a few reminders before the day and a reminder the day of the event.

Depending on the number of members being recruited focus groups can also be expensive. Some members may be offered incentives of over $100 for their participation. Marketers often pay participants $25 to $50 for attending. Providing such amounts may quickly exceed the budget for scholarly research projects, resulting in an inability to conduct sufficient focus groups to reach the desired "saturation point" for responses (Krueger & Casey, 2014).

Focus groups should not be used when wanting people to reach a consensus, for making statistical projections, to give the appearance of listening, to educate participants,

when unable to ensure confidentiality of sensitive information, when lacking control over the study, and when other methodologies can produce better results. However, while important to bear in mind, such criticisms and limitations do not outweigh the benefits of focus groups in providing deeper insights into participants' opinions, attitudes and perceptions about a topic. Such details may be difficult or impossible to capture with other methodologies such as surveys or even traditional individual interviews with participants. A main benefit of a mixed methods approach such as that employed by this study is that, by combining various ways of collecting information, it is hoped that information gleaned from one method will inform that gathered using other techniques, resulting in a deeper, more nuanced and ultimately more reliable analysis of the data.

In this study, all participants were international participants. According to Krueger and Casey (2014), when conducting focus groups with international participants, a researcher should consider the following: 1) understanding you are an outsider to the group; 2) obtaining local permission for the study; 3) organizing the focus group so that it seems natural; 4) discouraging onlookers, 5) increasing or more extensive preparation; 6) using a local team; 7) using the local language; 8) being less concerned about time; 9) providing adequate confidentiality; and 10) providing benefits to participants that take into account the community in which they live (Krueger & Casey, 2014, pp. 198-202).

These elements were taken into consideration. However, the focus groups were conducted in English as there was not a common local language. Students were given a random username when they joined the focus group but could add a picture and change their username if they wanted to. They could choose to remain anonymous or self-

identify. This study utilized asynchronous online focus groups, which closely resemble participants' experience in a MOOC by utilizing an online forum discussion board where participants can post a response and reply to other posts in a thread, thereby contributing to an asynchronous conversation (Zwaanswijk & Dulmen, 2014; Rezabek, 2000; O'Connor & Madge, 2003).

Sharing various elements with online courses while allowing for participants from anywhere in the world to discuss their experience in greater detail, online focus groups were an ideal method to use for gathering qualitative data (Fielding, Lee, & Blank, 2008). "They can be categorized into asynchronous (participants contribute during different times, e.g. emails, forums) or synchronous (participants contribute during the same time, e.g. chat, conference) group interactions" (Abrams & Gaiser, 2017) Participating in an asynchronous online focus group, participants could take as long as they needed to answer questions during the day. Asynchronous online focus groups also allow participants to "key in ideas in parallel without having to wait their turn to speak" (Reid & Reid, 2005, p. 132).

Unlike in an in-person focus group, in an online focus group, participants join via the internet and are usually conducted asynchronously utilizing online discussion boards or forums (Zwaanswijk & Dulmen, 2014; Rezabek, 2000; O'Connor & Madge, 2003). The primary differences are the lack of non-verbal communication in an online focus group, and the limited time available in an in-person focus group (Stewart & Shamdasani, 2014). In an online focus group, participants do not share a common physical space where they all communicate non-verbally. Therefore, online facilitators lose the ability to

notice non-verbal cues to guide the discussion in a particular direction and obtain insight into the difference between what participants are saying and what they are doing.

However, an in-person focus group, a session will last, on average, only 90 minutes whereas an online focus group lasts multiple days as participants are given time to respond to each question and participate in a discussion. Online focus groups often have a larger number of participants than an in-person focus group where the moderator must be attentive to every individual in real-time. In-person research focus groups can range in composition from four to twelve participants, more often including somewhere between five to eight participants per session. By contrast, asynchronous online focus groups can have 15 or more members per space depending on the design.

Online focus groups can have a much lower cost as a participant can join the focus group when it is most convenient (Abrams & Gaiser, 2017). They can participate in the morning before work, in the evening, or during a short break during the day. Compared to traditional in person focus groups, where participants are usually asked approximately nine questions, in an asynchronous online focus group, participants are typically asked to respond to roughly five questions, one each day, and engage in a discussion with other participants (Krueger & Casey, 2008; Sintjago & Link, 2012). Whereas in an in-person focus group the first questions are usually designed to gain greater trust from participants and for them to better get to know one another, in an online focus group all questions are added for the purposes of the study and not simply to start the conversation.

Because online focus group participants have all day to respond, it can be difficult for online focus groups to achieve the same level of back and forth interaction as in person groups. It is therefore important for facilitators to set various rules to facilitate an online conversation. For example, facilitators can suggest participants limit their responses in length or utilize bullet points to encourage others to read previous responses instead of engaging only with the question. In online focus groups, the moderator often summarizes the conversation at the end of each day instead of making a one-time summary at the end of the session.

In an online focus group, the researcher can only assess what is written, whereas in an in-person focus group there is extensive non-verbal communication. This difference is also present in online courses, where, without a participant's written posts on the online platform, a "lurker" may pass unnoticed by the rest of the course participants even if he is reading the content. The administrator of an online environment may be able to check who has connected to the platform through the connection logs, but it is not automatically visible. Whereas in a classroom, a person can sit in the back of the room, be present, and not contribute verbally, in an online course or focus group or course it is often important to express yourself in online posts so that your classmates and the instructor can learn about your position. For this reason, whereas a person may decide not to answer a question in an in-person focus group because they feel they have little to add to the discussion, all participants are required to write a response to each question in an online focus group. Incentives are, on occasion awarded for participation on a day-to-day basis to ensure participants continue to be engaged.

In this study, I analyzed the data collected from a series of online focus groups. There are various ways to analyze qualitative data. Researchers often use a combination of approaches (Rabiee, 2004). “The purpose will guide the direction, depth, and intensity of analysis” (Krueger & Casey, 2015, p. 138). A focus group analysis strategy needs to be clearly documented, be verifiable, sequential, and continuous. (pg. 140). Unlike other types of research, in a focus group, the data is analyzed throughout the data collection process, starting at the end of the first focus group. “Doing analysis as you go improves data collection in focus groups” (Krueger & Casey, 2015, p. 141). When conducting an analysis, it is important for the analyst to have taken part in the focus groups.

Coding a focus group consists of “placing similar labels on similar things”, sorting responses into similar categories (Krueger & Casey, 2015, p. 147). First, a researcher should read the entire transcript, ideally with a team. Responses were separated by ideas shared by the respondent. This was often by sentence but sometimes a response was multiple sentences or a small paragraph. The way in which I organized my analysis was similar to a classical focus group analysis strategy but utilizing Microsoft Office, copying and pasting quotes with a digital label instead of printing copies of the transcript (Rabiee, 2004). I utilized the analysis method as described by Krueger and Casey (2009) but adapted it to using Microsoft Word instead of cutting paper transcripts.

The classic analysis requires the researcher to spread the transcripts in a room or table undisturbed until done with the analysis. With at least two copies of the transcript, the researcher uses pens and scissors to group together ideas shared by the participants under the appropriate theme. It is helpful to number each line of each transcript, print

transcripts on different colored sheets of paper, and identify the type of groups with a marker. The transcripts should be arranged in a reasonable order. After reading the transcript, write one of the focus group questions and when reading each quote determine 1) whether the participant answered the question that was asked, 2) whether the comment answers a different question in the focus group, 3) whether the comment says something of importance about the topic, 4) whether the comment is similar to something that was said earlier.

If a quote does not seem to relate to the question, it is helpful to put it aside in a separate pile. After the researcher is done categorizing quotes, he can move to the second question and so on until the transcripts have been cut up into the initial categories. Once this is completed, the researcher can begin the analysis of each question. When needed it is also helpful to create subcategories. Categories and subcategories can be created and/or merged during the analysis. After quotes are arranged into categories, the researcher writes a descriptive summary for each group. Summaries of each group are then compared. The researcher can then offer an interpretation and a recommendation.

Some aspects to pay attention to are frequency, specificity, emotion and extensiveness (Krueger & Casey, 2015, p. 154). In terms of frequency, it is important to note how often the same comment is made. A comment's frequency is not akin to importance, as a comment only mentioned once could be more important, but it is helpful to note what comments participants are making more frequently. "One person could be a visionary thinker and identify something that no one else has spotted or thought about yet" (Krueger & Casey, 2015, p. 154).

By specificity, researchers should give emphasis to comments that are specific. Some respondents answer the questions in short statements while other participants provide interesting details, anecdotes. These details can help to better understand the experience of the participant. While it is recommended that researchers give more weight when "participants show emotion, enthusiasm, passion, or intensity in their answers", emotion is hard to convey online unless it is conveyed overtly (Krueger & Casey, 2015, p. 154). There are no facial gestures and body language information when conducting an online focus group and it is difficult to convey tone when writing online.

When analyzing quotes, I took into account the recommendations of the "Micro-interlocutor Analysis" method (Onwuegbuzie, et al., 2009). Onwuegbuzie, et al. (2009) method emphasizes the use of quotes, which were used extensively in this analysis. However, I did not report on the exact number of participants that expressed each viewpoint. Instead, I used words such as several, a few, and many. Unlike a survey, that focuses on a random sample, as a qualitative research method in focus groups, "information-rich participants must be identified and recruited" (Krueger & Casey, 2015, p. 141). Focus group can be dominated by a few voices that are more vocal. This can be misleading when counting the frequency of a response (Asbury, 1995). "Numbers can be misleading in focus group reports. Readers often want to turn numbers into percentages and then project to the population. This is unwise. The sample size is too small" (Krueger & Casey, 2015, p. 161).

Some concerns when analyzing focus groups are inconsistent comments, participants changing their minds, lack of logical or organized responses, different uses of

words by individuals, conversations that wander, participants repeating themselves, views presented with different degrees of intensity or emotion. Similar words can also have important differences in the ways in which they are used and understood (Krueger & Casey, 2015, p. 144)

According to Onwuegbuzie, et al. (2009) “Transcript-based analysis represents the most rigorous and time-intensive mode of analyzing data” (Onwuegbuzie, et al., 2009). A focus group transcript is a “word-for-word written record of the focus group discussion” (Krueger & Casey, 2015, p. 150). It is common for there to be 50 to 70 pages worth of transcripts. At 12-point font, Times New Roman, double spaced, the transcript for these focus groups were 316 pages long.

In addition to the classic analysis strategy, individuals can also analyze focus group with computers utilizing computer programs that help with the analysis. Some of these programs include Nvivo, ATLAS.ti, MS Access, or MS Excel. Instead of using these programs, I used primarily MS Word and MS Excel to a smaller extent for most of my analysis. Macros can be used in Excel and Access to organize coded data. ATLAS.ti and NVivo allow for a level of analysis that is very difficult to do with a different program. These programs allow for nest codes allowing a single quote to be coded in multiple ways simultaneously. Computers facilitate the analysis of large amounts of text, and the ability to review the analysis and how quotes were classified at a later date.

Using a modified version of the classic analysis strategy, I analyzed the entire transcript by quote three times. First, I organized quotes thematically by focus group question instead of by dissertation research question. After writing the analysis, I

reanalyzed the data from scratch by focusing instead on the dissertation's research questions. I then wrote a third and final analysis in which I coded each response to the focus group questions by research question, by theme and geographical region. This final analysis is included in Chapter VI where I discuss participants' responses in detail. The use of a computer and computer software facilitated the analysis of this transcript.

International Participants Online Focus Groups

Due to time zone differences, and the physical distance between participants, asynchronous online focus groups are an ideal method for this study (Krueger & Casey, 2008; Sintjago & Link, 2012). Respondents to the International Participant MOOC Survey were asked to note whether they were interested in further participating in the study and take part in an online focus group. Over 700 participants asked to be notified about the online focus group, and ninety-three MOOC participants were able to enroll and participate in five online focus groups. A time and date were selected to begin each focus group, and participants were asked to log in daily to answer a daily question and encouraged to contribute to the ongoing conversation.

The focus group was developed utilizing the University of Minnesota's online learning Moodle installation (http://moodle.umn.edu). Moodle is one of the most popular Learning Management Systems (LMS). While Moodle can be complex and provides many options, it was simplified to improve the user experience as participants were only expected to log in a few times a day and respond to the daily question or comment on other participants' responses. The focus group site included only essential feature as complex websites can be difficult to navigate. From a design perspective, we wanted to

increase participants' response rate and reduce obstacles that may deter participants from logging back into the website. Consequently, the sign-up process was reduced in time to a few clicks. Below I included an image of the online environment, and a comparison to a typical Moodle higher education course. A written guide (http://z.umn.edu/fginstructions) and a video (http://z.umn.edu/guests) explaining how to participate in the online focus group were also shared with participants.

The focus groups were conducted using online discussion threads, a common element in online courses and online asynchronous focus groups. Moodle also facilitated the formation of groups of participants by randomly creating five groups of similar sizes with 19, 19, 19, 18, and 18 participants per group for a total of 93 participants. Of the 93 participants that registered in Moodle only 81 participated in the discussion. The students were randomly placed into groups by Moodle. Moodle as an LMS allows for manual selected groups or randomized groups, and accordingly, for these focus groups, random groups were created. While some researchers prefer to organize a single 15+ participant online focus group we decided to host a series of focus groups to ensure that we obtained saturation and to minimize the chances that the discussion would be dominated by very few individuals or a group within the participants.

Regarding compensation, we initially intended to provide ten participants with a gift card, however over 700 participants expressed interest in the focus groups, meaning it was not feasible to provide gift card incentives to each participant. Therefore, we decided before the event started that we would instead raffle a series of gift cards between participants. By doing so, over 80 participants registered to the Moodle site,

answering questions throughout the week. Most of these participants answered all of the questions in the focus group throughout the week. Questions remained open throughout the week and it was common for participants to revisit questions later. Daily e-mail reminders were sent to participants to share a general comment on their previous responses and the question of the day, as well as to remind them of the focus group deadlines. After the fifth day, additional time was given to participants to finish answering any questions and provide any final comments. We encouraged participants to extend some of their responses and monitored the focus group multiple times each day. By conducting these online focus groups, I hoped to learn more about the international participants and help answer the research questions identified in this dissertation in detail and with additional context. The focus group questions are included in the annex. Table 3.6 shows how the focus group questions were paired with the research questions. The focus group data provides a valuable insight into "What were the positives and negatives of the MOOC experience?" and "How would participants like to see MOOCs improve?".

Table 3.6
International Participant MOOC Focus Group Questions - Classification

Research Questions	Survey Questions			
What were the positives and negatives of the MOOC experience?	Q1A	Q1B	Q2A	Q2B
How would participants like to see MOOCs improve?	Q2C	Q3A	Q3B	Q3C
	Q4A	Q4B	Q4C	Q5A
	Q5B			

Participants were asked questions about cultural and language differences and its influence on participation; the main difficulties for international participants in taking a MOOC; the ways in which MOOCs could become more locally relevant; the ways in

which MOOCs influence participants' professional development; and participants' thoughts on the likely impact of MOOCs on education in their country over the next 15 years. To preserve their anonymity, focus group participants were given code names based on their region and a number (America 8, Asia 4, Africa 3, etc.). Responses from the focus groups were analyzed by region and each sentence was analyzed by topic. Initially I developed a table of themes based on participants responses by focus group and question. While this was helpful for understanding the discussion that took place in each focus group and common concerns of participants, this analysis did not consider the differences and similarities of responses by region. I later re-analyzed the data considering regional differences. The analysis focused on general trends and ideas shared by participants.

Chapter IV - Autoethnography

(International Participant MOOC Experience)

This chapter discusses my personal experience while participating in several different MOOCs in extensive detail providing a "thick description" of my own experiences. I also discuss my personal motivation for studying MOOCs and document my MOOC experience providing additional insight into why participants join MOOCs, the positive and negative aspects of MOOCs, and an opinion as to ways in which MOOCs could be improved.

A major difference between most international MOOC participants analyzed in this study and myself is that I was an international student with a temporary student visa (F-1) when I enrolled in a series of MOOCs for this project. Participants on a student visa

in the United States are expected to return to their home country after finishing their studies, in my case Venezuela. In this study, who was classified as an international participant was determined by their self-reporting to question 13 on the PEMS (What is your country of primary residence?). When responses to this question are matched with IP addresses, very few of these international participants had IPs located in the United States. However, it should also be noted that IPs are a limited way of knowing whether a participant is an international participant because participants could be using a proxy, a VPN, or only temporarily visiting another location, such as being a foreign student.

However, most international participants in the study were not living temporarily in the United States when they participated in the MOOC but abroad. Studying in the United States under a temporary student visa, I considered my family's home in Venezuela to be my primary residence. I believe my own experience as an international participant provides a valuable insight into a MOOC experience especially since this project was selected partly to better understand how MOOCs could impact people who like me were not born in the United States but in developing countries with limited access to higher education. I took detailed notes while participating in a series of MOOCs on game development and reflected weekly on this experience. The details are included below.

Personal Motivation for Participating in MOOCs

Like many, I was limited educationally by opportunities available in Venezuela. Growing up in Venezuela, I was worried about the rapidly declining quality of higher education institution and the limited technological resources available at universities.

Thanks to my brother's success as a collegiate swimmer and the expectations that I could be as successful as he was, Coach Dann offered me a partial swimming and academic scholarship allowing me to afford enrolling and completing my undergraduate studies in the United States at Ouachita Baptist University (OBU) in Arkadelphia, Arkansas.

Without that scholarship, I would not have been able to study or stay in the United States. Unfortunately, the university did not specialize in science and lacked an engineering program. Choosing a major during my undergraduate studies was one of the most difficult decisions I made. Lacking an engineering program, I initially considered enrolling in computer science but decided against it due to the small size of the program. Instead, I obtained a degree in history, sociology, political science and Spanish, and considered attending law school.

After graduation, I decided not to attend law school due to the cost of enrollment and my inability as an international student to secure a student loan. I also considered ways to study computer science and medicine but was also unable to do so due to financial limitations. International students cannot obtain federal loans or apply for many scholarships and financial assistance programs due to their temporary status and can only obtain a private loan by having a U.S. citizen or permanent resident cosigner. Financial barriers to higher education are a problem for millions of college ready individuals worldwide. For individuals living in other parts of the world, attending a U.S. higher education institution is even more difficult. Thanks to MOOCs, I learned more about subjects that I was unable to explore during my formal studies.

In addition to being able to study subjects I was unable to study in my undergraduate work, my interest is also due to my experience as a development specialist in Latin America and an appreciation of the negative impacts of human capital flights. Hundreds of thousands of skilled Venezuelans have left in recent years and now contribute to the economies of the United States and other developed countries. Doctors, nurses, professors, engineers, architects, veterinarians, and experts in other fields have left for better opportunities. Professionals in my family have left Venezuela for France, South Korea, Canada, the United States, the Dominican Republic, Argentina, and Spain over the last twenty years. With many members of my family deciding to leave Venezuela, I was interested in finding out whether through MOOCs, immigrants can continue to contribute to the development of their country of origin.

My personal motivation is also a source of bias. I believed from my prior online learning experience and interactions with learners in developing countries that MOOCs and Open Education are a way by which to address global challenges regarding access to higher education in lower HDI regions. This bias led me to emphasize nationality and socio-economic differences and analyze my experience as well as the data gathered in the surveys and online focus groups through that lens. By discussing my value premises and my personal motivation, I hope to make my biases front and center. Every researcher has a bias, and by sharing my biases openly, I hope to establish a greater degree of trust from the reader.

Experience Participating in MOOCs

I first participated in a MOOC in 2010 taking part in a MOOC on Personal Learning Networks and Knowledge ("PLENK 2010") (http://connect.downes.ca/). I also participated on a MOOC on Connectivism and Connective Knowledge in 2011 ("CCK11") (http://cck11.mooc.ca/). However, I did not complete a Coursera MOOC until 2015. In October 2015, I decided to take a series of Coursera MOOCs to gain a first-person perspective on xMOOCs. In Coursera, I selected from a catalog of hundreds of MOOCs and decided to enroll in a MOOC specialization on Game Design. While completing these MOOCs I took notes and reflected on my experience weekly, as well as completed all the required MOOC activities. Unlike MIT's Open Courseware, via Coursera I had the opportunity to interact with other participants, ask questions in an active forum, and learn from instructors at other universities.

I have had an interest in developing educational games for years and wanted to learn more about game design. This specialization included five MOOCs for $355, with a 10% discount. Individually each of the MOOCs cost $79, much less than the average cost per college credit in the United States at $594 (Kirkham, 2017). While I consider this cost affordable, it is not affordable for everyone. At $79, a MOOC may be prohibitively expensive for potential participants in developing regions, including individuals living under less than $1 a day, who represent many of the people that could benefit the most from MOOCs.

The quality of the MOOCs I took exceeded my initial expectations. Each MOOC lasted four weeks, included lectures, readings, group activities, and allowed participants

to work on a project that they were interested in pursuing after completing the specialization. The MOOCs in the specialization were: *Introduction to Game Design, Story and Narrative Development for Video Games, World Design for Video Games, Character Design for Video Dames, Game Design Document: Define the Art & Concepts*. The California Institute of Art taught these MOOCs. I would not have been able to learn from these instructors without MOOCs.

I also decided to enroll in a MOOC on Creative Problem Solving offered by the University of Minnesota. This MOOC was taught by Dr. Brad Hokanson and lasted six weeks. My schedule made it difficult to justify taking a similar course locally. At the University of Minnesota, a student is required to pay for the courses they audit. When auditing a course, a student pays the same tuition and fees as enrolled students at the University of Minnesota. A course at the University of Minnesota is often 1 to 4 credit hours. In 2017, a credit at the University of Minnesota costs $482.54 for undergraduate residents, $854.24 for non-residents and $1,353.34 for graduate residents and $2,093.34 for graduate non-residents. International graduate students are considered non-residents (UMN, 2017)

Via Coursera a participant can complete what can be considered an abridged version of a 16-week university course, complete graded assignments, and potentially learn more than they would if they audit the same course at a university. When developing MOOCs, faculty members often adapt a course they taught in the past to the MOOC format. Instead of paying $2,093.34 per credit as a non-resident graduate student, I was able to enroll in a MOOC by Dr. Brad Hokanson for only $49 and receive a

certificate. I enrolled in two MOOC programs on Oct 11, 2015 as shown in the screenshot.

The MOOC specialization in Game Design: Art and Concepts, the focus of this auto-ethnography, included five different MOOCs. I initially included a detailed analysis of my experience in each of the five courses. However, due to substantial similarities between one another in terms of structure and experience, I edited this section and removed two of the MOOC reviews from this chapter. These are available upon request. I consider the details of three of the five MOOCs in the specialization to be enough to provide the reader with detailed description of the experience without overly focusing on the content of these MOOCs.

MOOC Review: Introduction to Game Design

When I started the first MOOC in the specialization “Introduction to Game Design”, I did not know what to expect in terms of difficulty. My initial thoughts were that it would be easier than a traditional university course. While some MOOCs have pre-requisites, this introductory MOOC did not require any prior skills. Typically, game design requires specialized software, coding and/or design skills depending on your role in its development, but this specialization aimed to provide participants with an introduction to the field. In these MOOCs, therefore, the main requirement was creativity over technological expertise.

To be successful in a MOOC, participants need to complete assignments in a timely fashion. This is very important since one’s peers need time to review each other’s submissions. The peer-review system required two deadlines per assignment, a deadline

to submit the assignment and another deadline to review the assignment. The system also required identity verification using the webcam. I took a picture of myself and my state ID. After verifying your identity with a picture, the system also asked you to type a few sentences to record your keystroke dynamics. Keystroke dynamics uses typing manner and rhythm to identify an individual. While not as unique as a fingerprint, keystroke dynamics can be used to successful identify participants and decrease cheating (Monrose & Rubin, 2000).

The first MOOC I took in Coursera was a MOOC on “Introduction to Game Design”. Fran Krause, who currently teaches at Cal Arts and has an MFA from Goddard College, taught this MOOC. Fran’s teaching style was animated and relied on the use of short videos where he would talk as himself and as a puppet that he would use for dialogue, giving instructions, providing examples, adding color to the video presentation. The instructional videos had a high production quality. In the first week, the puppet helped explain how to more effectively conduct a peer review (Figure 4.1). Most of the videos included the presenter speaking directly to the camera. The instructor was dressed casually and had a friendly demeanor instead of appearing serious. He also emphasized the MOOC as being fun rather than difficult. He reminded participants about the importance of “relaxing” as it is helpful for thinking creatively and writing lists of ideas.

Figure 4.1 – Using a puppet on an instructional video

All the Coursera MOOCs I took had a similar structure and weekly process. While every Coursera MOOC is different, they all tend to rely heavily on peer review, as was the case with these MOOCs. To complete the MOOC, participants had to submit four peer-reviewed assignments and receive a minimum score of 75% on each, as well as complete a minimum of twelve peer evaluations (three per assignment). In addition to the technological requirements of being able to take a MOOC online, and speaking English, the only MOOC specific requirements were paper and drawing materials. The MOOC centered on learning the basics of game design, while designing several paper-based games, and evaluating games designed by other participants.

Each week included a series of videos and a homework assignment. The MOOC included a recap video per week. Instead of longer videos and voiceover PowerPoint presentations, most videos were short and there was little use of slides or PowerPoint. Week 1 had six short videos. The longest video lasted only 3:19 minutes, and the shortest video was 1:55 minutes long, for a total of 15:15 minutes of narration. The first week included only one reading, a one-page outline. The videos included bullet point lists to emphasize key points.

The first peer-review assignment I completed for this MOOC was creating a game where the player could only use a single sheet of paper and two six-sided dice. The designer could use any design that could fit within a page. Various participants used the sheet to create a game board including paper-based dungeons and other structures. Participants had to include a game title and description. The game was limited to a single page to make it manageable. Through this assignment, the instructor hoped participants would experience some of the challenges faced by a designer. The instructor explained how limitations are always a challenge in game design and the need to develop ingenious solutions to overcome limitations. For example, by being limited to a single screen, Pac-Man designers decided that the characters could teleport from one side of the screen to the other when a character went through one of the open roads at the right side or left side of the screen.

Each week participants could share ideas and ask questions in the discussion forums. During Week 1, participants were asked to introduce themselves to their classmates. While the MOOC did not include video interactions between participants, participants shared much about themselves in the asynchronous forums. Despite being free, many participants took the MOOC seriously and were interested in learning more about game design for their professional career. Many had experience in related fields such as computer science and game design. Others seemed to have a strong interest in gaming and wanted to learn more about the industry.

During the first week, I spent some time browsing through the forum and learning about other participants. In the forums, I tried to find someone else from Venezuela. I

shared that I was from Venezuela and that I was currently living in Michigan. During the first week, I had an exchange with a woman from Venezuela who was interested in connecting with others interested in game design. She mentioned being passionate about graphic design, branding, and illustration. We connected via Twitter, but our conversation did not continue past the first week of the MOOC. There were various other participants from Venezuela. Despite my interest in making lasting connections with other participants, I found myself pressed for time and with limited time to interact with my classmates outside of MOOC assignments. This seemed to be common with other participants as well.

I focused primarily on the coursework and not so much in socializing outside of questions related to assignments. Most participants were likely "lurking" over the forum profile. "Lurkers" are considered to account for 90% of online participants (Nonneeke & Preeee, 2000; Sun, Rau, & Ma, 2014). I helped answer various questions in the forums but did not participate in many long conversations. Some participants posted drafts of assignments they were working on to get additional feedback from their classmates. They would also share some of the problems they were having in completing assignments and/or difficulties with the platform. Unlike a traditional course where participants often contact faculty privately, MOOCs encourage participants to ask questions to other participants via the forums and other open spaces (Kellogg, Booth, & Oliver, 2014).

Overall, the forums were very active and useful for learning more about the interests and goals of other participants, as well as how they had completed an

assignment. I browsed the forum to read other creative ideas. In the first week alone, there were over two hundred forum posts with unique threads.

In the forum, one could observe the international appeal of the MOOC, with participants from Indonesia, Mexico, Australia, Ukraine, Russia, Uruguay, England, Norway, and dozens of other countries. In addition to the weekly discussion forums, the MOOC had three standing forums that lasted throughout the MOOC. These forums were General Discussion, Meet and Greet, and Game Gallery. My favorite forum to visit was the Game Gallery. In the Game Gallery, I had the chance to look at other great ideas apart from my own ideas and the ones that I had reviewed as part of the peer review assignment. Participants would share images, files, and sometimes share prototypes or demo.

For Week 1, I developed a game based on circles with different values called Die Ripples (Figure 4.2). As a swimmer, I have been interested in ripples and waves. The Olympic Rings inspired my choice. I also added colors to the game to make it look playful. My brother did not qualify to the Olympic Games to represent Venezuela but was close enough that with minor changes in his trajectory he might have been able to make it. The Olympics were his dream, and today he trains to compete in the FINA World Masters Championships. This history influenced my design. In this game, a player had to roll the dice on top of a sheet of paper with circles drawn all over it, and depending on the dice value and the lines the dice touched, the player would add or subtract points as they worked towards reaching their objective in as few rolls as possible. In this game, you score based on the die and where they landed on the board. I designed it as an

educational game to help users improve their math skills. Users would need to multiply, add, subtract, or divide based on where the dice landed on the game board.

Figure 4.2 – Game designed for a MOOC assignment

Week 2 of the MOOC followed the same general pattern as Week 1, but participants were asked to focus on improving their game's rules by incorporating feedback from classmates and considering how a different set of rules might affect the game. As with Week 1, there were also six instructional videos in Week 2 and participants had to complete a peer review assignment. The instructor asked us to focus on how a different set of rules could make the game more engaging or fun. Respecting other participants' privacy, I will focus only on the assignments I submitted rather than my classmates' responses. The feedback they provided to me was very useful.

In the comments, one of the reviewers mentioned not being clear about some of the game mechanics. Another Week 1 reviewer asked me as to what happens when the dice touches two or more lines. For the Week 2, I clarified the rules of the game and modified the design of the board game to reduce the player's ability to easily control the

outcome by throwing the dice on specific areas. What I struggled with the most was in making the game fun and educational. For Week 2, I clarified in the rules of the game that all the ripples or circles had equal priority regardless of their size and therefore the equation was determined by the order of operations (multiplication, division, addition, and subtraction). Another variation I made to the game was giving players the possibility of playing with a different number of dice (1, 2, 3 or 4, depending on the level of complexity desired). A non-traditional die could be designed for the game with only prime numbers on each face. The peer review element was very helpful. I often reviewed more assignments than the required three reviews per peer review assignment. Reviewing was helpful not only for the participant whose game was reviewed but also for the reviewer, as it was another opportunity to think about how to improve your own game and whether the criticisms you were making would also apply to your work.

Week 3 focused on adding a story and characters to the game. I found it difficult to add a story since it had not been designed with a story or characters in mind. For that week, I decided instead to include an explanation about the value of prime numbers to science and make the target numbers prime numbers. By setting the target to a prime number, not only would people playing the game need to add, subtract, multiply and divide, but they would also become more familiar with prime numbers. I also considered naming some of the target prime numbers after scientists so that if a participant reached that number, they had bested a famous scientist who was the “guardian” of that number. I then began to develop a prototype of the game with a wooden edge added to the board game so that the dice would bounce off it. I also developed additional layouts.

Week 4 focused on incorporating multi-player options. Incorporating a multiplayer element was helpful. Instead of a person playing by himself or herself trying to reach a goal in, as few turns as possible, when multiple players play together, the players will race each other to finish sooner to see who can finish the game faster. As in other weeks, I also reviewed the games designed by various classmates. Some had created elaborate dungeons and even card games. By setting rules as to how a player would have to cut a sheet of paper, the sheet of paper could become a deck of cards.

Some of the games developed for this class were named *American Dream, Zzzombies, Hex Madness,* and *Hop Then You Drop*. Many of the games were similar to classic board games like *Life* or *Chutes and Ladders,* but with different themes. Another game reminded me of *Q'Bert* in design but with a different gameplay. These games varied in complexity and style. One participant shared the link to a game he had published recently in Google Play. Most participants improved their game over the four weeks of the MOOC, while some created multiple games. After my final assignment submission for this MOOC, I tried to address some of the game's remaining shortcomings based on my peers' feedback.

MOOC Review: Story and Narrative Development for Video Games

The second MOOC I participated in was a MOOC about "Story and Narrative Development for Video Games". Depending on the genre of the game, one of the most important aspects is the story. A good game story can be as captivating as a good book or movie. This MOOC was taught by Dariush Derakhshani. Dariush works as a creative director and CG supervisor, and has written a number of books on Maya, a 3D design

program, and other 3D graphic design software. Professor Derakhshani has an MFA in Film, TV and Computer Animation from USC Film School and is an adjunct lecturer at the University of Southern California.

While most of Derakhshani's expertise is in Maya and 3D design, this specialization did not include a MOOC or an overview of Maya. Having a MOOC on Maya would have increased participants' prior knowledge requirements. Instead, this MOOC focused on tasks that could be completed with only creativity and a notepad. This MOOC included more reading materials than others. The "Introduction to Game Design" MOOC included almost no readings. In this MOOC, Derakhshani provided examples of storytelling and chracter arcs from well known stories and famous video games. One of the design changes in this MOOC was the introduction of mid-video questions that participants had to answer for the instructional video to continue (Figure 4.3). This is a common feature of online courses to ensure participants engage with the videos.

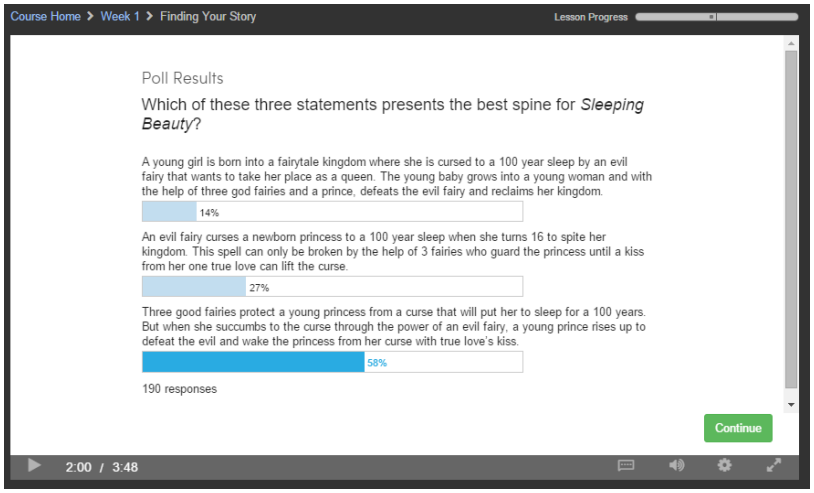


Figure 4.3 – Questions within an instructional video.

The MOOC started in a similar fashion to the first one, with a “Meet and Greet” in the forums. Instead of a game gallery forum, however, the third standing forum was a “Story Space”. Sharing among participants in this MOOC was less extensive than in the introductory MOOC, with only ninety five posts in “Meet and Greet” and only five posts in “Story Space” (Figure 4.4). There was a noticeable decrease in forum posts and responses which continued throughout the specialization. In this MOOC, we discussed the importance of a game narrative and story. All games have a story that influences the gameplay to a different degree. The story of some games such as *Final Fantasy VI and VII, Final Fantasy Tactics, Chrono Trigger, Mass Effect, KOTOR, World of Warcraft* had a profound impact on my youth. Some video games have been adapted into films, among them *Resident Evil, Tomb Raider, Assassins Creed, Doom, Hitman, Need for Speed, Warcraft, Angry Birds, Pokémon,* and *Silent Hill.*

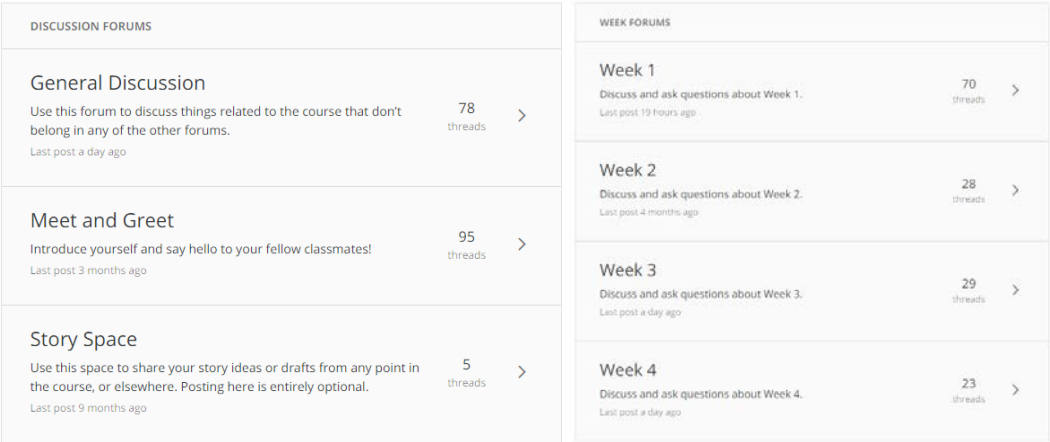


Figure 4.4 – MOOC Forums on Story and Narrative Development MOOC

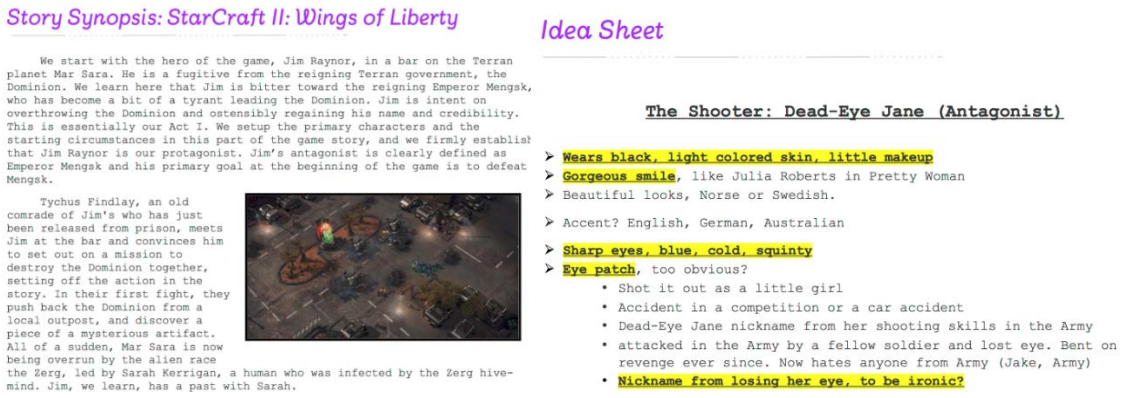
To improve their storytelling skills, participants were asked to read a story and learn the key components of it. The instructor used *Pac-Man* as an example of a game with a simple story, and asked participants to develop a more detailed backstory to the

Pac-Man characters. One participant created a story in which *Pac-Man* was exploring dungeons where he would find treasures from past civilizations, while avoiding the spirits that patrol the dungeon. Another participant had a friendlier take, with the ghosts being his past friends that he is trying to rescue and turn back into mortals.

For Week 1 participants were asked to analyze a story's spine and three major acts: an inciting incident (Act 1), a rising tension (Act 2), and a resolution (Act 3). I wrote about the LEGO Movie (2014), a film that exceeded expectations with its captivating story, obtaining a 96% critics review score in the website Rotten Tomatoes and grossing over $469.2 million worldwide. During Week 2, the instructor discussed the importance of the narrative using *StarCraft II* as an example (Figure 4.5). *StarCraft I and II* are one the most successful Real Time Strategy (RTS) video games series in video game history. *StarCraft II* is an internationally renowned competitive video game that may become a medal event for the 2022 Asian Games. While not featured in multiplayer mode, without a captivating story the *StarCraft* series would not have been as successful.

Professor Derakhshani shared a character brief for three *Starcraft* characters as examples: Jim Raynor, Emperor Mengsk and Tychus Findlay. Participants were then asked to write a character brief about a game or a movie. For this assignment I wrote a character description for President Business and Emmet from *The LEGO Movie*. Emmet, the protagonist, symbolizes the spirit of the kid who is playing with his father's Legos. President Business, while successful and powerful, has also become less creative over time. He symbolizes the child's father who, as a LEGO collector, has started to superglue his creations and forbid his son from playing with his LEGOs. A few participants posted

in the forum about their assignments, but participation in the forum kept decreasing over the weeks of the specialization, possibly due to attrition.



Story Synopsis: StarCraft II: Wings of Liberty

We start with the hero of the game, Jim Raynor, in a bar on the Terran planet Mar Sara. He is a fugitive from the reigning Terran government, the Dominion. We learn here that Jim is bitter toward the reigning Emperor Mengsk, who has become a bit of a tyrant leading the Dominion. Jim is intent on overthrowing the Dominion and ostensibly regaining his name and credibility. This is essentially our Act I. We setup the primary characters and the starting circumstances in this part of the game story, and we firmly establish that Jim Raynor is our protagonist. Jim's antagonist is clearly defined as Emperor Mengsk and his primary goal at the beginning of the game is to defeat Mengsk.

Tychus Findlay, an old comrade of Jim's who has just been released from prison, meets Jim at the bar and convinces him to set out on a mission to destroy the Dominion together, setting off the action in the story. In their first fight, they push back the Dominion from a local outpost, and discover a piece of a mysterious artifact. All of a sudden, Mar Sara is now being overrun by the alien race the Zerg, led by Sarah Kerrigan, a human who was infected by the Zerg hive-mind. Jim, we learn, has a past with Sarah.

Idea Sheet

The Shooter: Dead-Eye Jane (Antagonist)

- **Wears black, light colored skin, little makeup**
- **Gorgeous smile**, like Julia Roberts in Pretty Woman
- Beautiful looks, Norse or Swedish.
- Accent? English, German, Australian
- **Sharp eyes, blue, cold, squinty**
- **Eye patch**, too obvious?
  - Shot it out as a little girl
  - Accident in a competition or a car accident
  - Dead-Eye Jane nickname from her shooting skills in the Army
  - attacked in the Army by a fellow soldier and lost eye. Bent on revenge ever since. Now hates anyone from Army (Jake, Army)
  - **Nickname from losing her eye, to be ironic?**

Figure 4.5 – Example of MOOC Readings

For Week 3 in the MOOC, we explored ideation techniques, how to utilize idea sheets, and participants were asked to develop a game's backstory. As an example, the instructor shared two idea sheets. One of them was a character idea sheet, about "Dead-Eye Jane" which included information about the character's looks, her personality, and other small details that will be helpful in placing the character in the game world. The instructor also shared an idea sheet about the setting for the game, "The Shooter", which was described as a big warehouse with concrete, windows, guns, and targets.

For Week 3, participants had to reimagine the game settings and main characters, modifying parameters while borrowing elements from his initial idea. I modified Jane's character to be a misunderstood hero and the shooter to being initially an antagonist. Modifying the settings of the Shooter, I added additional weapons and locations. Other participants asked in the forum if they could have a story with two protagonists rather than an antagonist or if they could create a completely different story.

For Week 4, Professor Derakhshani explained how to develop a game design document. The game design document includes characters, settings, and a visual element. In the assignment for Week 4, participants were asked to develop a game flowchart. I continued to work on my modifications to “The Shooter” which by then had become a different game. I changed the name of the game to “The Citadel’, developed maps, a background history of the characters, and a detailed gameplay for various level of the game. I found the MOOC to be very useful. Developing a good story can increase the quality of an educational game.

MOOC Review: World Design for Video Games

The third MOOC in the sequence was “World Design for Video Games”. This MOOC was taught by Professor Théotime who had at the time over 10 years of experience with software Unity3D as well as proficiency with various other programs like Unreal Engine, Maya, Blender, and HTC Vive. As with the other MOOCs in the specialization, I found this MOOC very interesting.

Fictional universes like *Star Wars, Game of Thrones, Marvel Comics*, have had a substantial impact on popular culture. In video games, developers have also created thousands of alternate universes. One of the most captivating experiences I had as a teenager was exploring *World of Warcraft*, a massive multiplayer online role-playing game (MMORPG). I bought *World of Warcraft* in 2004 and played it regularly for a couple of years. As a dwarf warrior and blacksmith, a night elf huntress and enchantress, or a tauren warlock and leatherworker, I solved quests and explored the world of Azeroth.

Some of the elements discussed in the first week included: properties and rules, story and vertical spine, causes and consequences, and making the game work. Professor Vaillant asked participants to think of a virtual world that would be enjoyable to visit. For the first assignment participants had to describe why they found a game compelling, what made the world unique, and how the environment affected the gameplay. In this assignment, I described several of the games that had influenced me growing up including *Suikoden II, Okami*, and *Twinsen Odyssey*.

Suikoden II was my favorite game growing up. Players can recruit up to 108 characters or "Stars of Destiny", each with unique personalities and questions, build a castle, have large-scale battles, explore the map with a party of six characters, and survive one vs. one duels. Each character has unique interactions with the other "Stars of Destiny". Games like *Zelda: Breath of the Wild*, *Okami, Final Fantasy Tactics, Final Fantasy VI, and Final Fantasy VII* were also memorable experiences. In *Okami*, the player plays as the Shinto sun goddess, Amaterasu, who took the form of a white wolf (Figure 4.6). The player draws on the world map to solve puzzles, defeat challenges, and advance. *Twinsen Odyssey* was a very enjoyable puzzle platformer with a unique look and feel.

Figure 4.6 – Okami Screenshot from the VideoGamer.com

One of the differences of Professor Vaillant's MOOC compared to the previous MOOCs, was the use of external links as additional sites for the participant to explore. By providing links to other sites, Professor Vaillant incorporated additional perspectives into the MOOC and allowed participants to become familiar with important websites in the field. One of my favorite outside resources shared by Professor Vaillant was the blog of Andy Kelly (aka Ultra Brilliant) http://www.otherplaces.co.uk/. In this blog, Andy Kelly analyzes the environments of some of the best video games.

Despite the low number of posts in the forums, the interactions in the forums were very helpful, including various participants asking for advice. Forum participation continued to decrease (Figure 4.7). However, I found reading the posts from other participants and participating always useful. Participants in the forum mentioned reviewing *Awakening: Moonfell Wood, DOTA 2, Fallout 4, MGSV, Overwatch, Bioshock, Grand Theft Auto V, Fallout New Vegas, Journey, The Witcher 3, Deus Ex: Human Revolution, The Last of US*, and many other games. The instructor posted once a week an

additional discussion question in the forum including “Tools of the Trade” where Professor Vaillant shared resources he found useful.

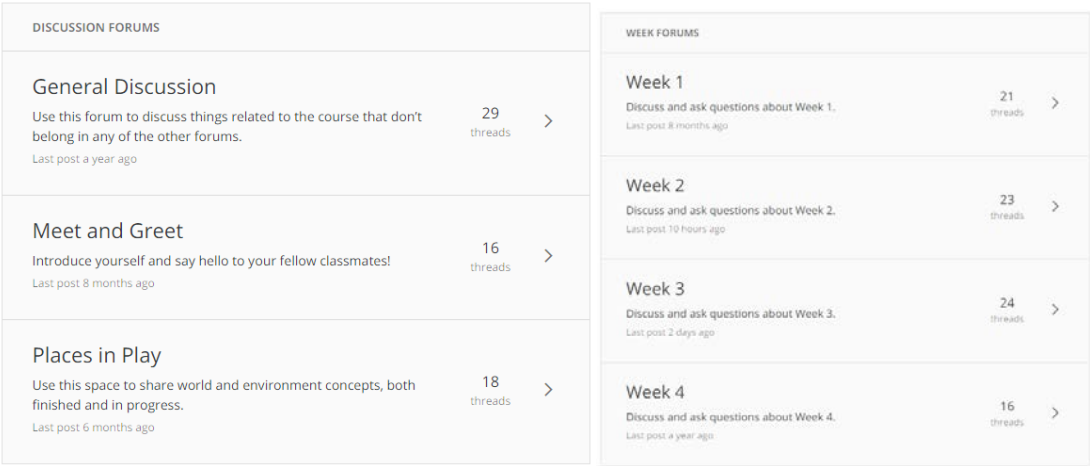


Figure 4.7 – Forum posts for MOOC on World Design for Video Games

For Week 2, participants were asked to search for inspiration. The instructor emphasized looking at films, and other forms of art. Professor Vaillant talked about the importance of aesthetics and gameplay, and how they complement each other in games like *Limbo* and *Katamari Damacy*. *Limbo* is a 2D puzzle-platform side-scroller where a young boy survives constant dangers to rescue his sister solving puzzles along the way. The game uses lighting and black and white tones to create an eerie environment. *Katamari Damacy* is a puzzle-action video game by Namco where a prince must rebuild the stars and constellations by rolling a large ball that snowballs to collect increasingly larger objects. The ball may start rolling insects, coins, and paperclips but it quickly grows to including people, cars, buildings and mountains until it is large enough to become a star. *Katamari* is a bizarre and colorful experience. For the week assignment, I shared a series of images of a post-apocalyptic world inspired in part by *Dune*, *Blade*

Runner, Gattaca, iRobot, Bicentennial Man, Elysium, The Matrix, The Postman, and Waterworld. I then transformed the game the “The Citadel” which I designed for the previous MOOC into a post-apocalyptic shooter taking place it in the future.

In the forum, one participant shared how much he had liked the instructor’s video content “Theo is a poet and a philosopher!” and another participant commented how much he had liked the creativity displayed in the assignments submitted by other participants from his peer review experience. Another participant wondered why there were no subtitles in one of the videos (these were added soon after) while another participant wondered whether to submit images that inspired only one environment or multiple environments within his game (Figure 4.8).

Figure 4.8 – Instructional video by Professor Vaillant

During Week 3, Professor Vaillant gave various examples of existing game worlds, including the *Witcher*, *Elder Scrolls*, *Mass Effect* and other game franchises that take place in their own universe. He discussed level design, navigation and time, and other details to consider when designing a game world. We discussed level progression

and defining where all the parts of the level connect, as well as solid spaces or a 2D or 3D design of the level depending on the game. He recommended drawing from one's personal experience in real-life and incorporating those qualities in the game design. This week also focused on leaving a mark in the world vs. the world marking you, how to move in a video game world from point A to point B, as well as linear vs. non-linear game design.

For the third week assignment, participants had to create a map or model of their own game. The instructor shared an example of a game he was working on called "*Brimstone Cove*". For the assignment, I designed two basic maps. One of them illustrated the sixteen city sectors in "The Citadel". People in each sector of the city have unique abilities, as well as their own culture and type of representative or people. In the game, each region has a specialty and an identity like the *Hunger Games'* world of Panem. *The Citadel* has 16 sectors, including the central regions of the Citadel where the central government and military police are located. The main differences between the sectors were in their fighting styles and traditions. In addition to a map of the sectors, I also submitted a rough draft of one of the battle maps and its mechanics.

For Week 4, the MOOC discussed non-playable characters (NPCs) and how they interact with the players and the game world. Will the NPC provide quests, special loot, are they friendly, can you kill them? An NPC can have many purposes and helps bring life to the game world. The MOOC also discussed a game's "atmosphere", including how the look, ambience and atmosphere of the game world determine the light, the color palette and the overall visual context. Professor Vaillant also discussed game physics and

the choices made by video game designers. Many video games have unique physics properties such as low gravity, and the game world reactions to impact.

For Week 4, we had to submit a playthrough narrative. As an example, Professor Vaillant provided additional details to his game "*Brimstone Cove*". For this assignment, I continued to build on the game "*The Citadel*". My narrative discussed spaces I had created in the game, such as the Marshal's Headquarters (& Police Base), the VidaCorp Facilities, Congress (Government Offices), and the Historical Memory Facility (& Previous-University), as well as a long story synopsis that helped explain the motivation behind various NPCs. I decided to set the game in a post-apocalyptic United States, with the Citadel being one of the few remaining city-states in North America in 2715. In the forum for Week 4, several participants shared the link to their submission so that it would receive more peer reviews. Another participant mentioned her desire to submit two different narratives.

After the MOOC on World Design for Video Games, I completed a MOOC on Character Design in Video Games and completed a Capstone Project (Figure 4.9). The fifth MOOC of the specialization that focused on the capstone lasted six weeks instead of four weeks. In comparison to a university course, I felt that I had learned the same in the series of five MOOCs, as I would have had in a single three-credit University of Minnesota course. Not receiving academic credit was not a major disincentive to me personally.

In addition to sharing a brief description of some of the MOOCs I participated in as a part of this auto-ethnography, below are my responses to the research questions

based on my personal experience. These responses are personal and are at times in contrast to the responses that were most common among international participants. The MOOCs I took were different to the MOOCs I analyzed in the focus group and survey analysis. Therefore, some aspects of my experience are different than the experience of international participants who took one of the five University of Minnesota MOOCs discussed in the rest of this dissertation.

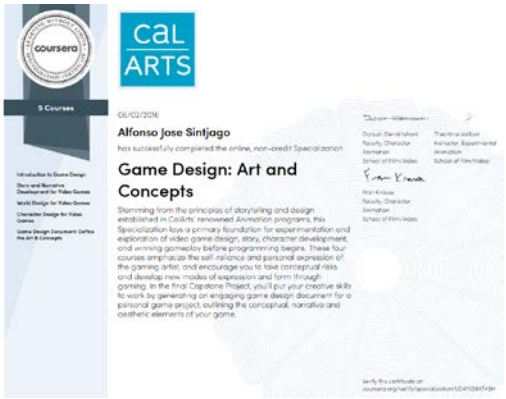


Figure 4.9 – MOOC Certificate of Completion

Personal Responses to Research Questions:

Who am I?
(Who were the participants in the MOOCs?)

I was a Venezuelan graduate student studying in the United States with a temporary student visa during most of this project (2011-2017). Participants from the Americas (W/o U.S.A.) like me accounted for 14.4% of participants in the MOOCs studied. I did not have any prior experience in game development before participating in the MOOC specialization. When I enrolled in the MOOC specialization, my hope was to

complete all five MOOCs in the specialization and all required activities. I completed the specialization at the age of 30. According to the survey data, 23.9% of international participants were in this age range, which was the second most common age range after 18 to 25 years old at 29.8%.

Family responsibilities and work responsibilities did not limit my MOOC participation, as I did not have children or a job at the time; neither did MOOC knowledge pre-requirements, since these MOOCs had none. While most participants from the Americas (W/o U.S.A.) were fully employed at 47.3%, 29.8% were unemployed when they completed the MOOC. Like many international MOOC participants, I had an advanced level of education when I enrolled in these MOOCs. I have both a master's degree and a bachelor's degree, but in unrelated fields. Over a quarter of participants, 27.9%, from the Americas (W/o U.S.A.) had a master's degree. I enrolled in Signature Tracks to incentivize myself to complete the assignments. Regarding my willingness to pay, I did not consider a cost of $45 per MOOC to be overly expensive based on my income level, however had the MOOC cost as much as a course at a local or online university where I would have received academic credit I would have preferred enrolling there instead.

While Spanish is my mother tongue, I have lived in the United States for several years as an international student and consider myself to have an advanced level of English proficiency. Consequently, taking MOOCs in the English language did not represent a barrier for my participation in the courses. Similarly, 39.1% of MOOC participants from the Americas (W/o U.S.A.) considered themselves to be of advanced

proficiency in English. Living in the Eastern Time Zone of the United States, there was a four-hour time zone difference between my location and that of the institution offering the course, since Cal Arts in California, on the West Coast, developed the course. I would not have been able to learn from instructors in Cal Arts without this MOOC.

Why am I participating in MOOCs?
(Why were they participating in MOOCs?)

I participated in this MOOC specialization to learn more about a subject in which I had a long-term interest but that I had been unable to study previously, and to experience Coursera MOOCs as a participant as a part of this research project. I decided to enroll in a MOOC on a subject in which I was interested to live the same experience as the enthusiastic MOOC participants in the MOOCs I analyzed in this dissertation and gain greater insight into why participants enroll in particular MOOCs. I also felt that taking the MOOC would be fun and enjoyable. Similarly, 86.5% of participants from the Americas (W/o U.S.A.) enrolled thinking the MOOC would be enjoyable.

Cost was also a motivating factor for me. While I could have enrolled in a similar set of courses locally, it would have been available at a higher cost. One of my primary motivations for taking MOOCs is that traditional courses can be very expensive, including hundreds of dollars per credit as an international participant. I believe that traditional courses are too expensive. This position was shared by 58.4% of participants from the Americas (W/o U.S.A).

The skills I learned in these MOOCs will likely be helpful in the future, even if they were not useful at the time. I was unemployed when I was completing these MOOCs. My employer was therefore not interested in knowing about my MOOC

participation. In addition, my current employer also has little interest in me learning this information as the specialization is not related to my current employment. However, I remain hopeful that, if I refine the skills I learnt during this specialization, they could be helpful to me in the future when I will hopefully have the opportunity to develop educational games. The majority of participants from the Americas (W/o U.S.A.), 67.5%, felt that the MOOCs taught skills that would help them in their jobs and careers.

When deciding what MOOCs to take, I considered various variables including the identity of the university that was offering the MOOC, but this was of minor relevance. I considered it more important to take a series of MOOCs that I was interested in, rather than taking a MOOC by the University of Minnesota in a subject of little or no personal interest. Knowing the strenuous process by which courses were selected for Coursera I was not concerned with the prestige of the university but rather the content of the courses. In contrast, according to the PEMS, 43.0% of participants from the Americas (W/o U.S.A.) had enrolled in the MOOC partly because it was offered by a prestigious university, with another 37.2% neither agreeing or disagreeing that this had influenced their enrolment decision.

Not being geographically close to universities that offered similar courses did not influence my decision. I was enrolled at the University of Minnesota when I took these MOOCs and had access to other learning opportunities. Similarly, only 28.7% of participants from the Americas (W/o U.S.A) reported that they were not geographically close to educational institutions offering courses in the subject.

When I enrolled in the MOOC, I thought I would meet other participants with similar interests with whom I would keep in touch after the completion of the MOOC. With so many thousands of participants, I thought some participants had to be interested in working on projects with me following the end of the MOOC. Unfortunately, while there were likely other participants with whom I could have established a relationship that continued past the MOOCs, I did not build lasting new relationships or stay in contact with other participants after completing the MOOC specialization. On reflection, this is not surprising that due to participants' time constraints and the greater distance participants have from one another when participating in a global learning environment. For me, MOOCs are more impersonal than most face-to-face courses, especially graduate seminars, where participants often develop relationships that last past their shared classroom experience.

I was interested in adding that I had completed the specialization to my LinkedIn profile. This was easy to do with Coursera as it can be linked to the participant's LinkedIn account. While obtaining a certificate is not comparable to receiving academic credit, it can be useful to highlight some degree of understanding or interest in a subject, even if it is only a cursory understanding. A MOOC certificate's impact on a person's resume could be increased by showcasing related projects.

I was primarily motivated out of curiosity, followed by self-improvement, and to improve my long-term job outlook. As someone who was born in Venezuela, I have an interest in the potential MOOCs could have for education in developing countries. I believe in MOOCs' potential to reach people in remote areas of the world as a form of

online learning that is available at no cost or a very low cost. The same motivation that led me to start a PhD program in Comparative and International Development Education motivated me to participate in MOOCs and learn as much as I could about them.

What were the positive and negatives of my MOOC experience? (What were the positives and negatives of the MOOC experience?)

My participation in MOOCs was a very rewarding personal experience. When looking at various factors and how they influenced my experience, I did not feel that the time commitment exceeded my ability to spend time on the MOOC. By contrast, time commitment was a problem for 65.0% of participants from the Americas (W/o U.S.A). I did not lose interest in the subject of the MOOC but felt that the capstone project would require maybe six months to complete instead of just an additional two weeks. I could develop a good Game Design Document (GDD) in six weeks, but not complete a whole game in six weeks, which I would have like to do instead for a capstone project. I remained interested in the subject matter throughout the courses. Likewise, overall very few participants from the Americas (W/o U.S.A) lost interest in the subject matter (just 7.1%).

I enjoyed the presentation style of the MOOCs I took. The MOOCs utilized instructional videos extensively, while readings were included less frequently. In contrast, 10.2% of participants from the Americas (W/o U.S.A.) did lose interest on account of presentation and assessment style according to the PEMS. Personally, I felt that the materials were presented clearly. This is similar to the survey results were 96.7% of participants from the Americas (W/o U.S.A.) also agreed that the materials had been presented clearly.

The MOOCs did not emphasize the debates in the subject area but focused on introductory content. Debates as to which 3D modeling or 3D engine program to use for game development, or the differences of developing for different platforms were outside of the scope of the MOOC specialization. If a more advanced version of the MOOCs were developed, it would be beneficial to include more readings and a discussion of the key debates in the field. I appreciated the innovative use of a puppet to facilitate a discussion in a video. I had not seen this before in instructional videos at higher education.

I did not fall behind on the assignments while completing the MOOC specialization but submitted various assignments at the last minute. It was easy to get distracted with other things throughout the week and submit assignments at the last minute or a couple of hours late. I was able to catch up quickly since I mostly did not complete the assignments early out of choice and not as a result of being too busy. When I submitted an assignment a few hours late, I did not have any problems having my work reviewed by other participants. It was common for participants to post in the forum that they had also submitted the assignment late and to ask other participants to review their work. My ability to catch up if I did fall behind was also aided by the fact that I did not begin taking another MOOC while completing the specialization.

When thinking of what would make me more likely to complete the MOOC, I would prefer if the credential became more valuable. By making the credential more valuable, it would increase the value of accumulating MOOC certificates. The MOOCs were adequate in difficulty but the specialization lack depth or a continuation. In terms of

difficulty, I did not feel the MOOC should be either harder or easier, just more in-depth. I wish I could continue to Game Design 102. I consider most MOOCs at 4 to 6 weeks to be of a good length, but it would be valuable to devise a way to continue one's study in Coursera. I considered the quality of the MOOC specialization to be comparable to that of a traditional university course based on my personal experience both as a university student and as an instructional designer.

With English proficiency being of great importance to success in a MOOC, my experience in these MOOCs reinforced my belief that it is helpful to make sure all MOOCs have subtitles. Despite being fluent in English, as a foreigner, I usually watch movies with subtitles so that I understand what is being said despite any accent in the narrator. Accents can make language be difficult to understand. I find it difficult to understand native English speakers from Glasgow, Scotland. I did not have any problems with my internet connection, but, nonetheless, I found it helpful to be able to download videos and retain access to the sites after completing them. Some participants with poor internet connections may prefer to download videos overnight or during the day to watch later without the interruptions to the video that they would have streaming.

Like most MOOC participants, I did not consider prior knowledge to be important for completing the MOOCs in which I participated, but that could change if more advanced specializations were offered. While it was a MOOC with a massive number of participants, I did not feel it lacked personalized instructional support. Instructors and TAs were quick to respond to questions in the forum. Most participants did not post questions or participate actively in the forums, but when they did, their questions were

answered quickly by the instructor or other participants. I did not ask many questions throughout the specialization as I felt that the MOOCs had been designed very thoroughly and for the most part required little input or feedback from the instructor for the participant to know what and how they needed to complete the assignments.

On various assignments participants, including myself, were confused about some of the details and had to ask in the forum for assistance where I found adequate support. Personally, I could not find many faults with the MOOCs. I have experienced worse design and quality in university courses at flagship universities. Perhaps by being so public, most universities that have participated in Coursera have done all they can to produce MOOCs with the highest quality possible, which is therefore better than some of the courses that are offered by those same institutions locally.

In terms of quality, I also assumed that a MOOC by itself would be comparable to a high quality conventional online course but shorter, lasting often only four weeks instead of sixteen. Thanks to the low cost of entry, if for some reason, the MOOC was poorly designed, I would then drop the course and enroll instead in another MOOC that was better designed and a better match for my learning preference. Some MOOCs have been poorly designed in the past and abruptly cancelled including a Coursera MOOC by Georgia Tech on the “Fundamentals of Online Education: Planning and Application,” which was cancelled after one of the tools used in the MOOC was not able to handle the number of participants who registered.

Due to taking only a few weeks and covering mostly the most basic materials of a subject, I do not consider a MOOC equivalent to a university degree-level course. For

me, this was not a major concern, as I was interested in learning new knowledge rather than obtaining an academic credential.

How would I like to see MOOCs improve?
(How would participants like to see MOOCs improve?)

Through my experience in these MOOCs, and my study of MOOCs in general, I believe there are various ways in which MOOCs can be improved. At present, most MOOCs have had one or only a few iterations. Using a developmental evaluation model, however, MOOCs can improve every semester they are offered. The MOOCs in which I participated will likely be improved every semester. Based on my personal experience, I have also mentioned to local and online friends about the benefits of participating in this MOOC specialization and MOOCs in general. Several of the individuals to whom I have recommended MOOCs have gone on to take several MOOCs themselves. I also shared the video content from the game design MOOCs with an employee of mine who was interested in becoming a game designer. I thought he would find the interviews of designers useful, even if not all of the MOOC materials were of interest to him. In general, people who had a good MOOC experience, like myself, likely recommended MOOCs to other people they knew either in person or online.

Out of the different things that can be improved, I thought it would be valuable for the instructors to make additional readings available for those participants interested in gaining a more advanced level of knowledge. From my experience, MOOCs often emphasize learning through short online videos. While helpful, including additional related resources, such as interesting readings, could further enhance many MOOCs.

Another recommendation is to develop a community space within a MOOC, one that also does not stop functioning after a MOOC is over, but that encourages participants to visit it afterwards to connect with new graduates and current participants. A community space like this would have been helpful in the Game Design MOOC specialization. This space could be used to help participants work collaboratively on projects during and after completing the specialization, find a job, learn about new opportunities, meet professionals from other countries, and develop strong personal relationships. If a community space was developed with the purpose of connecting participants, it could provide an additional benefit to participants that may be more helpful than the certificate of completion.

I felt that more could have been done within the Game Design specialization to promote these relationships if there was a space where participants could explicitly network with other participants to work on projects that go beyond Coursera. Ideally, a good number of participants that take part in a specialization on game design will have the opportunity to apply what they learned and design a game. Personally, however, I did not extend either my online social network or local social network by participating in these MOOCs.

I believe it is of outmost importance to increase the number of higher education and advanced degree opportunities available. Being able to learn continuously throughout one's life is increasingly important. Having online learning opportunities will only become more relevant in the future. It is helpful if these opportunities are available

through mobile devices as they are increasingly ubiquitous. I also consider MOOC certificates of completion to be of growing importance.

Chapter V – Survey Analysis

Who were the participants in the MOOCs?

To answer this question, the following survey questions were analyzed. Each question was cross tabulated by region. The relationship between other variables in addition to regional differences is worth exploring but it was beyond the scope of this study and I hope to explore other relationships in this data set in a future research project. The text of these questions can be found in the annex, which includes a copy of the surveys and focus group questions. Table 5.1 shows the questions from the surveys that were analyzed to reach a better understanding of "who were the participants in these MOOCs".

Table 5.1
Who were the participants in these MOOCs?

Survey	Survey Questions			
Pre-MOOC Survey (PEMS)	Q01	Q03	Q04	Q05
	Q06	Q07	Q08	Q09
	Q10	Q11	Q12	Q13
	Q14	Q15	Q16	Q17
Post-MOOC Survey (POMS)	Q05	Q07		
International Participant MOOC Survey (IPMS)	Q01	Q02	Q03	Q04
	Q05	Q08	Q10	Q15
	Q19	Q20	Q21	Q22
	Q22	Q24	Q27	Q33

Quantitative Analysis – General Overview

The key findings of the quantitative analysis are included in the table below followed by a brief discussion of "who were the participants in these MOOCs" and an in-depth discussion by geographical region. Because of the length of the tables, extensiveness of the statistical analysis, and to increase readability, the detailed tables which include the p. values and details about each calculation were moved to the annex. Please take a minute to locate these tables in the annex before proceeding. I recommend looking at those tables while reading this overview. Following the overview, I also discuss the analysis of the data by geographical region. Table 5.2 includes a summary of the findings.

The pre, post and international MOOC participant surveys provide many insights into the characteristics of MOOC participants. The worldwide reach of these courses was immediately apparent. The MOOCs studied here included participants from over 166 countries, including participants from such disparate countries as Afghanistan (four participants), Bosnia Herzegovina (13 participants), Fiji (five participants), Lao (three participants), Eritrea (four participants) and El Salvador (six participants). In fact, international participants made up over half of all MOOC survey respondents, even though the courses were organized by a U.S. university. Overall, out of the 19,738 participants who answered the pre-MOOC survey, 9,065 participants (or 45.9%) were from the United States, 4,146 (21.0%) were from Europe, 2,834 (14.4%) from America (W/o U.S.A.), 2,430 (12.3%) were from Asia, 692 (3.5%) from Africa, and 571 (2.9%) from Oceania.

Table 5.2

Survey Results – Analysis summary. Key results – Question #1

Pre-MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q13- Total responses by region	3.5	12.3	21.0	2.9	14.4	45.9
Q1- Prior experience in that field	47.8	36.1	41.9	37.7	45.7	40.1
Q4- Have not taken MOOCs previously	40.4	41.0	42.2	49.0	47.8	58.3
Q5- Weekly hours available (11+)	20.5	22.0	22.0	19.4	21.4	24.5
Q6- Plans to complete the MOOC	93.6	84.6	81.7	86.2	86.7	85.1
Q8- Participant gender (% of females)	41.4	50.7	65.3	73.0	63.1	74.5
Q9- Participants over 30 years old	52.9	38.6	46.7	58.8	48.2	64.0
Q10- Non-English mother tongue	65.7	83.2	79.6	18.4	64.4	11.8
Q11- Advanced English proficiency	38.1	28.2	33.9	75.8	39.1	84.1

Q5 - To what degree did each of the following negatively impact your participation in this course?

Post-MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q5A**- Unfamiliarity w/ technology	5.7	3.9	4.3	5.5	5.1	4.0
Q5B**- Problems w/ internet connection	44.3	18.1	6.1	11.1	9.5	4.7
Q5C**- Problems w/ My computer	5.9	5.4	4.9	2.8	6.2	4.2
Q5D**- Time zone issues	13.0	10.5	5.9	6.9	5.2	1.1
Q5E**- Family responsibilities	19.8	29.4	33.4	27.4	29.6	27.6
Q5F**- Work responsibilities	51.7	47.9	48.6	31.1	49.6	35.8
Q7- 6+ Study hours per week	31.5	19.3	19.9	18.9	17.9	13.1

**(W/o U.S.A.)*

***Q5 - (To a moderate or a large degree)*

Intl. Part. MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*
Q1- Native lang. course (very important)	27.8	16.3	18.6	72.3	35.0
Q2D- Writing English adv. proficiency	46.5	33.4	34.4	83.5	42.6
Q3A- Finished associate degree or above	87.5	89.6	87.8	89.4	85.2
Q3B- Graduate coursework or above	48.4	52.2	60.5	44.7	54.0
Q10- 11+ years of professional experience	37.2	37.5	46.1	63.0	41.4
Q15- Enrolled in signature track	20.2	8.7	9.6	3.6	13.8
Q21B- Owns a laptop computer	83.0	75.1	78.6	83.9	74.8
Q21C- Own an internet capable phone	50.4	44.4	45.3	60.9	44.7
Q23- Mean value - willingness to pay ($$)	289.9	174.2	134.5	246.9	218.7

**(W/o U.S.A.)*

Unsurprisingly, given the technological prerequisites for accessing and participating in MOOCs, most international participants were from countries with high HDI levels, with 57.7% from countries with very high HDI levels and 22.1% from countries with high HDI levels. Out of all of the regions, participants from Africa were most likely to come from low HDI level countries. The majority of participants, 92.7% and 98.8% of participants from Europe and Oceania respectively, came from countries with very high HDI levels. In contrast, only 4.2% of African participants came from high or very high HDI countries. In the Americas, slightly over half of respondents, 52.4%, came from countries with high HDI levels, while 44.4% came from countries with very high HDI levels. In Asia, 51.8% came from countries with medium HDI levels, 22.4% from countries with high HDI levels, 19.7% from countries with very high HDI levels, and just 6.2% from counties with low HDI levels, χ^2 (12, N=10600) = 10364.66, p = .000. This suggests that, so far, the MOOCs are not fully delivering on their promise to open up access to higher education to all.

With regard to education and professional experience, African participants were more likely to have a degree in the field (19.1%) or some experience (28.7%). In comparison, only 13.6% of participants from Asia had a degree in the field, and 22.5% had some experience, while 32.2% had explored the subject independently. Participants in the United States were most likely to either have only a little professional experience in a related field or have explored the subject independently, at 27.1% and 33.4% respectively, χ^2 (15, N=19322) = 147.050, p = .000. International participants were more likely than their U.S. counterparts to have taken MOOCs before with 58.3% of

participants from the United States not having taken a MOOC previously, compared to 43.6% of international participants, χ^2 (4, N=18749) = 411.595, p = .000.

Overall, most MOOC participants were women. In fact, women represented almost three quarters of U.S. participants (74.5%) and 60.3% of international participants, a 14.2% difference. Women outnumbered men in every region except Africa, where men made up 58.3% of MOOC participants. In Oceania, women represented 73.0% of participants. In Europe and the Americas (w/o U.S.A.) women represented 65.3% and 63.1% respectively, compared to only 51% of Asian MOOC participants, χ^2 (10, N=19306) = 750.362, p = .000. International MOOC participants generally appeared to be younger than their U.S. counterparts. For example, 53.7% of international participants were 30 and under, compared to 36% of participants in the United States. The youngest participants were in Asia, with 61.4% of participants under 30, χ^2 (40, N=19310) = 1815.159, p = .000.

The majority of participants in the United States (88.2%) considered English their first language in contrast to just 27.8% of international participants. Of the 19,210 survey responses, for 8,542 participants (44.5%), English was not their first language. Regionally, the proportion of native English speakers varied greatly. For example, 81.6% of Oceania participants, mainly Australians, spoke English as their first language. By contrast, only 16.8% of Asians spoke English as their first language, while 34.3% of Africans considered English as their mother tongue.

Nevertheless, most international participants had a proficient or advanced proficient level of English. In fact, 81.9% of Africans, 72.3% of Asians, 67.9% of

Europeans, 96.4% of Oceanians, and 68.0% of Americans (W/o U.S.A.) reported being either proficient or advanced proficient in English, in comparison to 97.4% of participants in the United States, χ^2 (20, N=19150) = 5386.368, p = .000. Most participants did not know anyone else in the course prior to registering, with 84.4% of international participants and 82.0% of participants in the United States not knowing anyone else who was enrolled. Only 1.8% of international participants were past or current participants at the University of Minnesota, compared to 5.8% of participants in the United States.

In terms of personality, 45% of international participants considered themselves introverted, compared to 50.2% of participants in the United States. Regionally, more participants in Oceania considered themselves introverted at 52.3%, and lowest in Africa at 41.2%. The greatest percentage of extroverted participants were in Africa at 38.8% and perhaps unsurprisingly lowest in Oceania at 30.2%, χ^2 (10, N=19203) = 109.679, p = .000.

Participants who answered the pre-MOOC survey were sent also a post-MOOC survey, which had a 12.9% response rate. In the post-MOOC survey, participants were asked about their course experience, familiarity with technology, internet problems, technology access, among other things. Among participants who took the post-MOOC survey, the vast majority (80%) reported experiencing no unfamiliarity with the technology used in the course. In fact, only 4.7% of international participants had either a moderate or a large degree of technological unfamiliarity. Regionally, the greatest level

of unfamiliarity with the technology was in Asia, with 27.4% of participants reporting some degree of unfamiliarity.

Internet connectivity was a more common concern for international participants, with 27.6% of international participants reporting connectivity problems, in contrast to only 12.4% of participants in the United States. When looking at differences regionally, internet connection problems were a very significant problem in Africa, with 71.6% of respondents reporting some issues with their internet connection. By contrast, in Europe only 18.9% believed it to be a problem, and 20.8% in Oceania, χ^2 (15, N=2516) = 265.321, p = .000. International participants were also more likely to consider computer problems as a major issue at 17.7%, compared to only 11.9% of participants in the United States. Once again, computer problems were most common among African participants, with 27.9% responding that they experienced issues related to their computer hardware. After Africa, Asia had the second highest percentage, at 23.4%.

Time zones also influenced the participant experience, with almost a quarter (24%) of international participants believing that time zones negatively affected their participation. Time zone issues were especially problematic for Asian (36.7%) and African (32.9%) participants. Predictably, time zone concerns were much less common in the United States, at only 4.9%. Similarly, among international participants, those from areas with time zones close to those of the United States, such as the rest of the Americas, had the lowest concerns in this regard, with 17.6% reporting time zone difficulties.

Lack of time due to family responsibilities was considered more of an obstacle for international participants, with 62.4% considering it a problem compared to 53.9% of

participants in the United States. Regionally, family responsibilities were greater problem for participants in Europe and Oceania than any other group with 63.5% and 63.3% respectively of participants believing it had a negative impact on their course participation. Interestingly, all groups considered lack of time due to family responsibilities to be a bigger problem than internet connection, computer problems or time zone problems. Overall, 10.7% of participants described family responsibilities as a major problem, and a further 18.5% stated it was a moderate problem hindering their course participation and performance, χ^2 (15, N=2517) = 37.073, p = .001. Lacking time to complete course requirements due to work responsibilities was also a major hurdle for many, with 76.3% of international participants considering this an issue, as well as 60.6% of participants in the United States. A fifth of international participants, 20.6%, considered work responsibilities to be a major hindrance to MOOC participation.

International participants who had responded to the pre-MOOC survey were also asked to respond to an international participant survey. This survey had a response rate of 16.1%, with the highest rate among African participants at 19.5% and lowest for Asian participants at 14.6%, χ^2 (4, N=10673) = 13.456, p = .009.

The international participant survey asked participants 47 questions, many of which were designed to improve our understanding of who these participants are, and what aspects of the MOOC experience were most important to them. The responses indicated the diversity of MOOC participants, and that participants from different areas of the world may have different characteristics and priorities.

For example, when asked about the importance of future courses being in their native language, this was most important for participants from Oceania, where 72.3% of participants considered this to be very important. By contrast, only 16.3% of Asian, and 18.6% of European participants considered it very important, χ^2 (16, N=1580) = 203.239, p = .000. Most participants from Oceania were from English speaking countries whereas in other regions, most participants learned English as a secondary language.

Participants were also asked about their English listening, speaking, reading, and writing ability. Overall, participants from all regions reported high levels of listening proficiency, with 100% of participants in Oceania, 87.6% of participants in Africa, 76.7% in the United States, 75.5% in Asia, and 74.4% in Europe indicating proficiency or advanced proficiency. With respect to speaking ability, most MOOC participants considered themselves proficient, but to a lesser extent than listening. For example, although 98.8% of participants in Oceania reported themselves as having advanced speaking proficiency or proficient, 35.4% of Europeans considered themselves to have either a low or an intermediate English speaking proficiency. Reading proficiency was also high across all regions. For example, 98.8% of participants in Oceania and 81.2% of Asian participants either had an advanced proficiency or were proficient.

When comparing highest education levels, international participants were mostly college educated, with only 9.2% of international participants having a high school degree or lower. Overall, 9.6% had doctorate degrees, 34.6% had master’s degrees and 38.2% had a bachelor’s degree or a bachelor’s degree and some graduate coursework. European participants were more likely to have completed higher levels of formal

education, with 11.6% of Europeans having doctorate degrees, compared to just 5.5% among African respondents, and 42.0% of Europeans holding a master's degree, roughly twice the percentage of participants with master's degrees from Oceania (21.2%).

Participants were also asked about their current employment situation. A slight majority of participants (51.3%) was employed full-time and a further 20.3% indicated they had part-time employment. Among those employed full-time, the highest percentage was in Africa with 64.8% followed by Europe with 52.2%. The lowest percentage of full-time employment was in Oceania at 43.5% (24.7% of respondents from this region indicated they had part-time employment, and 31.8% stated they were not employed), χ^2 (8, N=1569) = 17.867, p = .022. Close to half (48.1%) of participants had between 1 and 10 years of employment experience, including 60.9% of participants from Africa, 50.4% of participants in Asia, and 49.4% of participants in the Americas (W/o U.S.A.). Some regions had a greater proportion of participants with more years of work experience, including 12.3% of participants in Oceania stating they had between 31 to 40 years of experience, and an additional 4.1% indicating they had 41 to 50 years of experience, more than any other region, χ^2 (20, N=1418) = 64.928, p = .000.

In terms of ownership of various technologies, 44.7% of participants responded that they had a desktop computer and 77.5% owned a laptop computer. Participants in Oceania and Africa were most likely to own a laptop, with an ownership rate of 83.9% and 83.0% respectively, χ^2 (4, N=1721) = 7.741, p = .102. When asked if they owned an internet capable phone or handheld device, 46.1% of international participants mentioned

owning one, with the highest ownership levels in Oceania at 60.9% and lowest in Asia at 44.4%.

When looking at participants' social networks and their influence on MOOC participation, the majority of participants knew someone who had participated in MOOCs previously, with 53.2% of international participants having between one and four co-workers or friends that had enrolled in or taken an MOOC. Participants in Africa were most likely to know someone who had taken a MOOC with 67.2% who knew someone who was enrolled or had taken a MOOC previously. Similarly, 65.0% of participants in Oceania knew someone who had taken a MOOC previously. European participants had the lowest percentage of people who know someone who had taken a MOOC at 59.1%, although these differences between regions were not significant, χ^2 (12, N=1495) = 12.676, p = .393. However, as discussed above, very few participants reported knowing someone in the course, suggesting that social networks may influence a participant's decision to take a MOOC, but may have a lesser impact on determining which particular MOOC to take.

In the next sub-sections, I analyze the data by regions, in the following order: Africa, Asia, Europe, Oceania, and America (W/o U.S.A.). With the focus being on international participants, I decided not to include a sub-section analyzing participants from the United States in detail. However, sections include comparisons with responses from participants from the United States when appropriate. This framework is applied to all of the research questions answered from the quantitative data. The responses between

regions were similar in some instances, while contrasting in other instances depending on the survey question.

Africa

Participants from Africa accounted for just 3.5% (692) of participants in the pre-MOOC survey. Compared to the average participant, African survey respondents were more likely to come from countries with a low or medium HDI, at 45.7% and 50.1% respectively. However, the responses suggest that despite their countries' lower HDI levels, the individual African MOOC participants were, themselves, likely to have prior experience in the field, access to technology, and the English language skills that would help them to be successful in the MOOC. For example, African participants were most likely out of all regions to have a degree in a field and/or prior work experience related to the MOOC, at 19.4%.

African participants were more likely to be males (58.3%) and more likely to describe themselves as extroverted (38.8%) than any other region. Most of their participants were in the 26-30 age range at 27.8%, the highest percentage among regions in that category. Regarding English language proficiency, only 34.3% considered English their first language. Similarly, 38.1% of Africans reported an advanced level of proficiency in English. African participants were also most likely to be graduate or professional participants studying in a related field at 19.4%.

Participants from Africa indicated higher levels of unfamiliarity with the technology required for the course than respondents from any other region, with 5.7% responding that they felt a moderate degree of unfamiliarity, higher than the combined

value of moderate and high unfamiliarity in every other region. They also suffered most from problems with their internet connection, with 12.5% responding that connection problems had a large negative effect on their participation in the course, and 31.8% that it was a moderate obstacle for them. African participants were more than twice more likely to report connectivity problems than participants from other regions. For example, while close to half of African participants (44.3%) had either a moderate or a severe problem with their internet connection, only 18.1% of participants in Oceania reported these issues, which was the second highest among the regions.

When asked how many hours a week they had been able to spend in the course, Africa had the highest percentage of participants who spent from six to nine hours at 22.5%, and 7.9% indicated spending between 10 and 14 hours a week. In terms of school completion, participants in Africa were least likely to have a doctoral degree at only 5.5%. The largest proportion of participants from Africa reported that they had completed a bachelor's degree at 34.4%. Participants in Africa were most likely to enroll in Signature Tracks at 20.2%, a percentage much higher than other regions, followed by participants in the Americas (W/o U.S.A.) at 13.8%.

Participants in Africa were less likely to be unemployed at 17.6%. Another 17.6% were employed part-time and 64.8% were employed full-time, which was the highest percentage among regions, 12.6% higher than the next region, Europe, at 52.2%. Most participants in Africa had between one and 10 years of professional experience at 60.9%, that was the highest between regions, followed by 50.4% in Asia.

In terms of technology ownership in the region, African participants were least likely to own a desktop computer with only 25.9% owning a desktop, and least likely to own a tablet at only 22.2% ownership. Ownership of laptops, by contrast, was very high at 83.0%, constituting the second highest value across regions, only greater in Oceania. By contrast, ownership of internet capable phones and handheld devices was lower in Africa than most other regions except for Oceania at 49.6%.

Asia

Participants from Asia were most likely to come from countries with a medium HDI level at 51.8%. The largest proportion (32.2%) of Asian participants were exploring the subject independently, followed closely by being new to be subject at 31.7%. This region had the highest number of participants who were taking between one and three other courses simultaneously and had the highest percentage at 4.3% of participants who had taken more than 10 MOOCs.

When asked how many hours a week they could spend studying for the course, time constraints on Asian participants immediately became apparent, with 41.8% of respondents indicating they could spend fewer than 5 hours. Compared to other regions, Asian participants appeared to have less time to spend on each MOOC but were more likely to be taking more than one MOOC simultaneously. They were also more likely to believe that lack of time due to work responsibilities was a problem with only 16.3% believing it not to be a problem, against an average of 30.7%.

The slight majority (50.7%) of participants in Asia were female, making it the most evenly divided region between genders. Participants in Asia were, overall, the

youngest participants, with 37.9% being between the ages of 18 and 25, and a further 23.5% indicating they were between 26 and 30 years of age.

Participants in Asia were most likely, at 85.0%, to not know anyone who was also enrolled in the class. Therefore, given their relative youth, it is perhaps not surprising that Asian participants had the lowest average number of years of professional experience in comparison to other regions with 62.7% having less than 10 years of experience, compared to an overall average of 56.7%. When asked about their relationship to the field, 24.5% were professionals working in a related field, and 27.0% in a different field. Participants in Asia had the second highest percentage of undergraduate participants who were studying in a related field, at 10.5% compared to an overall average of 9.6%. They also had the highest percentage of undergraduate participants who were studying in a different field at 10.3% compared to an average of 7.9%.

Participants in Asia had the second highest percentage of participants with a master's degree at 34.3%, second only to Europe at 42.0%. They also had the third highest percentage of participants with a doctoral degree at 10.2%. Despite the high levels of education, Asian participants also had the second highest level of unemployment at 31.7%.

Internet connection problems were common among Asian participants, with 39.4% of respondents indicating that this had negatively affected their ability to participate in the course, versus a global average of 22.0%. Similarly, participants in Asia were once again second only to African participants in experiencing problems with their computers, with 23.4% considering it to be a problem, substantially higher than the

overall average of 15.1%. Time zone challenges posed a greater problem to participants in Asia than those from any other region. Over a third of Asian participants (36.7%) considered time zone issues to be a problem, in comparison to an overall value of 15.4%.

Out of all the groups, Asian participants were least likely to consider English their mother tongue at 16.8%. Therefore, as might be expected, participants in Asia reported the lowest English ability, with only 39.3% (listening), 31.1% (speaking), 43.5% (reading) and 34.4% (writing) assessing themselves as advanced proficient. This difference was close to ten percentage points lower than the global average for each skill. For example, while 52.9% of international participants were advanced proficient in reading, only 43.5% of Asian participants were advanced proficient.

Participants in Asia were less likely to own a desktop, a netbook, a handheld, an e-reader, a printer, and a tablet than participants in other regions. Only 42.7% of participants in Asia owned a laptop, which was the lowest percentage in all regions, and only 28.0% owned a tablet computer, second only to Africa.

America (W/o U.S.A.)

Participants in the Americas were mostly living in countries with a high HDI (52.4%) or very high HDI (44.4%). These participants were more likely to either have a degree in the field (17.8%) or some related professional experience (27.9%) than participants from other regions. Participants in the Americas (W/o U.S.A.) had the lowest percentage of participants who had previously completed a MOOC, at 43.1% followed by 48.1% for African participants. They had, however, the second highest percentage of participants who had previously completed an online course for credit at 17.0%

As with all other regions except Africa, the majority (63.1%) of Americas (w/o U.S.A.) were women. This percentage was lower than the overall proportion of female respondents (66.8%). Americas (W/o U.S.A.) respondents tended to be younger than the average, and the region had the second highest number of participants in the 18-25 age range, at 30.6%, which was only higher in Asia at 37.9%.

Participants in the Americas (W/o U.S.A.) were more likely to have at most a master's or a bachelor's degree at 27.9% and 25.9% respectively. They also had the highest percentage of participants who had completed only high school at 10.8%. Participants in this region had a high unemployment rate at 29.8%. In terms of prior work experience, 9.2% had no experience, and 49.4% had between 1 and 10 years of experience, with 29.3% having 1 to 5 years.

Many of these participants, 27.5%, were working in a related field to that forming the subject of the MOOC, while almost as many, 26.5%, were working in a different professional field. Participants in the Americas (W/o U.S.A.) had the highest percentage of undergraduate participants who were studying in a related field (14.0%), followed by participants in Asia at 10.5%. Americas (w/o U.S.A.) respondents also accounted for the second highest percentage of undergraduate participants studying in a different field at 8.8%. Participants in the Americas (W/o U.S.A.) were most likely out of all the regions to not know anyone else who had enrolled in a MOOC at 82.3%.

With this region including Canadian participants in addition to those from the Caribbean and Latin America, it is not surprising that a third of the participants spoke English as their first language. When analyzing their English language proficiency,

39.1% of participants considered themselves advanced proficient, and another 28.9% proficient. Participants in the Americas (W/o U.S.A.) had the second highest percentage of participants who believed it to be very important for courses to be in their native tongue or language at 35.0%, a percentage much greater than in Africa (27.8%), Europe (18.6%), and Asia (16.3%). Only 13.9% considered to be of little importance or unimportant. When looking at participants' English proficiency, participants in the Americas (W/o U.S.A.) had the second highest listening skills, and third highest speaking, reading, and writing skills levels.

Generally, Americas (w/o U.S.A.) participants were less likely to have problems with their internet connection, with 76.1% of participants from this region indicating it was not a major problem, and only 9.5% considering it a moderate or large problem. Perhaps not surprisingly, being in the same time zones as the United States, 82.4% of Americas (w/o U.S.A.) participants did not consider time zones to be a problem. Only participants in the United States were less likely to have experienced problems due to differences in time zones.

Lack of time because of family responsibilities was considered by 29.6% of Americas (w/o U.S.A.) to be a moderate or large concern. Lack of time due to work responsibilities, however, was an even greater concern, with 49.6% considering it a moderate or large obstacle. These time constraints were perhaps reflected in the number of hours Americas (w/o U.S.A.) respondents reported spending on homework, reading, and projects for the course. Participants in the Americas (W/o U.S.A.) were most likely to spend between three to five hours on the MOOC at 50.8%, followed by 31.4% studying

between zero and two hours. This was similar to the hours reported by participants overall. In terms of ownership, 46.3% owned a desktop computer, 74.8% a laptop or netbook, 44.7% an internet capable phone or handheld device, 15.9% an e-reader, and 32.4% an iPad or another tablet.

Europe

European participants were much more likely to come from very high HDI (92.7% of European respondents) or high HDI countries (7.0%). When asked about experience with the subject matter, the largest percentage of European participants indicated they were exploring the subject independently (32.4%). One quarter of participants, (25.3%), had completed some coursework or had some prior experience and another quarter, (25.7%), were new to the subject. European participants were most likely to have taken between one and three MOOCs previously. However, this region also had the second highest percentage of participants who had previously taken more than 10 MOOCs, at 3.1%.

European participants were most likely to state that they planned to complete only certain parts of the course at 5.5% but this difference was minimal. The vast majority (81.7%) of European participants planned to complete the whole course, similar to the overall proportion (84.9%). In terms of gender, most European participants were women (65.3%), which again was close to the overall gender balance of MOOC participants surveyed (66.8% women). On average, however, European participants were younger than participants from most other regions. European participants between 18 and 25 accounted for 27.6%, and a further 25.6% were between the ages of 26 and 30.

Most Europeans (79.6%) considered their first language to be something other than English. This percentage was higher than that of any other region apart from Asia (83.2% non-native English speakers) and much higher than the overall proportion of respondents for whom English was not their mother tongue (44.5%). When asked how important it was for the course to be available in their native tongue or language, only 18.6% of European participants considered it very important. When looking at European participants' advanced proficiency levels, 43.8% were advanced proficient in listening, 33.6% in speaking, 50.8% in reading, and 34.4% in writing. This was the second lowest percentage. Only participants in Asia self-reported lower scores. Most European participants, 85.7%, did not know anyone else who was enrolled in the course. This was the second highest percentage in all the regions.

In contrast to Africa and Asia, internet connections were not a problem for 81.1% of European participants. This percentage was only higher in the United States at 84.8%. In addition, 85.0% of European respondents did not experience computer problems that negatively influenced their ability to participate in the course. Surprisingly, given the geographic distance between the U.S. and Europe, over three quarters (78.4%) of Europeans did not find time zone issues to be a concern. Lack of time due to family responsibilities, however, had a slightly higher impact on MOOC participation in Europe than in most other regions, with 33.4% considering it to have a moderate or large impact, compared to an overall figure of 29.2%. Participants in Europe were also more likely than the average (48.6% compared to 42.6%) to consider lack of time due to work responsibilities to be a large or moderate problem for them in completing the MOOC.

Most European participants, 53.0%, spent between 3 and 5 hours a week completing projects for this course.

The majority (53.6%) of European participants were highly educated, with over half holding a master's degree or higher. Compared to other regions, European participants were most likely to have completed a master's degree (42.0% in comparison to an overall percentage of 34.6%). Another 11.6% of European participants had completed a doctoral degree. European participants had, on average, a substantially higher level of education than the other regions, with 84.5% of respondents from this region indicating that they had previously completed a college and university-course. European participants were also the second most likely group of participants to be employed full-time, with just over half (52.2%) the survey respondents indicating that they had a full-time job, and an additional 20.1% reporting that they were employed part-time. More than half (52.0%) of European participants had taken MOOCs previously, making Europeans the second most likely to have prior MOOC experience, after Oceania (55.2%) and higher than the overall proportion at 48.9%.

Oceania

Participants in Oceania were most likely to live in countries with a very high HDI. In fact, all but seven participants from the region (out of 568), or 98.8%, came from very high HDI countries. The largest percentage of participants from Oceania taking MOOCs were new to the subject matter (34.5%) which was greater than the overall proportion (26.9% of all respondents). However, participants in Oceania were more likely to have taken other MOOCs than participants from other regions at 55.2%, followed by European

participants at 52.0%. The majority of participants (53.4%) in Oceania were taking between one and three other courses simultaneously (compared to 48.2% of all respondents). They were also the region where participants were second most likely to know someone in their local social network who had participated in MOOCs. When asked about the time they could spend studying for the course 40.6% were able to dedicate only 5 or less hours, and 40.0% between 6 and 10 hours. These values were higher than the average. However, Oceania also had the greatest number of participants who were able to study more than 15 hours at 2.7%.

Participants in Oceania had the highest percentage of professionals working in a different field to that studied in the MOOC, at 37.8%. Participants in Oceania also had the highest percentage of unemployment at 31.8% compared to 28.4% of all respondents. They also had the highest percentage of participants with over 20 years of experience at 38.3% over an average of 20.3%. Oceania had both the highest unemployment rate and participants with the most years of experience. It is possible that more participants in Oceania were retired and no longer working. Lack of time due to family responsibilities was a problem for 56.2% of participants in Oceania. This was the second lowest percentage, with only participants in the United States considering it less of a problem.

Oceania had the highest percentage of female participation of all of the regions, at 73.0% compared to 66.8% overall. After Oceania, European participants were most likely to be women at 65.3%. Oceania participants were also most likely to be introverted, with more than half (52.3%) of respondents from this region describing themselves as introverts compared to 47.4% of all survey respondents.

The largest group of participants in Oceania were from Australia, where the mother tongue is also English. This was reflected in the English proficiency of Oceania respondents, where 75.8% of participants described themselves as advanced proficient in their English skills. Oceania participants had the highest levels of English proficiency among international participants ranking first in listening, speaking, reading, and writing. In listening, 88.2% of participants in Oceania considered themselves advanced proficient, followed by participants in the Americas (W/o U.S.A.) at 52.3%.

A substantial majority (72.3%) of participants in Oceania considered it very important for courses to be in their native tongue / language. This was much higher than the average of 25.8% and was followed by participants in the United States at 35.0%. Both regions were those reporting the highest English proficiency levels. Therefore, it appears that regions with more native English speakers were more likely to believe that MOOCs being developed in their native tongue was very important.

In general, participants in Oceania were more likely to have completed a university or college level course previously at 90.5% (compared to 85.6% overall). Oceania had the highest percentage of participants who completed at most a bachelor's degree at 36.5% while also the lowest percentage of participants with a master's degree, at 21.2% compared to an overall percentage of 34.6% which is partly explained by a high percentage of participants in Oceania with Doctoral degrees, at 10.6% compared to just 0.6% of all respondents.

Oceania participants reported the highest rates of familiarity with the technology required for the MOOC, with 86.3% stating that this did not negatively influence their

participation. On a related note, participants in Oceania were the second most likely to feel very comfortable utilizing online learning environments at 60.7% compared to 54.0% overall. Unlike participants from Africa or Asia, the vast majority (87.5%) of participants in Oceania did not have a problem with their computers. This was also the highest percentage of all regions. Time zone issues, however, were a larger concern in Oceania than in Europe, the Americas (W/o U.S.A.) and the United States (at 22.2%) yet posed less of a problem than for African and Asian participants.

In terms of technology ownership, participants in Oceania were most likely out of all regions to own a desktop computer (49.4%) and most likely to own a laptop or netbook computer (83.9%), an internet capable phone or handheld device (60.9%), an e-reader (36.8%), a printer (59.8%), and a tablet (41.4%).

Why were they participating in MOOCs?

To answer this question, the following survey questions were analyzed. Each question was cross tabulated by region. Chi-square tests were conducted for every survey question. An ANOVA test was conducted for question 9 of the IPMS. Table 5.3 shows the questions that were included in this analysis. The text of these questions can be found in the annex that includes a copy of the surveys and focus group questions.

Table 5.3
Why were they participating in MOOCs?

Survey	Survey Questions			
Pre-MOOC Survey (PEMS)	Q02			
Post-MOOC Survey (POMS)	Q01			
International Participant MOOC Survey (IPMS)	Q07	Q09	Q12	Q13
	Q14	Q16	Q34	

Quantitative Analysis – General Overview

The table above includes the survey questions that were analyzed in this section to develop a better understanding of “why were they participating”. Each survey question was analyzed and cross tabulated by global region. A copy of the surveys and focus groups is included in the annex. Also in the annex is the full statistical analysis of these questions. Key findings are included in the table below followed by a brief discussion of “why were they participating” and an in-depth discussion by geographical region.

Table 5.4

Survey Results – Analysis summary. Key results – Question #2

Pre-MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q2 - Why did you enroll in this course?	Agree or Strongly Agree – Combined Percentages					
Q2A- Relevant to academic field of study	66.9	52.7	48.2	43.3	59.4	42.8
Q2B- Skills will help my job / career	80.8	60.6	57.7	50.7	67.5	55.3
Q2C- Offered by a prestigious university	45.7	44.3	30.0	18.8	43.0	25.0
Q2D- Think the course will be enjoyable	76.6	83.5	84.9	86.8	86.5	89.6
Q2E- No alternative close geographically	42.0	41.0	26.9	22.9	28.7	16.3
Q2F- Traditional courses are expensive	57.2	56.1	51.2	58.8	56.4	58.4
Q2G- Interested in this professor	22.9	27.3	12.9	8.1	15.3	13.3
Q2H- Interested in UMN	37.3	37.9	20.3	11.5	30.4	18.6
Q2I- General interest in the topic	94.0	94.0	97.0	98.0	96.5	97.1
Q2J- Decide whether to continue	39.9	33.4	23.2	32.1	28.1	28.2
Q2K- Make professional connections	55.6	40.5	25.2	16.9	33.4	22.9
Q2L- Obtain a badge or certification	69.1	53.8	42.8	31.2	48.3	30.4
Post-MOOC Survey Questions						
Q1 - Learned as much as planned / more	74.7	75.0	75.7	71.2	72.3	68.8

**(W/o U.S.A.)*

Table 5.4 (Continued)

Survey Results – Analysis summary. Key results - Question #2

Intl. Part. MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*
Question 7 (A-D)*			Percentages		
Q7A- Self-improvement	83.70	82.20	82.10	87.40	80.70
Q7B- Improved job outlook	43.70	28.00	29.10	26.40	27.90
Q7C- Curiosity	25.20	50.00	55.50	54.00	41.30
Q7D- To pass time	4.40	7.90	7.00	8.00	5.40
*Q7 - Which of these reasons most accurately reflects why you are… participating in this MOOC?					
Questions - Q9 to Q12			Relevant & Very Relevant - Percentages		
Q9- MOOC completion relevant to employer	36.3	20.8	8.3	17.2	25.1
Q12- MOOC content relevant to employer	59.8	32.3	20.7	27.5	41.4
Q13- MOOC content relevant to desired job	74.2	41.9	36.2	40.5	47.6
Question Q14 (A-E)*			Important & Very Important Percentages		
Q14A- Obtaining a statement of completion	60.2	46.3	31.5	29.8	50.4
Q14B- Obtaining a passing grade	61.7	47.4	29.4	36.9	46.9
Q14C- Obtaining Academic Credit	64.4	38.8	22.8	22.0	34.9
Q14D- Learning New Knowledge	92.7	83.2	75.8	77.4	84.9
Q14E- Reinforcing Prior Knowledge	84.4	71.9	67.9	65.5	80.4
*Q14 How important are the following for your professional career? (A-E)					
Questions - Q16 & Q34			Percentages (Q16 & Q34)		
Q16- Signature Tracks Is Very Important	23.8	7.7	4.6	1.2	8.1
Q34- Cannot Take a Similar Course Nearby	31.9	29.5	26.5	24.1	40.1

There are a multitude of reasons as to why these participants took part in MOOCs, as they represent a very diverse population. International participants were much more likely than their U.S. counterparts to agree that they had joined a MOOC because it was relevant to their previous studies (53.1% compared to 42.8%), χ^2 (4, N=19163) = 230.329, p = .000. International respondents were also slightly more likely to agree or strongly agree that the MOOCs taught them skills that would help them in their jobs or

careers compared to participants from the United States (62.1% of international participants versus only 55.3% of U.S. participants), χ^2 (4, N=19208) = 101.918, p = .000. Regionally, participants in Africa were most likely to strongly agree that the MOOC provided useful professional skills (41.0%), followed by respondents living in the Americas (W/o U.S.A.) (28.6%).

In addition, for the MOOCs studied here, international participants were more likely than U.S. participants to be influenced by the reputation of the institution offering the MOOC. When asked if they had enrolled because the MOOC was offered by a prestigious university, 37% of international participants agreed or strongly agreed, compared to 25% of participants in the United States, χ^2 (4, N=19132) = 346.740, p = .000. Regionally, participants in Africa (45.7%), Americas (W/o U.S.A.) (43.0%), and Asia (44.3%) were more likely to base MOOC enrollment decisions at least partially on the offering institution's prestige. In comparison, only 25.0% of U.S. participants, 18.8% of Oceania respondents and 30% of Europeans agreed that the institution's reputation had affected their decision to enroll, χ^2 (20, N=19132) = 789.031, p = .000.

On a similar note, international participants were more likely to have signed up for the course because it was offered by the University of Minnesota (27.5% in comparison to 18.6% of participants in the United States), χ^2 (4, N=19094) = 228.178, p = .000. This was most common among participants from Asia (37.9%), Africa (37.3%) and Americas (W/o U.S.A.) (30.4%), and less influential among respondents living in Europe (20.3%) and Oceania (just 11.5%), χ^2 (20, N=19094) = 672.293, p = .000.

Geographical distance also influenced some participants' decision to sign up for the MOOC. In the aggregate, international participants were almost twice as likely as U.S. respondents (31.3% compared to 16.3%) to report that geographical distance to institutions offering similar courses had played a role in their MOOC enrollment decision χ^2 (4, N=19118) = 724.541, p = .000. In the international participant survey, over two thirds (69.2%) of international participants indicated they were unable to attend a similar course near their residence. Participants in Africa and Asia expressed greater concern about the geographical distance of educational institutions in their home countries, with 42.0% and 41.0% strongly agreeing or agreeing that this had contributed to their decision to take the course. In contrast, in Europe, Americas (W/o the United States), and Oceania respondents were far less likely to report that distance considerations had influenced their enrollment (only 18.7%, 26.9%, and 23.2% respectively), χ^2 (20, N=19118) = 1007.082, p = .000. Interestingly, however, in the International Participant Survey, participants in Oceania were less likely to be able to attend a similar course nearby (75.95%), followed by European participants at 73.5%. The lowest percentage was in Americas (W/o U.S.A.) where only 59.9% of participants were not able to attend a similar course near their current residence χ^2 (4, N=1486) = 22.195, p = .000.

Another, less common, reason for enrolling in a particular MOOC was due to the course instructor. Among international participants, 17.1% indicated that they enrolled the course partly because they were interested in taking a course from a specific instructor. Participants in the United States were slightly less likely to base their decision on this factor, at 13.3%, χ^2 (4, N=19077) = 87.050, p = .000. Regionally, participants in

Asia were most likely to cite the instructor as influencing their decision to enroll, at 27.3%, χ^2 (20, N=19077) = 454.453, p = .000. Others enrolled because it would help them decide whether to take more college or university classes. African participants were more likely to cite this as a reason (39.9%) than participants in Asia (33.4%), Europe (23.2%), Oceania (32.1%), or the Americas (W/o U.S.A.) (28.1%), χ^2 (20, N=19080) = 205.213, p = .000.

The opportunity to gain certification for the MOOC and use it professionally was more influential in guiding enrollment decisions among international participants than their U.S. counterparts (47.8% in comparison to 30.4% of participants in the United States), χ^2 (4, N=19131) = 633.455, p = .000. African participants were most likely to indicate that opportunities for certification had influenced their enrollment (69.1%), followed by those in Asia (53.8%), the Americas (w/o U.S.A.) (48.3%), Europe (42.8%), and Oceania (31.2%), χ^2 (20, N=19131) = 1056.804, p = .000.

In the International Participant MOOC Survey, participants were asked additional questions as to why they were participating in the course. One of the commonest responses (82.2%) among international participants was self-improvement. Participants in Africa were much more likely than those from other regions to state that one of the reasons they were participating in MOOCs was due to improved job outlook (43.7%). Other regions varied between 29.1% for Europe and 26.4% for Oceania, with an overall proportion of 29.6% participants indicating that they had signed up, in part, to improve their job prospects, χ^2 (4, N=1721) = 14.460, p = .006.

Many participants also mentioned curiosity as the reason that most adequately reflected why they were participating. European participants were most likely to enroll out of curiosity (55.5%), followed closely by participants in Oceania (54.0%). By contrast, only 25.2% of participants from Africa cited curiosity as a main reason, χ^2 (4, N=1721) = 53.942, p = .000. There were also a few international participants, 6.6%, who stated that passing time or boredom was a major reason for their decision to participate in a MOOC. The highest percentage of participants with this opinion were in Oceania, at 8.0%, followed closely by Asia at 7.9%.

Most respondents indicated that the contents of the course were relevant to their current employment to some degree. In fact, 85.3% of African participants considered the MOOC's subject matter to be at least moderately relevant to their jobs. The second highest percentage was among respondents from the Americas (W/o U.S.A.) at 58.2%, followed by Asia at 57.4%, 44.7% for Oceania, and 40.8% for European participants, χ^2 (16, N=1102) = 122.760 p = .000. The responses were similar when asked about whether the subject matter covered in the course was relevant to their desired employment, with 89.5% of participants in Africa considering the course contents at least moderately relevant (including 46.8% of African respondents who felt the subject matter was very relevant to their chosen career). In Asia 68.8% considered to be at least moderately relevant, in Americas (W/o U.S.A.) 66.3%, in Europe 60.4%, and Oceania 58.4%, χ^2 (16, N=1536) = 113.723, p = .000.

Participants varied widely in the degree of importance they attached to obtaining a statement of completion at the end of the MOOC. These were considered very important

by 40.7% of participants in Africa, in contrast to only 11.2% of European participants. In the aggregate, 81.3% of participants in Africa, 66.4% of participants in Asia, 52.9% of the participants in Europe, 44.1% of the participants in Oceania, and 65.1% of the participants in the Americas (W/o U.S.A.) considered obtaining a statement of completion to be at least of moderate importance χ^2 (16, N=1523) = 110.002, p = .000.

Obtaining a passing grade was most important for African participants, with 81.7% believing it was at least of moderate importance, compared to 66.4% of Asian participants, 63.5% of respondents in the Americas (W/o U.S.A.), and just less than half of the participants in Oceania (48.8%) and Europe (48.5%), χ^2 (16, N=1512) = 96.645, p = .000.

Similarly, obtaining academic credit was at least moderately important to 80.9% of participants in Africa, 59.7% of Asian participants, 42.7% of European participants, 39.1% of participants in Oceania, and 53.0% of participants in Americas (W/o U.S.A.) χ^2 (16, N=1502) = 131.952, p = .000.

With respect to the MOOC as an opportunity for learning new knowledge and its importance for participants' professional careers, the differences between regions were not as marked. In Africa, 68.9% considered it very important, followed by 68.7% of participants in America (W/o U.S.A.), with the lowest in Europe at 52.1%. At least 88.4% of respondents overall considered it to be of moderate importance, including 97.6% of participants in Africa, χ^2 (16, N=1531) = 49.582, p = .000. Respondents also tended to agree that reinforcing prior knowledge via a MOOC was important to some degree, with 43.2% believing it to be very important and a large majority indicating it

was at least of moderate importance, including 95.1% in Africa, 85.0% in Asia, 80.9% in Europe, 78.6% in Oceania, and 88.8% in the Americas (W/o U.S.A.). African participants appeared to place most weight on this factor, with 57.4% stating the reinforcement of prior knowledge was very important, χ^2 (16, N=1520) = 49.516, p = .000.

Access to credentials or the use of the Signature Tracks program was important for some (31.5%), but not all, participants, with significant differences between regions. For example, the majority of African participants (57.4%) indicated MOOC credentials/Signature Tracks were valuable to them, followed by 37.6% of Americas (w/o U.S.A.), 32.2% of Asian participants, 24.7% of European participants, and just 16.8% of participants from Oceania.

Africa

Participants in Africa appeared more likely to believe that the MOOC was relevant to their field of study or their current or desired career. For example, 66.9% of African respondents stated that the course was relevant to their field of study, compared to 48.4% of respondents overall, and 80.8% of participants living in Africa agreed that the MOOC taught them skills that would help them in their jobs or career, much higher than the overall percentage of 56.4%. Africa also had the second highest percentage of participants who cited self-improvement as a reason for participating. This percentage was marginally above the overall proportion at 83.7% versus 82.2%.

The majority of African participants also believed that taking the course would be fun and enjoyable, but to a lesser degree than other regions, with only 76.6% agreeing or strongly agreeing, compared to 87.0% among all respondents. By contrast, Africans were

least likely to enroll in the MOOC out of curiosity (just 25.2% compared to 48.3% among all survey respondents) or in order to pass the time (4.4% of African participants versus 6.6% of respondents overall).

Participants were also asked if not having educational institutions near to where they were living influenced their decision to enroll in the MOOC. African participants were more likely to strongly agree at 21.3% over an overall percentage of 10.6%. Participants were also asked if there was a course with similar content offered nearby. For most African participants, 68.1%, there were no similar courses nearby. This was close to the overall percentage of respondents who stated they did not have access to similar courses near to their location (69.2%).

The cost of traditional courses also influenced some African participants' decisions, with 26.6% indicating that this had been an important factor in their decision to enroll (slightly more than for respondents overall, at 22.4%). Participating in the MOOC also helped a substantial proportion of African participants (39.9%) to decide whether to take further college / university classes, compared to 28.3% of respondents overall.

African participants were also more likely than respondents from other regions to agree or strongly agree that participating in the course would expand their professional network and connections, with 21.4% of Africans strongly agreeing compared to just 6.6% overall. Similarly, Africans were most likely to cite improving their job outlook as a major reason for participating in the MOOC (43.1%). On a related note, African participants were more likely to believe completion of the MOOC was very relevant to their employer, at 19.6% in comparison to 6.4% overall. Similarly, a greater percentage

of African respondents believed the MOOC to be very relevant to their current position, at 36.3%, more than twice the proportion of respondents overall (14.0%). With regards to how relevant the contents of the course were to their desired employment, 74.2% of Africans considered the subject matter very relevant or relevant, in contrast to only 43.6% of participants overall.

Participants were asked whether obtaining a statement of completion, obtaining a passing grade, obtaining academic credit, learning new knowledge, or reinforcing prior knowledge were important to their professional career. In every instance, participants in Africa believed these were more important than did participants in other regions.

Learning new knowledge was seen as most important, with 92.7% of participants considering it very important or important, followed by reinforcing prior knowledge at 84.4%. In addition, 64.4% of participants in Africa considered it very important or important to obtain academic credit. This was higher than the overall population surveyed at 32.3%. In addition, 61.7% of participants in Africa considered obtaining a passing grade very important or important. Again, this was significantly higher than among respondents overall (40.4%).

Credentials were important to many African MOOC participants. For example, 69.1% of respondents from this region indicated that they had been motivated to sign up for the MOOC in part because of the opportunity to obtain a badge or certificate, compared to 39.8% of respondents overall. Similarly, 60.2% of participants in Africa considered obtaining a statement of completing important or very important, and African

participants tended to place more importance on the “Signature Tracks” program, with 23.8% indicating it was very important, compared to just 7.4% of all survey respondents.

Asia

Participants in Asia were more likely than participants from other regions to enroll in the MOOC because they had an interest in taking a course with a specific professor, or taking a course offered by the University of Minnesota. They had the second highest percentage of participants interested in making professional connections, obtaining a badge or certification, attending a course offered by a prestigious university, or who decided to sign up for a MOOC because there were no nearby alternatives. As with other regions, the vast majority (94%) of participants in Asia had a general interest in the course subject, although this was slightly lower than the proportion for all respondents combined (97.1%).

In addition, 83.5% of participants in Asia mentioned that they had joined because they believed it would be a fun and enjoyable experience, which was slightly less than the overall proportion of respondents who enrolled in the MOOC for fun (89.6%). Asian participants were very slightly more likely to sign up for a MOOC out of curiosity (50.0% compared to 48.3% of respondents overall). Lastly, when asked if they had joined simply to pass time, only 7.9% agreed, which although higher than the proportion of all survey respondents (6.6%) who enrolled to pass time, this difference was not statistically significant.

Asian participants were slightly more likely to strongly agree that the MOOC was relevant to their field of study, (22.2% of Asian respondents versus 20.3% of all

respondents). The majority of participants in Asia also felt the course would help them in finding a job and career, with 60.6% agreeing or strongly agreeing, compared to 58.9% of respondents overall. Only 44.3% of participants from this region mentioned they considered enrolling because it was offered by a prestigious university, but this was still more commonly cited by Asian participants than participants from other regions (overall, 31.5% of respondents mentioned the institution's prestige had influenced their decision to register for the course). Participants in Asia were also much more likely than the average participant to mention that they enrolled partly because they were not geographically close to educational institutions offering similar courses, (41.0% of Asian participants compared to 24.4% of respondents overall), with 70.5% of Asian participants indicating that they could not attend a similar course near them.

As with all other regions, almost all (94.0%) of participants from Asia signed up for the course because of a general interest in the subject matter (compared to 96.6% of respondents overall) and the vast majority also mentioned that they were at least partially motivated by a desire for self-improvement (82.2%, the same as the overall percentage of respondents who mentioned this as a factor). Participants in Asia were, however, most likely to enroll in a MOOC because they had an interest in taking a course with a particular professor (27.9% of Asian respondents compared to 15.4% of respondents overall) or to help them to decide whether to take further college and university classes (33.4% of Asian participants versus 28.3% of respondents overall).

Asian participants were also more likely to sign up for the MOOC to make professional connections (40.5% of Asian respondents compared to 27.9% of respondents

overall), with the highest percentage of participants after Africa who strongly agreed about the importance of making professional connections. Obtaining a badge or certification influenced the majority of Asian participants' enrollment decisions, substantially higher than the overall percentage of respondents who cited this as a factor (53.8% compared to 39.8% overall).

Asian participants were, however, very slightly less likely to register for the course in order to improve their job outlook (28.0% of participants from Asia compared to 29.6% for all respondents). In fact, as with most other regions, the majority of Asian participants considered the MOOC to be of little or no relevance to their employer (61.7% of Asian participants and 65.8% of respondents overall). Nevertheless, a small but substantial percentage of respondents living in Asia believed that the MOOC was very relevant to their desired employment (18.8% among Asian respondents versus 14.7% of participants overall).

Participants were also asked a series of questions regarding the importance of various MOOC outcomes to their professional careers. For example, Asian participants were slightly more likely than the average participant to consider it important or very important to obtain a statement of completion, (46.3% compared to 41.5% of participants overall) or a passing grade (47.4% of Asian respondents compared to 40.4% overall). Only participants in Africa placed more importance on these factors.

Asian participants were divided regarding the value of the "Signature Track" program, with 41.9% stating that it was either unimportant or of little importance, but 32.2% indicating they considered Signature Tracks moderately or very important to their

MOOC participation (similar to the overall percentage of respondents who felt Signature Tracks was important, at 31.5%).

Obtaining academic credit from participating in the MOOC was also slightly more likely to be seen as important among Asian participants (38.8% compared to 32.2% of respondents overall). As with other regions, the majority of Asian respondents believed that it was very important for their professional careers to learn new knowledge in the MOOC (57.7% of Asian participants and 59.1% overall) or for the MOOC to reinforce their prior knowledge of a subject (71.9% of participants in Asia considered this very important or important, slightly lower than the percentage of respondents overall, at 73.1%).

Americas (W/o U.S.A.)

Among participants in the Americas (W/o U.S.A.), the most commonly cited reason for being involved in the MOOC was a general interest in the topic (96.5%). As with other regions, the vast majority of Americas (w/o U.S.A.) participants indicated they were participating because they believed the course would be fun and enjoyable (86.5% compared to 87.0% of respondents overall). The majority of participants from this region, 59.4%, also joined because they believed the course to be relevant to their academic field of study. This was higher than among respondents overall (48.4%). When asked if the class taught skills that would help them in their job or career, participants in the Americas (W/o U.S.A.) were more likely than the average participant to agree (67.5% of Americas (w/o U.S.A.) respondents versus 58.9% overall). This was the second highest percentage after Africa.

Americas (w/o U.S.A.) participants were also more likely than the average to base enrollment decisions at least partially on the prestige of the offering institution (43.0% compared to 31.5% of all respondents). However, many prestigious universities build MOOCs and, when asked if the MOOC being offered by the University of Minnesota contributed to their decision to take the course, almost half the Americas (w/o U.S.A.) participants were neutral (47.9% versus 51.0% of participants in general). Nevertheless, Americas (w/o U.S.A.) participants were more likely than most participants surveyed to have signed up because the course was being offered by the University of Minnesota (30.4% compared to 23.4% of participants overall).

Respondents from this region were also ambivalent about whether taking a course with a particular professor had influenced their enrollment decision (with 58.4% neither agreeing nor disagreeing). In fact, only 15.3% of participants in the Americas (w/o U.S.A.) indicated that they had signed up based on the instructor. The majority of Americas (w/o U.S.A.) participants (51.8%) reported that geographical distance to educational institutions had not influenced their decision to sign up for the MOOC. However, participants from this region were slightly more likely to be motivated by distance from institutions than respondents overall (28.7% compared to 24.4%).

However, participants were also asked if they were able to attend a course with similar content near their current residence. Participants in the Americas (W/o U.S.A.) were most likely to agree at 40.1%, substantially higher than the average at 30.8% and the highest percentage of all regions, much higher than the second highest percentage of 31.9% in Africa. Most participants from the Americas (w/o U.S.A.) believed that

traditional courses were too expensive (56.4% versus 56.2% among respondents overall) and only 16.2% of Americas (w/o U.S.A.) participants disagreed or strongly disagreed (compared to 17.5% of respondents overall).

When asked if they joined to help them decide whether to take further college or university classes, 38.0% of participants in the Americas disagreed or strongly disagreed. This was the third highest percentage after Europe and very close to the percentage for participants in the United States at 38.1%. A smaller percentage of participants agreed or strongly agreed with this position at 28.1% that was very close to the average at 28.3%. Almost half of Americas (w/o U.S.A.) participants (48.3%) stated that obtaining a badge or certification was a motivating factor in enrolling (versus just 39.8% among respondents in general). The percentage of participants who signed up for a credential was lower than that of African and Asian participants but greater than Oceania, the United States, and Europe.

In the International MOOC Survey, participants were asked which reasons most accurately reflected why they were participating. Participants in the Americas (W/o U.S.A.) were often least likely to cite a particular reason for their participation. For example, while 82.2% of respondents overall considered self-improvement as a principal motivation for registering for the MOOC, only 80.7% of Americas (w/o U.S.A.) participants agreed. Americas (w/o U.S.A.) respondents were second least likely to indicate they had signed up due to improved job outlook (27.9% compared to 29.6% of respondents overall), curiosity, or to pass time. In terms of curiosity, while close to half of the participants in general (48.3%) considered it a reason for participating, only 41.3%

of participants in the Americas (W/o U.S.A.) agreed. Only participants in Africa had a lower percentage of participants who signed up out of curiosity, at 25.2%. In general, very few participants joined simply to pass time. This was also true of participants in the Americas (W/o U.S.A.), with only 5.4% citing this as a motivating factor for enrollment (compared to 6.6% of respondents overall). Once again, only African participants were less likely to join the MOOC for this reason (4.4%).

A third of participants from the Americas (33.4%) indicated that they had joined the course to make professional connections (compared to 27.9% of respondents overall). Participants were also asked how relevant was completing the MOOC to their employer. A quarter, 25.1%, of participants in the Americas (W/o U.S.A.) considered it very relevant or relevant, which was much higher than among respondents overall (17.9%). Similarly, Americas (w/o U.S.A.) were also more likely to find the course contents relevant to their current employment (41.4% compared to 32.0% overall) or to their desired employment (47.6% compared to 43.6% of respondents in general). Only participants in Africa had a higher percentage of respondents who found the course relevant to their current or desired career.

Participants were also asked how important were various rewards or conclusions they could obtain from participating in the course including obtaining a statement of completion, obtaining a passing grade, obtaining academic credit, learning new knowledge, or reinforcing prior knowledge. While participants in Africa were most likely to believe each of these to be important, participants in the Americas (W/o U.S.A.) were also generally more likely than the average to value these elements. For example, 50.4%

of Americas (w/o U.S.A.) considered it important to obtain a statement of completion from the course, compared to 41.5% of participants in general. When asked how important it was to obtain a passing grade, 46.5% of participants in the Americas (W/o U.S.A.) considered it very important or important versus 40.4% of respondents overall. Participants in the Americas (W/o U.S.A.) were also more likely than the average to consider it very important or important to obtain academic credit at 34.9% over 32.3% for respondents overall.

A very high percentage of participants in the Americas (W/o U.S.A.) considered learning new knowledge very important at 68.7%, only very slightly less than among African participants at 68.9%. Similarly, Americas (W/o U.S.A.) had the second highest percentage of participants who considered reinforcing prior knowledge to be very important (50.7% compared to 43.2% of respondents generally).

Participants in the Americas (W/o U.S.A.) were the region second most likely (after Africa) to value the Signature Track program, with 19.8% describing it as very important or important, compared to 17.1% of respondents overall. However, a substantial proportion (25.8%) of participants from the Americas (w/o U.S.A.) were unsure whether Signature Tracks was important for them or not, perhaps reflecting unfamiliarity with the concept, and/or uncertainty about the perceived value of Signature Tracks in society in general.

Europe

Like all other regions, the two main reasons for participating among Europeans were that they had a general interest in the topic (97.0%) or because they felt the course

would be fun and enjoyable (83.5%) (compared to 97.1% and 89.6% respectively for respondents overall). In addition, most European participants felt the course could teach them valuable skills (57.7% in comparison to 55.3% of respondents overall). European participants were often among the least likely to cite a particular reason for their decision to enroll in the MOOC. For example, while 55.3% of European participants agreed that the class taught skills that could help in their job / careers, this was significantly less than participants from Africa (80.8%), the Americas (w/o U.S.A.) (67.5%), and Asia (60.6%). Only participants from Oceania and the United States were less likely than Europeans to believe that the MOOC would help them in their careers.

Often European participants' responses reflected those of respondents overall. For example, when asked if the subject was relevant to their field of study, 48.2% of European participants agreed or strongly agreed, compared to 48.4% of respondents overall. The largest percentage of Europeans (42.0%) neither agreed nor disagreed that they had enrolled due to the prestige of the offering institution, similar to the percentage of this response among all respondents (41.3%).

European participants were, however, slightly less likely to indicate that their enrolment decision had been motivated by the fact that the course was being offered by the University of Minnesota (20.3% of participants from Europe agreed or strongly agreed versus 23.4% of respondents overall). Participants from Europe were also less likely to sign up for the MOOC to decide whether to take further college or university classes, (23.2% of Europeans compared to 28.3% among all respondents).

European participants were most likely to participate in MOOCs for self-improvement (82.1%). That was however, the lowest percentage of all regions, and very slightly lower than the overall percentage of respondents enrolling for self-improvement, at 82.2%. The second most common reason for Europeans to participate in these particular MOOCs was out of curiosity (55.5%). In fact, Europeans were the most likely out of all regions to cite curiosity as influencing their decision to register for the course (55.5% compared to the overall proportion at 48.3%). Almost one-third (29.1%) of European participants signed up to improve their job outlook. Finally, although only 7.0% of participants in Europe joined to pass time this was slightly higher than among respondents overall (6.6%).

When asked how relevant completion of the MOOC was to their employers, European participants were most likely to consider the course of little relevance (24.7% compared to 20.5% of respondents overall). Similarly, Europeans were, after Oceania, least likely to believe that the MOOC was relevant to their current employment or current position, with 33.5% stating that the course contents were of no relevance. Participants in Europe were less likely than participants in other regions to consider obtaining a statement of completion from the MOOC, achieving a passing grade, being granted academic credit, learning new knowledge, or reinforcing prior knowledge as important for their professional careers. For example, with respect to obtaining academic credit, European participants were most likely to consider it not important all (36.6% compared to an overall percentage of 30.0%) or of little importance (20.7%), with only 8.5% considering academic credit very important.

As with other regions, most European participants (52.1%) saw learning new knowledge as very important. However, Europeans were slightly less likely to consider this important than participants from other regions (with 59.1% of respondents overall stating that learning new knowledge was very important). Participants were also asked about reinforcing prior knowledge. European participants were least likely at 36.5% to consider this very important followed by participants in Asia at 41.8%.

Overall, few of the MOOC participants enrolled in Signature Tracks, and 17.1% of participants considered important or very important. In Europe, these percentages were even lower with only 12.7% considering it very important or important. Finally, almost three quarters (73.5%) of Europeans believed they could not attend a similar course locally, slightly higher than the overall proportion of participants without access to similar courses nearby (69.2%). Only participants in Oceania were less likely to be able to attend a similar course near to their place of residence.

Oceania

For participants in Oceania, as with other regions, the primary reason for enrolling is that they had a general interest in the topic (98.0%). Their second most commonly cited reason for enrolling was that the course would be fun and enjoyable (86.8%). This was second only to participants in the United States (89.6%). Third, more so than in any other region, participants in Oceania enrolled partly because traditional courses are too expensive, with the majority of respondents from this region (58.8%) indicating that the cost of traditional courses had motivated them to enroll in the MOOC. Only 5.2% of

Oceania respondents felt strongly that traditional courses were not too expensive, less than in any other region.

When asked if the MOOC subject was relevant to their field of study, the largest percentage of participants in Oceania agreed at 28.2% (almost identical to the proportion among respondents overall, at 28.1%). Oceania respondents were among the regions less likely to believe that the course would help them earn skills that would be useful in their jobs and careers (50.7% agreed or strongly agreed compared to 58.9% of respondents overall). Nevertheless, just over half of Oceania respondents felt the MOOC would teach them skills useful for their careers.

Oceania participants were most likely to participate for self-improvement, at 87.4%, followed by curiosity at 54.0% (compared to the overall value of 48.3%). The percentage of participants who participated for self-improvement was very similar to the overall value at 82.2%. Oceania participants were, after Europe, most likely to cite curiosity as a reason for participating. Participants in Oceania were more likely to cite passing time as a relevant cause for participating at 8.0% than all other regions (in comparison to the overall value of 6.6%).

Oceania participants appeared to place less emphasis on the prestige of the offering institution compared to respondents from other regions. Only 18.8% of participants in Oceania agreed or strongly agreed that this was important in guiding their decision to enroll, in comparison to 31.5% of all regions taken together. Likewise, the course being offered by the University of Minnesota was also not a major motivation to most Oceania participants, with 53.3% of respondents from this region feeling it had

neither a positive nor a negative impact on their enrollment, second only to the United States (55.4%) and very slightly below the overall proportion of respondents who were neutral (51.0%). In addition, Oceania participants were more than three times as likely to indicate that the offering institution had not played a role in their choice of MOOC, as they were to state that they had registered because the University of Minnesota (35.4% to 11.5%) offered the course.

In addition to being asked about the prestige of the institution, participants were also asked about their interest in taking a course with that particular professor. Most participants neither agreed nor disagreed with 59.5% of participants in Oceania staying neutral, compared to 57.4% of all participants. However, in Oceania respondents were more likely not to have based their decision to take a course on the particular instructor (32.4% compared to just 12.9% of respondents from this region who chose to participate in the MOOC because of the professor).

Participants in Oceania had the highest percentage of all regions in citing self-improvement as a reason for participating, at 87.4%, compared to 82.2% of respondents overall. The great majority of participants from this region considered that taking the course would be fun and enjoyable, with 63.5% of participants in Oceania agreeing and another 23.3% strongly agreeing. Only 1.6% of participants from this region indicated they did not think they would enjoy taking the MOOC, less than any other region. The majority of Oceania participants (54.0%) had enrolled in the course at least partly out of curiosity. This was the second highest percentage of all regions, only surpassed by European participants at 55.5%, and over the average of 48.3%.

Distance from an institution offering a similar course was not a major motivating factor for MOOC enrollment among Oceania participants, with 57.6% indicating this had not influenced their decision to sign up (compared to 64.9% of respondents overall) and only 8.8% of participants indicating that this had been a strong motivating factor for them, the second lowest percentage after the United States. It was therefore somewhat surprising that Oceania had the highest percentage of participants who stated that they could not attend a similar course near their current residence (75.9% compared to 69.2% of respondents overall).

In general, participants from Oceania appeared less likely to be motivated by career considerations in deciding whether to take a particular MOOC, and considered the course content to be less relevant to their professional development or to their employer. For example, when asked if they had joined to make professional connections, participants in Oceania were the region most likely to be neutral (43.4% compared to 38.9% of respondents overall). When asked about improved job outlook, only 26.4% of participants in Oceania agreed, lower than for any other region and slightly lower than among respondents overall (29.6%). Over half of the participants from Oceania, 51.3%, considered that completion of the MOOC was not relevant to their employers (compared to 45.3% of respondents overall). Oceania respondents were also most likely to believe the MOOC to have no relevance to their current employment or position (37.9% compared to 27.8% of respondents overall), and no relevance to their desired employment (29.8% of Oceania participants).

Oceania participants tended to place less importance on obtaining a statement of completion, with 29.8 % considering this of little importance, and 26.2% of no importance (compared to 16.6% and 22.9% respectively among all respondents). Similarly, when asked about the importance of obtaining a passing grade to their professional development, Oceania respondents were more likely to consider it to be of little importance (22.6% compared to 16.5% of respondents overall) or no importance (28.6% versus 24.9% among all respondents). Participants from this region were most likely to consider the Signature Track program as unimportant (34.9% compared to 25.1% of respondents overall). Very few participants in Oceania considered Signature Tracks as important or very important (7.2% in comparison to 17.1% for all respondents surveyed).

Oceania also had the highest percentages of participants who stated that it was not important to their professional careers to learn new knowledge (13.1% compared to 8.4% of respondents overall) or reinforce prior knowledge (16.7% versus 10.4%) via the MOOC. Nevertheless, the majority of respondents from Oceania did believe that learning new knowledge was very important (59.5% compared to 59.1% of participants overall). Most participants from this region also stated that reinforcing prior knowledge in the MOOC was either very important (42.9%) or important (22.6%) to their professional careers.

What were the positives and negatives of the MOOC experience?

To answer this question, the following survey questions were analyzed. Each question was cross tabulated by region. The text of these questions can be found in the annex that includes a copy of the surveys and focus group questions. Table 5.5 shows the questions that were included in this analysis.

Table 5.5
What were the positives and negatives of the MOOC experience?

Survey	Survey Questions			
Pre-MOOC Survey	NA			
Post-MOOC Survey	Q02	Q03	Q04	
	Q06	Q08	Q09	Q10
International Participant MOOC Survey	Q26	Q38		

Quantitative Analysis – General Overview

The table above includes the survey questions that were analyzed in this section to develop a better understanding of “what were the positive and negative” aspects of the participant experience. Each survey question was analyzed and cross tabulated by global region. A copy of the surveys and focus groups is included in the annex. Also in the annex is the full statistical analysis of these questions. Key findings are included in the table below followed by a brief discussion of “what were the positive and negative aspects” and an in-depth discussion by geographical region.

Table 5.6

Survey Results – Analysis summary. Key results – Question #3

Post MOOC Survey	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q3 - What factors prevented you from completing the course? (Strongly agree or agree)						
Q3A- Time commitment	77.3	69.4	59.9	55.0	65.0	60.8
Q3B- Subject matter	4.5	10.0	15.2	15.0	7.1	11.9
Q3C- Style	0.0	15.0	19.6	20.0	10.2	21.1
Q3D- Fell behind	68.2	60.7	53.6	55.0	60.6	55.1
Q3E- Began another course	31.8	41.7	25.7	15.0	30.6	15.5
Q4 - What would make you more likely to complete the course? (Strongly agree or agree)						
Q4A- Reducing requirements	27.3	53.2	42.3	35.0	43.6	28.7
Q4B- Making MOOC easier	4.8	29.0	9.6	15.0	12.2	6.2
Q4C- Making MOOC harder	4.8	4.9	11.8	25.0	8.2	13.5
Q4D- Making credential valuable	23.8	39.3	14.7	30.0	23.5	20.9
Q4E- Making course shorter	9.5	32.3	9.6	5.0	18.4	10.9

**America – W/o U.S.A.*

Table 5.6 (Continued)

Survey Results – Analysis summary. Key results – Question #3

Post MOOC Survey	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q6 - To what extent do you agree with the following statements (Strongly agree or agree)						
Q6A- Materials presented clearly	41.5	50.9	39.7	37.8	34.3	38.3
Q6B- Feedback provided	88.7	63.2	71.6	63.9	77.3	69.1
Q6C- Deeper understanding	83.1	74.3	80.5	79.7	80.6	80.9
Q6D- Interest stimulated	81.9	75.3	75.8	71.6	80.0	77.8
Q10 - To what degree did each feature contribute to your learning? (Moderate or large degree)						
Q10A- Video content	93.1	93.4	94.7	93.1	95.3	94.0
Q10B- Assigned readings	85.4	85.9	82.8	89.4	88.5	82.5
Q10C- Practice assignments	85.7	81.9	81.8	79.7	82.4	73.6
Q10D- Interactions with instructors	50.6	43.8	34.1	31.3	46.3	28.9
Q10E- Interactions in class forum	48.8	49.8	40.3	31.9	46.7	37.7
Q10F- Feedback from peer grading	47.2	40.9	35.6	24.0	41.5	25.1

**America – W/o U.S.A.*

International Participant MOOC Survey	Africa	Asia	Europe	Oceania	America*
Q26 - Do you agree or disagree with these statements? (Strongly agree or agree)					
Q26A- As difficult (As traditional crs.)	35.3	34.4	28.1	32.1	33.9
Q26B- Quality comparable (To traditional crs.)	71.1	63.0	61.4	61.9	67.9
Q38 - How important are these factors to success? (A great deal or much)					
Q38A- English proficiency	88.8	89.9	92.2	92.6	89.6
Q38B- Internet connection	96.5	94.1	91.9	100.0	93.2
Q38C- Time requirements	91.4	92.4	87.7	87.9	86.4
Q38D- Prior knowledge	43.1	32.9	21.6	9.7	26.0
Q38E- Face to face interaction	22.6	21.5	11.4	4.9	10.4
Q38F- Instruction support	68.9	61.4	45.4	43.3	55.1

**America – W/o U.S.A.*

Various questions in the surveys, particularly in the Post-MOOC survey, provide insights into the positives and negatives of participants' MOOCs experiences. The difficulties faced by MOOC participants are similar to those faced by other online students. Song, et al. (2004) study of graduate students found that the biggest challenges

faced by participants were technical problems, time constraints, a perceived lack of sense of community, and the difficulty in understanding the objectives of the online courses as challenges (Song, Singleton, Hill, & Koh, 2004).

For example, when asked whether they had found the course useful, 86.6% of participants agreed, with little difference between international and United States participants. However, while participants largely enjoyed their MOOC experience, many had difficulty completing the courses. For example, 62.3% of respondents indicated that the time commitment required for the course exceeded their ability to participate. African respondents were most likely to find that the MOOC required too much time (at 77.3%) and Oceania respondents were least likely at 55.0%. However, these regional differences were not significant, χ^2 (10, N=683) = 8.199, p = .609

Participants were also asked if they had fallen behind in the course and had been unable to catch up. The responses of international participants and participants in the United States were very similar, χ^2 (4, N=676) = 2.286, p = .683. Overall, 56.5% of participants agreed or strongly agreed that they had fallen behind and could not catch up. The highest percentage was in Africa at 68.2%, and the lowest percentage in Europe at 53.6%, χ^2 (10, N=676) = 11.490, p = .321.

Far fewer participants (11.6%) stated that losing interest in the subject matter caused them to fail to finish the course. Regionally, African respondents were less likely to point to losing interest, at 4.5%. In contrast, 15.0% of respondents in Oceania felt they had lost interest in the course, although once again these differences were not significant, χ^2 (10, N=675) = 6.187, p = .799. Participants in the United States were more likely to

have lost interest due to the presentation and assessment style, with 21.1% of U.S. participants citing this as a reason for non-completion, compared to 14.8% of international participants, χ^2 (4, N=675) = 7.245, p = .123.

By contrast, international participants were more likely to indicate that taking another course was preventing them from completing the MOOC, (29.7% compared to 22.6% of participants overall), χ^2 (4, N=672) = 27.475, p = .000. This was far more common among participants in Asia (41.7%), Africa (31.8%) and the Americas (30.6%). Roughly, one quarter (25.7%) of European respondents could not complete the MOOC due to taking another class. Fewer participants agreed in the United States, 15.5%, and Oceania, 15.0% stated that beginning another class had prevented them from completing the MOOC, χ^2 (20, N=672) = 48.113, p = .000.

Participants were also asked about factors that made it more likely for them to complete the course. International participants were more likely to believe that reducing the weekly time commitment would have made them more likely to complete the course, with 43.3% agreeing, compared to 28.7% in the United States, χ^2 (4, N=683) = 18.690, p = .001. Participants in Asia were more likely to believe that reducing time commitment would have increased course completion, at 53.2%, followed by participants in the Americas (W/o U.S.A.) at 43.6%, χ^2 (10, N=683) = 26.480, p = .003.

Most participants did not think that making the course easier would have made it more likely for them to complete the MOOC. Only 14.0% of international participants and just 6.2% of U.S. respondents were in favor of reducing the course difficulty, χ^2 (4, N=677) = 18.221, p = .001. Regionally, however, there was broad variation in responses,

with 29.0% of Asian participants believing that making the course easier would have increased their likelihood of completion, down to just 4.8% of participants in Africa, χ^2 (10, N=677) = 40.368, p = .000.

When asked whether making the credential more valuable would have increased their likelihood of completing the course, a slightly larger percentage of international participants agreed compared to their U.S. counterparts, although this difference was not significant (23.3% versus 20.8% respectively), χ^2 (4, N=676) = 6.693, p = .153. Regionally, however, the differences were significant, with participants in Asia being more likely to agree, at 39.3%, compared to just 14.7% of Europeans. Participants from the United States were most likely to disagree that making the credential more valuable would have made a difference, at 52.4%, χ^2 (10, N=676) = 23.835, p = .008.

International participants were more likely to agree that making the course shorter would facilitate completion compared to participants located in the United States (16.0% versus 10.9%), χ^2 (4, N=677) = 7.955, p = .093. In Asia, participants were twice as likely as the average international participant to be in favor of shortening the course (32.3%), χ^2 (1-, N=677) = 33.739, p = .000. Participants in the United States and internationally agreed on the benefits of receiving feedback to improve course performance (87.4% of participants in United States and 90.3% of international participants). Regionally, participants in Africa were much more likely to be in favor of feedback, with 98.9% agreeing, compared to 88.6% of Asian participants, χ^2 (5, N=2494) = 15.490, p = .008.

The overwhelming majority (93.1%) of participants felt that they had a deeper understanding of the materials as a result of the course (93.0% of participants in the

United States and 93.3% of international participants) However, participants in the United States were more likely to strongly agree that the course had deepened their understanding (52.8% compared to 43.8% of international participants), χ^2 (5, N=2517) = 24.302, p = .000. Looking at regional differences, participants in Africa were most likely to agree at 95.5%, while participants in Asia were least likely to report better understanding of the materials at 92.4%. Similarly, over ninety percent of both U.S. (91.2%) and international (91.0%) participants reported that their interest in the subject matter had been stimulated by the course (p =.291). Once again, regionally, participants in Africa were most likely to agree at 97.7%. The lowest percentage was in Oceania at 86.5%, followed by Europe at 89.6%, χ^2 (5, N=2515) = 9.108, p = .105.

Participants were also asked how much they had learned in this course, in comparison to other MOOCs and online courses they had taken. The largest percentage of participants, 46.4%, felt they had learned about the same, and another 33.1% of participants felt they had learned more in this MOOC in comparison to other MOOCs and online courses. International participants and U.S. participants' responses had only a very small difference, which was not statistically significant, with 47.3% of international participants believing they learned about the same, compared to 45.1% of participants in the United States, χ^2 (2, N=1549) = 1.175, p = .556. In all regions, most participants felt they had learned either the same or more in these MOOCs compared to other MOOCs and online courses. Only 9.2% of African participants believed they had learned less. However, a substantial proportion of participants from Oceania (29.2%) indicated that

they had not learned as much in these MOOCs as in other online courses, χ^2 (10, N=1549) = 13.832, p = .181.

U.S. participants were more likely than international participants to believe the MOOC had a similar difficulty to other online courses and MOOCs they had taken (53.4% compared to 46.9%), χ^2 (2, N=1552) = 6.293, p = .043. Regionally, among international participants, those in the Americas (W/o U.S.A.) were most likely to consider the course to be of comparable difficulty to other online courses and MOOCs they had taken and participants in Oceania were least likely to consider the course less difficult at 31.3%, χ^2 (10, N=1552) = 17.887, p = .057.

When asked if the course had been as difficult as a traditional university or college course, responses were mixed. Overall, 40.7% participants felt the MOOC was not as difficult, but 31.6% stated that it was of comparable difficulty to traditional college courses. Another 27.7% were neutral. Participants in Europe were most likely to find the MOOC less difficult than regular courses, at 44.8%. African participants were most likely to agree that the MOOC's difficulty level was comparable to traditional courses, at 35.0%, χ^2 (16, N=1483) = 19.799, p = .229.

Other questions focused on participants' online learning experience and the degree to which different features contributed to their learning. Overall, over three quarters of participants, 78.8%, felt that video content contributed a lot to their learning (79.2% of international participants and 78.4% of U.S. participants), χ^2 (3, N=2486) = 3.012, p = .390. In fact, 94.2% of respondents indicated that the course's video content had either a moderate or a high impact on their learning. This opinion varied little

between regions, with 95.3% of participants in the Americas (W/o U.S.A.) and 93.1% of participants in Oceania, the region with the lowest percentage, agreeing, χ^2 (5, N=2486) = 1.938, p = .858.

Assigned readings also contributed substantially to most participants' learning experience. International participants were more likely to believe readings contributed to a large extent at 60.1%, compared to 54.0% of participants in the United States, χ^2 (3, N=2275) = 11.995, p = .007. Regionally, participants in the Americas (w/o U.S.A.) were most likely, at 67.6%, to feel that assigned readings contributed a lot to their learning. Participants in Europe were least likely to agree at 56.1%, χ^2 (15, N=2275) = 31.754, p = .007.

International participants were more likely to believe that practice assignments and tests had contributed a lot to their learning (48.6% compared to 38.2% of participants in the United States), χ^2 (3, N=2356) = 34.468, p = .000. Participants in Africa were most likely to believe practice assignments and tests were relevant to a large degree, at 61.9%, followed by Asian respondents at 50.0%, or a difference of 11.9%. The lowest percentage was among participants in the United States at 38.2%, χ^2 (15, N=2356) = 48.618, p = .000.

International participants also tended to see interactions with the course instructor as more important to their learning, with 40.3% responding that this had a moderate or large impact, compared to 28.9% of participants in the United States, χ^2 (3, N=2236) = 46.370, p = .000. Participants in Africa were most likely to consider interactions with instructors and TAs to have an impact to a large degree, at 21.7%. In comparison, less

than half that percentage of participants in Europe (10.3%), Oceania (10.4%), and the United States (10.4%) believed that the interactions with course instructors had a large impact on their learning, χ^2 (15, N=2236) = 87.130, p = .000.

When asked about the impact of interactions with classmates in the class forum, international participants were more likely than their U.S. counterparts to believe they had a moderate or a large impact on their ability to learn, at 18.2% compared to 14.8% of participants in the United States, χ^2 (3, N=2411) = 16.576, p = .001. Regionally, African participants were most likely to state this had contributed to their learning to a large degree, at 21.4%, almost twice the rate of participants in Oceania (11.1%), χ^2 (15, N=2411) = 32.354, p = .006. However, overall the majority (58.8%) of participants did not believe classmate interactions in the class forum was of much help, χ^2 (5, N=2411) = 22.555, p = .000.

Similarly, most participants did not think that peer-grading feedback had much impact on their learning. For example, the majority of U.S. participants (54.0%) believed feedback from peer grading had no influence on their learning whatsoever, and another 20.9% felt it was impacted their learning only to a small degree, χ^2 (3, N=1828) = 53.201, p = .000. Participants in Africa were most likely to believe it had a large impact at 25.0%, followed by participants in Asia at 16.6%. Participants in Oceania were least likely to feel this way with only 6.0% believing it had an impact to a large degree, χ^2 (15, N=1828) = 75.804, p = .000.

Participants were also asked how important certain factors were for a successful MOOC experience. Overall, most participants (54.5%) attached a great deal of

importance to English proficiency, and 90.9% stated that this had either “a great deal” or “much” importance. Looking at the different regions, participants in Oceania were most likely to consider English proficiency as important to a successful MOOC experience (64.6% attaching a “great deal” of importance, and 92.6% stating it had a “great deal” or “much” importance), followed by participants in Africa (62.9% a great deal of importance, and 88.8% attaching a great deal or much importance), and then Asia (where 57.5% responded great deal of importance and 89.9% indicating it had either a great deal or much importance).

Unsurprisingly, given the online nature of the course, an internet connection was generally considered to be very important. In fact, all participants in Oceania considered this important, and 88.0% felt that it had a great deal of importance. Participants in Africa had the second highest percentage of participants who considered it of a great deal importance, at 84.3%, with another 12.2% considering it of much importance. Very few participants, just 6.55%, considered an internet connection as only somewhat important or not important at all.

Time requirements were of clear importance to most participants, with only 0.6% of participants considering them to be of little importance and not a single participant considering it to be of no importance. In fact, overall 88.6% considered time requirements for the course as having much importance or of a great deal of importance to a successful MOOC experience. A very large percentage of African participants, 62.1%, considered it a great deal important, followed by 53.0% of Asian participants.

Prior knowledge was generally seen as less important to a successful MOOC experience, with only 9.7% feeling that this was of great or much importance, 48.8% indicating it was only somewhat important, 19.4% of little importance, and 5.8% of no importance whatsoever. Participants in Oceania were more likely to hold the position that prior knowledge was of little or no importance, at 32.9%, and another 57.3% of respondents from this region considered it only somewhat important. In contrast, 43.1% of African participants, 32.9% of Asians, 26.0% of Americas (w/o) U.S.A. and 21.6% of Europeans believed prior knowledge to be of great or much importance, χ^2 (16, N=1453) = 50.287, p = .000.

Face-to-face interaction was also not generally considered very important to a successful MOOC experience. In fact, most participants believed it was of little or no importance (30.1% and 31.6% respectively). Another 24.6% believed it to be only somewhat important. Only 4.0% believed it to be of a great deal of importance, and 9.7% of much importance. Regionally, participants in Oceania were more likely to assign no importance at all to face-to-face interactions, at 51.2%, whereas only 21.2% of Asian participants took this position. Similarly, Oceania participants were least likely to be believe it was of great importance at 1.2% or of much importance at 3.7%, χ^2 (16, N=1449) = 86.497, p = .000.

Participants appeared to highly value instructional support, with 52.8% of international participants indicating it to be a great deal or of much importance to their MOOC experience. Participants in Oceania were less likely to find this enhanced their MOOC experience a great deal or of much importance at just 43.3%, while participants in

Africa were most likely to attribute a great deal or of much importance at 68.9%, followed by Asia at 61.4%. Only 3.2% of participants believed it to be of no importance and 13.6% of only little importance, χ^2 (16, N=1453) = 61.679, p = .000.

Overall, in terms of the factors important for a successful MOOC experience, 54.5% of international participants agreed that English proficiency was very important. Internet connections were perceived as even more important, with 71.6% of participants attributing a great deal of importance to this factor, and a further 21.9% believing that it contributed much to MOOC success. Instruction support was seen as reasonably important, with 52.8% of international participants placing great or much importance on this for a successful MOOC experience. Prior knowledge was considered less important, with the largest number of participants responding that this factor was only somewhat important to a successful MOOC experience. Face-to-face interaction was seen as even less important. Most participants believed it was of little to no importance, with 30.1% believing it was of little importance, and 31.6% of no importance. Another 24.6% believed it to be only somewhat important.

Africa

African participants were those most likely to find it difficult to complete the course due to a lack of time, with over three quarters of participants indicating that they did not have sufficient time to complete the work required for the MOOC. Perhaps also reflecting a lack of available time to spend on the MOOC, African participants were most likely to respond that they had fallen behind and been unable to catch up (68.2% of participants). Interestingly enough, however, African participants were also least likely to

believe that reducing the weekly time commitment needed to take the course would have made them more likely to complete the MOOC (only 27.3% of African participants compared to 53.2% of Asian participants) and least in favor of making the making the materials easier (just 4.8% of African participants compared to 29.0% of Asian participants) or harder (4.8% of African participants compared to 25% of participants from Oceania) to increase the likelihood of completion. Only 9.5% of African participants indicated that making the course shorter would have meant they were more likely to complete it.

Almost a third of African participants (31.6%) reported that they had failed to complete all of this MOOC due to beginning another course. When asked if increasing the value of the MOOC credential would have made them more likely to complete the MOOC, 23.8 % of African participants agreed, a higher percentage than among participants from Europe and the United States, but significantly lower than among Asian participants. African participants were also the least likely to cite lack of interest in the course's subject matter as a reason for failure to complete the course, with just one participant (or 4.5% of the total African participants) reporting that they had lost interest, and 97% of participants responding that their interest in the subject matter was stimulated by the course. The presentation style and assessment method also did not prevent African participants from completing the course, with no African participants citing this as a reason for failing to complete all course assignments.

Only one African participant out of 89 (or 1.1%) thought that the instructor did not clearly present the subject matter, and only one responded that he or she had not

received feedback from course instructors, staff or automated course materials intended to improve his or her course performance. Over 95% of African participants believed that they had gained a deeper understanding of the subject because of taking the MOOC, and 44.6% of African participants indicated they had learned more from this MOOC compared to other MOOCs or online courses. Only 9.2% of African participants felt they had learned less than from other MOOCs.

The majority of African participants found the course less difficult (39.4%) or of similar difficulty (45.5%) as other MOOCs/online courses they had taken. Thirty-five percent of African participants believed the MOOC was as difficult as a traditional course, and 37.8% found this MOOC easier than a traditional university or college course. However, the majority of African participants (71.1%) agreed that the MOOC was of comparable quality to that provided by a traditional university or college course.

As with all other regions, the vast majority of African participants reported that video lectures had a large impact on their learning (85.1%). Assigned readings were also generally considered an important factor in these participants' learning, with 63.4% reporting a large degree of influence, and 22.0% stating the readings had affected their learning to a moderate degree. African participants were the group who assigned most importance to practice assignments and tests, with 61.9% of participants indicating that this had influenced their learning to a large degree (compared to just 38.2% of U.S. participants).

Participants from Africa were most likely to report that their interactions with instructors had influenced their learning to a large or moderate degree (50.6%) compared

to other regions. Participants in Africa were also most likely to believe that interactions with other participants had influenced their learning to a large degree (21.4%) compared to other regions. However, a larger number of participants (29.8%) responded that interacting with their classmates had no effect on their learning. African participants also reported the greatest impact from feedback from classmates through peer grading, with 25.0% stating it had influenced their learning to a large degree. However, over half of African participants reported little to no impact on their learning from peer grading feedback.

African participants were the second most likely to respond that English proficiency contributed a great deal (62.9%) or a lot (25.9%) to a successful MOOC experience. Over 96% of African participants answered that internet connections were important (84.3% attributing a great deal of importance, and 12.2% attributing much importance to this factor). The majority of African participants (68.9%) also believed that instructor support was of great or much importance, with African participants being most likely to place a great deal of importance on this factor (33.6%). African participants were those most likely to place greater importance on prior knowledge for MOOC success (15.5% responding that this was very important, and 27.6% that it was important). By contrast, only 5.2% placed great importance on face-to-face interaction, and 26.1% of African participants attributed no importance at all to this factor.

Asia

Asian participants also struggled to find the time to complete the required materials for the course, with almost seventy percent of survey participants indicating

that the time commitment required had been too great. Approximately sixty percent of Asian participants noted that falling behind and being unable to catch up had caused them to miss assignments or skip course materials. Asian participants were most likely to fail to complete all of the MOOC's assignments because they had signed up for another course (41.7% of Asian participants, compared to 29.7% of international participants overall).

Similarly, Asian participants were most likely to agree that reducing the time commitment required for the MOOC or making the course shorter or easier would have facilitated their completion of the program (53.2%, 32.3% and 29.0% respectively). Asian participants were among those least in favor of increasing the difficulty of the course as a way to encourage completion (just 4.9% of Asian participants compared to 25% of Oceania participants). Asian participants were, however, the most likely to respond that increasing the value of the credential would have made them more likely to complete the MOOC (at 39.3% of Asian participants compared to just 14.7% of Europeans).

Although 92% of Asian participants reported the MOOC had stimulated their interest in the subject matter, ten percent of Asian participants responded that they had lost interest in the subject matter, and fifteen percent lost interest due to the presentation and assessment style. Although 94.7% responded that the instructor presented the subject matter clearly, Asian participants were least likely to indicate that the instructor, course staff or automated materials had provided them with feedback intended to improve their MOOC performance.

Despite this, 92.4% of Asian participants indicated they had a deeper understanding of the subject matter as a result of taking the course. Only 28.9% of participants from this region, however, reported learning more from this MOOC than from other MOOCs or online courses. The largest proportion, roughly 49%, reported learning the same as for other online courses, but there was a significant proportion of participants (22.2%) who felt they had learned less from the courses studied in this dissertation than in other online courses. The majority of Asian participants stated that this MOOC was less difficult (44.4%) or the same difficulty as other online courses they had taken, and only 35.3% found it as difficult as a traditional university or college course. Nevertheless, as with all other regions, the majority of Asian participants (63.0%) found that the MOOC was of comparable quality to traditional college level courses.

Similar to that reported for all other regions, Asian participants overwhelmingly responded that video content had influenced their learning to a moderate (20.2%) or large (73.3%) degree, and assigned readings had a slightly lower but still important impact, with 57.3% reporting a large degree of impact, and 28.6% a moderate impact on their learning. Half of the Asian participants stated that practice assignments had influenced their learning to a large degree, over ten percent less than for African participants, but still over ten percent more than U.S. participants had.

Over half (56.2%) of the Asian participants reported no to little influence on their learning from interactions with instructors, significantly higher than for African participants (49.4%) but lower than for Europe (65.9%), Oceania (68.7%) and U.S. participants (71.1%). Over a quarter of Asian participants believed that interactions with

other classmates had provided no assistance to their learning. However, just under half of Asian participants (49.8%) responded that interactions with other classmates had a moderate to high impact on their learning. This pattern was similar to that found in all other regions, to greater or lesser degrees. As with all other regions, the majority (59.1%) of Asian participants found that their learning was not impacted or impacted only a little by feedback from peer grading.

The majority (57.5%) of Asian participants believed English proficiency was greatly important to a successful MOOC experience, and even more found that an internet connection was of great importance (72.9%). Instructor support was also seen as important, with 61.4% responding that they placed a great deal or much importance on this aspect of a course for MOOC success. By contrast, only 11.4% found prior knowledge of great importance, and 21.5% attributed much importance to this factor. Asian participants were slightly less likely to consider that face-to-face interactions were not important at all, compared to participants from other regions (21.2% placing no importance on this factor, compared to 51.2% from Oceania).

Americas (W/o U.S.A.)

Time commitments prevented 65% of participants from the Americas (without the U.S.) from successfully completing the course. Falling behind and being unable to catch up was another major problem for participants from this region, preventing 60.6% of these participants from completing all assignments. On a related note, participants from the Americas were second most likely (at 43.6%) after Asia (at 53.2%) to favor reducing the weekly time commitment to increase the possibility of completing all MOOC

assignments, and second most likely to agree that making the course shorter would have improved their chances of completion. However only 12.2% of Americas participants responded that making the course material easier would have increased their likelihood of completion, and just 8.2% of Americas participants would have been more likely to finish if the course material was more difficult. This suggests that the difficulty level of the MOOC was not the most important factor affecting America's participants' completion rates.

Thirty percent of participants from the Americas (without the U.S.) did not complete all the assignments due to starting another class, a similar proportion to Africa, less than Asia, and significantly more than participants from the United States or Oceania. Making the credential more valuable would have increased the likelihood of completion according to 23.5% of the Americas participants, a similar percentage to participants from Africa (at 23.8%). Compared to participants from Europe and Oceania, respondents from the Americas (w/o U.S.A.) were less likely to report losing interest in the subject matter of the MOOC (only 7.1% of respondents from this region) or assessment style and presentation of the course (10.2% of Americas (w/o U.S.A.)).

Over 96% of Americas (w/o U.S.A.) participants found the course instructor presented the materials clearly, 92.1% agreed that their interest in the subject matter had been stimulated by the MOOC, 92.0% reported that the course provided feedback on how to improve, and 94.1% agreed that the MOOC had provided them with a deeper understanding of the subject matter involved. As with all other regions, the largest proportions of Americas (w/o U.S.A.) participants stated that they had learned more

(34.2%) or the same (43.8%) from these MOOCs as from other MOOCs or online courses. Again, like all other regions, most Americas (w/o U.S.A.) participants reported that this MOOC was either the same difficulty (50.0%) or less difficult (31.2%) compared to other online courses or MOOCs they had taken. Only a little over a third (33.9%) of participants agreed that the MOOC they had taken was as difficult as a traditional university or college course, but 67.9% agreed that the MOOC's quality was comparable to that of a traditional course.

The majority of Americas (w/o U.S.A.) participants believed that video content had a high (81.8%) or moderate (13.5%) impact on their learning. Participants from this region were most likely to feel that assigned readings contributed to their learning to a large extent (67.6% of participants). Fewer participants (49.6%) stated that practice assignments or tests had contributed a large extent to their learning, and over half stated no to low influence from instructor interactions (53.7%), interactions with their fellow MOOC participants (53.3%) or feedback from peer grading (58.5%).

Americas (w/o U.S.A.) participants placed slightly less importance on English proficiency in determining MOOC success than participants from other regions. However, even in the Americas, the vast majority of participants responded that English skills contributed a great deal (55.4%) or much (34.2%) to a successful MOOC experience. Americas participants, like those from all other regions, considered that an internet connection was very important (69.3%) or important (23.9%). The majority of Americas (w/o U.S.A.) participants valued Instructor support, with 17.8% of respondents finding this to be of great importance and 37.3% of much importance. Approximately

half of Americas (w/o) participants considered that prior knowledge was only somewhat important to a successful MOOC experience, with just 8.5% placing a great deal of importance on this factor. As with all other regions, face-to-face interactions were not seen as an important factor in determining a successful MOOC experience, with 30.2% of Americas (w/o U.S.A.) participants attributing no importance to this factor.

Europe

Over half of the European participants surveyed (60%) indicated that they did not have time to complete the work for the MOOC or had fallen behind and been unable to catch up (53.6%). In addition, just over a quarter of European participants (25.7%) stated that they had begun another course, and this had led to them failing to complete all of the MOOC assignments, significantly less than Asian participants and more frequently than U.S. and Oceania participants. This finding was reinforced by the fact that forty-two percent of European participants stated that decreasing the time commitment required for the MOOC would have made it easier for them to complete all assignments.

By contrast, only 9.6% of European participants believed they would have been more likely to complete all MOOC assignments if the course was easier, and 9.6% responded that shortening the course would have increased their chances of completion. Europeans were also most likely to disagree that making the course more difficult would have made them more likely to complete the course (64.0%). The value of the MOOC credential appeared to matter least to European participants, with only 14.7% of participants stating that increasing the credential's value would have made them more likely to finish the course. European participants were more likely to lose interest in the

subject matter (15.2%) or course presentation style and assessment methods (19.6%) than African, Asian participants, or international participants from the Americas.

Nevertheless, 95.7% of the Europeans found the instructor's presentation of the subject matter clear, 89.6% stated that the course had stimulated their interest in the subject matter, 88.8% agreed that they had received feedback intended to improve their performance, and 92.7% stated that the MOOC had given them a deeper understanding of the subject matter. Most European participants agreed that they had learned more (30.8%) or the same (26.6%) as they had in other similar MOOC/online courses, and that the difficulty level of this course was the same (47.0%) or easier (33.8%) than other MOOC/online courses. Almost forty-five percent of European participants felt that the MOOC was not as difficult as a traditional university course. However, the majority agreed (61.4%) that the quality of the MOOC was comparable to that of a traditional course.

As with all other regions studied, European participants considered video content had influenced their learning to a large (79.2%) or moderate (15.6%) degree. Assigned readings influenced 56.1% of European participants' learning to a large degree, and an additional 26.7% reported a moderate degree of impact from these materials. Practice assignments were also reasonably important – 46.6% of European participants responded that these had influenced their learning to a large degree, and 35.7% responded that it had a moderate impact on their learning. The majority of European participants reported low or no impact at all on their learning from interactions with instructors (65.9%), little to no

impact from interactions with other classmates (59.7%), and little to no impact from peer grading feedback (64.4%).

European participants agreed with those from other regions that English proficiency is vital to successful participation in a MOOC, with 49.5% responding that it contributed a “great deal” to their success, and a further 42.7% that it contributed “much” to success in a MOOC. European participants placed slightly less importance on internet connections than participants from other regions, but this was still perceived as one of the most important determinants of a successful MOOC experience (with 67.7% giving it a great deal of importance, and 24.2% placing much importance on this factor). Instructor support was seen as reasonably important, with 35.4% of Europeans attributing a great deal or much importance to this factor. By contrast, only 5.5% of European participants considered prior knowledge of great importance to MOOC success, with a further 16.1% giving this factor much importance. Even fewer European participants placed great importance on face-to-face interaction (2.7%), with over a third (35.8%) attributing no importance at all to this factor.

Oceania

Similarly, fifty-five percent of the participants from Oceania found they had not been able to complete the course due to a lack of time, and the same proportion reported that they had been unable to catch up after falling behind. Over a third of participants (35%) noted that reducing the hours required for the MOOC each week would have increased their likelihood of completing all assignments, and participants from this region, at 15.0%, were second only to Asia in favoring making the materials easier to

increase the probability they would have completed the MOOC. However, Oceania was also the region with the highest percentage of respondents in favor of making the course more difficult in order to increase the likelihood of completion (25% of Oceania participants, compared to just 4.8 % of African participants) and the lowest proportion of participants (just 1 participant, or 5.0%) who were in favor of shortening the MOOC.

This region was also second most likely to believe that making the credential more valuable would have increased completion rates (at 30% of participants). Compared to participants from Africa and the Americas, Oceania participants reported relatively high levels of failure to complete the MOOC due to lack of interest in the subject matter (15 %) or presentation and assessment methods (20.0%). As with all other regions, however, the overwhelming majority of participants from this region found the instructor to be clear (95.9%); agreed that the instructors, staff and automated materials provided feedback aimed at improving participant's performance in the course (88.9%); agreed that the MOOC had stimulated their interest in the subject matter (86.5%); and reported that the MOOC had enabled them to gain a deeper understanding of the subject matter (93.2%).

Participants from Oceania were least likely to fail to complete the MOOC due to beginning another course, with only three participants (15%) noting this as a factor. As with all other regions, most participants from Oceania reported learning more (27.1%) or the same (43.8%) as in other online courses or MOOCs. However, Oceania was the region with the highest proportion of participants reporting that they had learned less from these courses in comparison to others (29.2%), although this difference was not

statistically significant. Over thirty percent of Oceania participants reported that the MOOC was easier than others they had taken and 46.5% responded that the MOOC was less difficult than a traditional course. However, twenty percent of Oceania participants considered the MOOC more difficult than other online courses. In terms of quality, the majority of Oceania participants (61.9%) found this MOOC to be of similar quality to a traditional course.

Most Oceania participants found the MOOC's video content had influenced their learning to a large (80.6%) or moderate (12.5) degree, in accordance with the responses provided by participants from other regions. Assigned readings were also important to these participants' learning; 57.6% of Oceania participants reporting a large degree of impact, and 31.8% reporting a moderate impact from these materials. Apart from respondents located in the United States, participants from Oceania were those least likely to report that their learning had been influenced to a large degree by practice assignments or tests (42.0%). Similar to other regions, interactions with instructors had a lesser impact on Oceania participants, with 68.7% reporting no to low influence on their learning. In addition, participants from Oceania were most likely to report that interactions with other participants (68.1%), and peer grading feedback (76.0%) had little to no impact on their learning.

As with all other regions, participants from Oceania responded that English proficiency was vital for success in a MOOC (with 92.6% responding that it contributed a great deal or much to MOOC success). All participants in Oceania considered an internet connection to be important, with 88% placing a great deal of importance on this factor for

a successful MOOC experience. Oceania participants were least likely to place a great deal of importance on instructor support (only 12.0%), with a further 31.3% placing much importance on this aspect of a successful MOOC. Participants in Oceania were most likely to hold the position that prior knowledge was of little or no importance (32.9%) and a further 57.3% that this was only somewhat important. The majority of Oceania participants (51.2%) placed no importance at all on face-to-face interaction, the highest proportion among all regions studied.

How would participants like to see MOOCs improve?

To answer this question, the following survey questions were analyzed. Each question was cross tabulated by region. The text of these questions can be found in the annex that includes a copy of the surveys and focus group questions. Table 5.7 shows the questions that were included in this analysis.

Table 5.7
How would participants like to see MOOCs improve?

Survey	Survey Questions		
Pre-MOOC Survey	NA		
Post-MOOC Survey	Q11		
International Participant	Q28	Q29	Q30
MOOC Survey	Q31	Q32	Q39

Quantitative Analysis – General Overview

The table above includes the survey questions that were analyzed in this section to develop a better understanding of "How would these participants like MOOCs to improve?" Each survey question was analyzed and cross tabulated by global region. A copy of the surveys and focus groups is included in the annex. Also in the annex is the raw statistical analysis of these questions. Key findings are included in the table below followed by a brief discussion of "How would these participants like MOOCs to improve?" and an in-depth discussion by geographical region.

Table 5.8

Survey Results – Analysis summary. Key results – Question #4

International Participant MOOC Survey	Africa	Asia	Europe	Oceania	America*
Q28- Local friends expressed interest	71.8	57.0	56.5	59.0	58.2
Q29- Online friends expressed interest	58.5	40.2	32.5	36.1	37.9
Q30- Extended online social network	36.4	27.0	14.5	3.6	19.5
Q31- Extended local social network	26.7	22.9	7.6	1.2	12.2
Q32 How may these relationships aid in the future? (Affirmative response percentages)					
Q32A- Work collaboratively on projects	42.2	29.9	18.6	16.1	27.9
Q32B- Finding a job	24.4	17.5	10.1	3.4	13.4
Q32C- Learning about new opportunities	50.4	45.2	27.7	19.5	29.9
Q32D- Meet professionals from other countries	50.4	38.7	27.8	20.7	34.9
Q32E- Develop strong personal relationships	26.7	22.9	10.9	5.7	16.8
Q39 How important will the following factors be in the near future? (imp. & very imp. percentages)					
Q39A- “As Needed" learning opportunities	89.3	76.2	64.2	71.6	68.4
Q39B- Online project portfolios	72.6	68.8	47.6	50.6	55.8
Q39C- MOOC certificates of completion	68.8	49.5	32.4	28.3	41.2
Q39D- Higher education and advanced degrees	88.4	77.3	67.9	61.7	73.5
Q39E- Badges to demonstrate competency	62.1	56.2	37.9	30.1	48.0
Q39F- Online learning opportunities	89.3	79.5	65.4	79.0	73.3
Q39G- Mobile learning opportunities	74.4	63.2	48.3	60.5	55.3

Most international participants, 58.4%, indicated that other local acquaintances or friends had expressed interest in MOOCs based on their experience. African participants were most likely to report that local friends had been interested in their MOOC experience, at 71.8%. The lowest percentage was in Europe, at 56.5%, followed by Asia, at 57.0%, Americas (w/o U.S.A.) at 58.2%, and Oceania, at 59.0%, χ^2 (8, N=1491) = 22.542, p = .004.

Fewer respondents, 37.7% of international participants overall, stated that more online acquaintances had expressed interest in MOOCs based on their experience. Again,

the highest percentage of participants who believed it had influenced other online acquaintances to participate was in Africa, at 58.5%, followed by Asia at 40.2%. The lowest percentage was in Europe at 32.5%, χ^2 (8, N=1492) = 49.809, p = .000. Only 19.4%, or 1 in 5 participants, stated that they had extended their online social network by participating in the MOOC. African respondents were most likely to increase their online social network, at 36.4%, compared to just 3.6% of participants in Oceania. Twenty-seven percent of Asian participants, 19.5% of Americans (W/o U.S.A.), and 14.5% of Europeans felt they had extended their online social network, χ^2 (8, N=1486) = 76.485, p = .000.

Perhaps not surprisingly, given the online nature of the course and the geographic distance between many participants, respondents were even less likely to extend their local social network by participating in the course. Overall, just 13.0% of participants agreed that the MOOC had enabled them to make more local connections. Regionally, participants in Africa (26.7%) and Asia (22.9%) were more likely to report that the MOOC had had increased their local social network, compared to just 12.2% of Americas (w/o U.S.A.) participants, and only 1.2% of respondents from Oceania, χ^2 (8, N=1488) = 107.388, p = .000.

Another related question asked participants how their new relationships would aid them in the future. When asked if it would help them to work collaboratively on projects, the majority of participants disagreed, at 75.0%, with 81.4% of Europeans and 57.8% of Africans disagreeing. Africans were most likely to agree followed by Asian participants. χ^2 (4, N=1721) = 46.902, p = .000. A smaller percentage of participants felt the

relationships would aid them in finding a job, with 86.8% disagreeing. Similarly, Oceania had the highest percentage who disagreed, at 96.6%, while Africa had the lowest at 75.6% followed by Asia at 82.5%, χ^2 (4, N=1721) = 33.735, p = .000. Other low values were given when asked if they felt they would develop strong personal relationships from participating in the course, with 84.1% disagreeing, including 94.3% in Oceania, χ^2 (4, N=1721) = 44.616, p = .000

A greater percentage of participants (although still a minority) felt that these new relationships could help them learn about new opportunities, with only 66.8% disagreeing. Participants in Africa were most likely to consider this a possibility with 50.4% agreeing. Many Asian participants (45.2%) also felt like the MOOC enabled them to learn about new opportunities, χ^2 (4, N=1721) = 59.939, p = .000. In addition, overall, 33.3% felt these relationships would help them meet professionals in other countries (66.7% disagreed). Roughly half of participants in Africa, 50.4%, felt these relationships would help them in the future, followed by 38.7% of participants in Asia, χ^2 (4, N=1721) = 38.559, p = .000.

Generally, participants believed a participant's English proficiency, internet connection, and time requirements played a greater role in their success in MOOC over prior knowledge, face-to-face interaction or instructional support. When asked about the importance of English proficiency, 55.4% of participants considered it to be of a great deal of importance. Participants in Oceania were most likely to think that it was of great importance at 64.9%, χ^2 (16, N=1457) = 34.070, p = .005. Combining participants who considered it of great importance with those that considered it of much importance, the

importance placed on English proficiency by participants is even more marked, representing 90.9% of participants overall, and 92.7% of participants in Oceania. It was of least relevance to participants in the America (W/o U.S.A.), where only 55.4% considered it to be of a great deal of importance.

Internet connectivity is required for MOOC participation and, as expected, the majority of participants considered it essential for a successful MOOC experience. In Africa 84.3% considered it to be a great deal important with another 12.2% considering it of much importance. Europe had the lowest percentage, at 67.7%. By improving connectivity, more participants will be able to benefit from MOOCs in the future. Only 4 participants out of 1457 who answered this question in the International Participant Survey believed that internet connection was not a factor to a successful MOOC experience, χ^2 (16, N=1457) = 31.428, p = .012. Time requirements were the third most important factor according to participants, with 48.9% of all participants considering it to be a great deal important and another 39.7% of much importance. In Africa, 62.1% considered it a great deal important, followed by Asia at 53.0%, χ^2 (12, N=1451) = 26.680, p = .009.

While these factors are considered of greatest relevance to the success of future MOOC participants, other factors such as having prior knowledge were still considered important but to a lesser extent, with only 8.1% considering it a great deal important, and the largest percentage of participants, at 48.8%, considering it only somewhat important. In some regions, such as Africa (15.5%) and Asia (11.4%) a larger percentage of participants considered prior knowledge to have a great deal of importance. Overall, only

5.8% of participants considered prior knowledge of the subject as not important at all to MOOC success, χ^2 (16, N=1453) = 50.287, p = .000. Instructional support was also considered moderately important for success by most participants, with only 19.1% of participants considering it of a great deal of importance, but an additional 33.7% and 30.4% considering it of much importance or somewhat important respectively, χ^2 (16, N=1453) = 61.679, p = .000. Face to face interaction was considered much less important with only 4.0% of participants considering it a great deal important, 24.6% somewhat important and 61.7% either only a little or not at all important χ^2 (16, N=1449) = 86.497, p = .000.

Africa

In the International MOOC Survey, participants in Africa were most likely to believe that local friends and acquaintances had decided to join in a MOOC based on their experience, with 71.8% agreeing (compared to 58.4% of respondents overall), and only 8.5% disagreeing. The next highest percentage was in Oceania at 59.0%. When asked about online friends, instead of local friends, participants in Africa were again more likely than participants in other regions to believe that their MOOC experience increased interest amongst their acquaintances (58.5% of African respondents compared to 37.7% overall).

African participants were also those most likely to indicate that they had extended their online social network by taking the MOOC (36.4% compared to 19.4% of respondents in general). However, overall, many more participants in Africa and elsewhere believed they had not extended their online social network (50.0% in Africa

and 70.6% overall). An even smaller percentage of participants believed the MOOC had helped them extend their local social network, at 26.7% of participants in Africa and only 13.0% of participants overall. Most participants did not believe new relationships formed during the MOOC would be helpful to them in future projects, with only 25.0% of participants overall indicating that their new connections would be useful. However, in Africa, that percentage was substantially higher, at 42.2%.

Participants were also pessimistic about the MOOC's potential to assist them in finding a job, with only 13.2% of participants overall believing the course would be helpful in this regard. However, African participants were almost twice as likely to believe the MOOC would help them find a job, at 24.4%. In addition, a slight majority of African participants felt the course could help them learn about new opportunities, significantly more than among participants in general (50.4% compared to 33.2% overall). Similarly, just over half of the African participants believed the course would assist them in meeting professionals from other countries (50.4% compared to 33.3% among participants in general). Despite this, only 26.7% of participants in Africa felt that the MOOC would help them develop strong new personal relationships.

Africa participants were most likely to attach a "great deal" or "much" importance to the following factors for a successful MOOC experience: English proficiency, internet connection, time requirements, prior knowledge, face-to-face interaction, and instructional support. Participants in Africa considered internet connection to be most important at 96.5%, followed by time requirements at 91.4%, and English proficiency at 88.8%. Even at 88.8%, however, English proficiency was less likely to be seen as

important by African participants than in every other region. Time requirement was more likely to be viewed as important by participants from Africa than the average and only participants in Asia attached more importance to this factor, at 92.4%.

When asked about the importance of instructional support, participants in Africa were most likely to agree “a great deal” or “much” at 68.9%. This was much higher than among respondents overall, at 52.8% (7.5% higher than the second highest value in Asia). The two factors to which Africans attached least importance for a successful MOOC experience were prior knowledge (43.1%) and face-to-face interaction (22.6%). Nevertheless, in both instances participants in Africa were more likely to consider these important than participants in general (26.1% and 13.7% respectively among respondents overall).

Asia

When asked whether local friends had expressed an interest in MOOCs based on his or her experience, 57.0% of participants in Asia said yes, and only 13.3% said no. While this was the second lowest percentage of participants who said that their local friends had expressed an interest in signing up for a MOOC among all regions, and slightly lower than for respondents overall (58.4%), Asia also had the second lowest percentage of participants who stated that their local friends had not expressed an interest in MOOCs. Participants in Asia were slightly less likely to believe that their participation in the course had increased the likelihood that their online friends and acquaintances would also enroll in a MOOC, with 40.2% believing it increased their friends’ interest,

and 23.9% disagreeing, the second lowest percentage among all regions, and lower than for participants overall, at 30.5%.

Participants were also asked about the impact of the course on their social network. Participants in Asia were second most likely to say that participating in the MOOC had extended their online social network (at 27.0% compared to 19.4% of respondents overall). However, as with other regions, the majority of Asian participants (58.7%) thought that the MOOC did not help them to grow their online social networks. This was significantly lower than among respondents overall (70.6%). Similarly, when asked whether they had extended their local social network, very few participants agreed, although Asian respondents were somewhat more likely to report that they had extended their local connections than participants from other regions (13.0% overall and 22.9% in Asia).

When considering how relationships formed in the MOOC might help them in the future, the largest percentage of Asian participants (45.2%) believed that the course might help them learn about new opportunities. This was substantially higher than among respondents overall, at 33.2%. In addition, participants in Asia were more likely to think these relationships would help them meet professionals from other countries (38.7% of Asian respondents compared to 33.3% overall). Only Africans were more optimistic that relationships formed in the MOOC would enable them to make international professional connections. A substantial percentage of participants in Asia agreed that MOOC relationships might assist them in working collaboratively on projects (29.9%) or in

developing strong personal relationships (22.9%). However, only 17.5% of Asian participants considered these new relationships helpful in finding a job.

Overall, the majority of participants did not believe new relationships formed in a MOOC would be helpful for their future in any of the five ways mentioned in the survey. At most, only a third of participants overall (33.3%) or 45.2% of participants in Asia felt that these relationships would be useful to them in any of the ways discussed. When asked about the importance of a variety of factors in a successful MOOC experience, 94.1% of participants in Asia consider internet connection to matter a “great deal” or “much”. This was only slightly higher than the average at 93.5%. Asian respondents were also most likely to consider time requirements to be very important (92.4% compared to 88.6%). The overwhelming majority (89.9%) of Asian participants considered English proficiency to matter a great deal or much. This was lower than the average at 90.9% but a very high value overall.

Most participants (52.8%) felt that having instructional support matters a lot to a successful MOOC experience. Asian participants were even more likely to consider this factor very important (61.4%), second only to African participants. Similarly, although a majority of participants did not consider prior knowledge and face-to-face interaction to be very important, Asian and African participants were more likely to consider these factors as very important to MOOC success. Close to a third of participants from Asia, 32.9%, considered prior knowledge important, compared to 26.1% of respondents overall. In addition, 47.1% of participants in Asia considered prior knowledge to be somewhat important, and only 4.5% considered it unimportant. With respect to face-to-

face interaction, 21.5% of Asian participants considered this to be very important, compared to just 13.7% of respondents overall, and an additional 28.8% of Asian participants considered it somewhat important, versus 24.6% among all participants surveyed.

Americas (W/o U.S.A.)

When asked if local friends had expressed interest in enrolling in a MOOC based on their experience, 58.2% of participants in the Americas (W/o U.S.A.) agreed (compared to 58.4% of respondents overall). Again, MOOC participation appeared to be less influential among respondents' online connections, with 37.9% of Americas (w/o U.S.A.) participants indicating that online connections had expressed interest in MOOCs as a result of them taking the course (compared to 37.7% of respondents overall). In line with responses from other regions, Americas (w/o U.S.A.) participants were less likely to report that taking part in the MOOC had extended their online social network (19.5% compared to 19.4% of respondents overall) or local social network (12.2% of Americas (w/o U.S.A.) respondents versus 13.0% of respondents overall).

Out of all the potential future benefits mentioned in the survey, the largest percentage of participants in the Americas (W/o U.S.A.), 34.9%, felt that relationships formed in the MOOC could help in connecting participants with professionals from other countries (compared to 33.3% of respondents overall). Close to a third of participants, 29.9%, from the Americas (W/o U.S.A.) felt it would help them learn about new opportunities. A third of participants, 34.9%, also felt that it would help them meet

professionals from other countries, but only 16.8% believed that it would help them develop strong personal relationships.

In analyzing how important various factors for a successful MOOC experience were, Americas (W/o U.S.A.) participants answered similarly to the overall average for each question, with 55.4% considering English proficiency to be important a great deal, compared to an overall value of 54.5%. Also, most participants in the Americas (W/o U.S.A.) agreed that having a good internet connection was of great importance at 69.3%, compared to a general value of 71.6% across all participants. This value was closes to the general value in comparison to other regions.

Participants in the Americas (W/o U.S.A.) also felt that meeting the time requirements was an important factor for success in a MOOC, with 50.8% believing it to be a great deal important. As with other regions, having prior knowledge was considered less important, with only 8.5% considering it of great importance while 50.1% considered it only somewhat important. Having face-to-face interaction was even less relevant to a successful MOOC, with 30.2% considering it of no importance, another 30.8% of little importance and 28.6% only somewhat important. Instructor support was seen by American (W/o U.S.A.) participants as being rather more important, with 37.3% considering it much important and 28.5% somewhat important. While Africa and Asia had more participants who considered it a great deal important, participants in the Americas (W/o U.S.A.) were more likely than other regions to consider it of much importance, at 37.3%, compared to an overall result of 33.7% for all participants combined.

Europe

Most participants in Europe indicated that local friends or acquaintances had expressed interest in enrolling in a similar course due to their participation in the MOOC, although respondents from this region were very slightly less likely to believe the MOOC had sparked interest among their local connections than respondents overall (56.5% of Europeans compared to 58.4% among all participants). In fact, Europeans were the group most likely to state that participating in the course had not influenced their local acquaintances, at 21.0%. European participants were also less likely than other participants to believe that their online friends and acquaintances were now expressing interest in taking MOOCs based on their own experience in the course (32.5% compared to 37.7% of respondents overall). European participants had the lowest percentage of participants who agreed, and the second highest percentage of participants who disagreed at 35.8%.

When asked if they had extended their online social network by participating in the MOOC, only 14.5% of participants in Europe agreed, while 77.9% disagreed. In addition, 87.2% of European respondents indicated that they had not extended their local social network by participating in the MOOC (compared to 79.9% of respondents overall). Very few European participants, 7.6%, felt their local social network had extended by participating in the MOOC.

Unsurprisingly, given the low percentage of respondents who believed they had made connections in the MOOC, most European participants believed that relationships made in the course would have little, if any, influence on their future. Out of all the

elements discussed, Europeans were more likely to feel that new MOOC relationships might enable them to meet professionals from other countries (27.80%) or learn about new opportunities (27.7%). By contrast, only 18.6% of participants in Europe believed that new MOOC relationships might help them to work collaboratively on projects in the future (compared to 25.0% of respondents overall), 10.9% thought that they would develop strong new personal relationships through the MOOC, and just 10.1% believed that these new relationships would help them to find a job. In general, European participants were more pessimistic than the average MOOC participant about the benefits of relationships made during the MOOCs, and only participants in Oceania were less likely to believe that these relationships would help them in the future.

When asked about the importance of various factors for a successful MOOC experience, the majority of participants from Europe, 92.2%, considered English proficiency as very important. This percentage was greater than the average at 90.9% and only lower than Oceania at 92.6%. European participants also overwhelmingly recognized the need for an internet connection in order to succeed in a MOOC, at 91.9%. This was, however, the lowest percentage for this variable among all regions and very slightly lower than among respondents overall, at 93.5%. As with all other regions, time requirements were also considered very important by Europeans (87.7% compared to 88.6% for respondents overall).

A substantial minority (45.4%) of European participants indicated that instructional support was very important, although Europeans were less likely than respondents were overall (52.8%) to attribute a high degree of importance to this factor.

Participants in Europe were also less likely than respondents overall to indicate that prior knowledge (21.6%) or face-to-face interactions (11.4%) were very important. However, almost half of European participants (49.4%) considered prior knowledge somewhat important. In contrast, only 19.3% of European participants considered face-to-face interactions to be somewhat important, while 33.5% considered it only a little important, and 21.2% not important at all.

Oceania

When asked if local acquaintances had expressed interest in enrolling in a MOOC based on their experience, 59.0% participants in Oceania agreed. This percentage was very close to the average of all participants, at 58.4%. Participants were also asked if online acquaintances had increased their interest in taking a MOOC based on their experience. As with other regions, MOOC participation appeared to have less impact on respondents' online friends, with just 36.1% of Oceania participants, and 37.7% of respondents overall, stating that their online connections had expressed an interest in MOOCs as a result of the respondents' participation in the course.

Oceania participants were far and away the least likely to agree that they had extended their online social network by taking part in the MOOC, at just 3.6% compared to 19.4% of respondents overall. Participants in this region were even less likely to believe that participating in the course had expanded their local social network, at just 1.2% compared to 13.0% of respondents overall.

In addition to questions about developing new online or local social network relationships, participants were also asked how these relationships could aid them in the

future. Oceania participants were least likely to believe these relationships would help them in the future. For example, only 20.7% of participants from this region (compared to 33.3% of respondents overall) thought these new relationships would help them meet professionals in other countries. Also, just 19.5% of participants in Oceania felt these new relationships could help them learn about new opportunities, compared to 33.2% of respondents overall, and 16.10% of participants from this region felt MOOC relationships would assist them in working collaboratively on projects in the future (versus 25.0% of respondents overall). Only 5.7% of Oceania participants felt these relationships could help them develop strong personal relationships (compared to 15.9% of respondents overall), and 3.4% believed the relationships might be useful for finding a new job (compared to 13.2% of all respondents).

When asked how important various factors were in a successful MOOC experience, all participants surveyed from Oceania felt that an internet connection was very important, compared to 93.5% of respondents overall. In addition, participants in Oceania were more likely than respondents overall to consider English proficiency to be very important (92.6% compared to 90.9%). Similar to the other regions surveyed, the vast majority of Oceania participants felt time requirements were very important to MOOC success (87.9% of Oceania participants versus 88.6% of respondents overall).

Only 43.3% of participants in Oceania considered instructional support to be very important. This was lower than the average at 52.8% and the lowest percentage of all regions. Also, lower than in all other regions were the percentage of participants in Oceania who considered prior knowledge, 9.7%, and face-to-face interaction, 4.9%, as

very important. As in other regions, most participants from Oceania (57.3%) considered prior knowledge only somewhat important. Face-to-face interaction was perceived as even less important, with 51.2% of participants in Oceania stating that it was not important at all.

Chapter VI – Focus Group Analysis

To answer this question, the following focus group questions were analyzed through the process described in the methodology section. Responses from the focus groups were analyzed by region and each sentence was analyzed by topic. The full transcript was analyzed multiple times using a modified classic analysis assisted with the use of Microsoft Office.

Table 6.1
Focus Group Questions Explored by Research Question

Research Question	Focus Group Questions				
Who were the participants in these MOOCs?	NA				
Why were they participating in MOOCs?	NA				
What were the positives and negatives of the MOOC experience?	Q1A	Q1B	Q2A	Q2B	
How would these participants like MOOCs to improve?	Q2C	Q3A	Q3B	Q3C	
	Q4A	Q4B	Q4C	Q5A	Q5B

To gather detailed qualitative data IPMS respondents were asked to volunteer for an online focus group. Over a hundred participants expressed interest in participating. Because of the high level of interest in participating, five online focus groups were organized, each with over 16 participants. This included utilizing asynchronous forum discussion boards, for which participants were asked to login each day to answer a question and comment on other responses to promote an online conversation around each question. Out of the 81 participants, 27 were from Europe, 22 from Asia, 21 from America (W/o U.S.A.), 7 from Africa, and 4 from Oceania. Each of these participants was assisted in creating an account in a customized Moodle instance.

Participants were divided into groups randomly by Moodle and were not separated by geographical region. Unaware of how many participants would participate in advance, it was prudent to randomly enroll participants into even groups regardless of their global region. Every group contained participants from at least four of the five regions. Another methodological choice could have been to separate participants into focus groups by global region. This choice was not made in this study. By including participants from multiple regions in each focus group participants readily engaged in conversations about the similarities and differences in their experiences.

Each online focus group lasted seven days, giving participants two additional days after the last question to complete any questions they had not finished and extend the conversations. Their responses were analyzed as individual opinions, by region, and in the aggregate. Focus group responses do not represent every possible response but do provide a diverse set of opinions. By having five different focus groups, I was able to document and listen to a large number of views while taking note of which positions were most common among focus group participants. Participants participating in the focus groups were asked five main questions (each with a set of sub-questions): How is the experience of an international participant different from that of a U.S. participant? What are the main difficulties for international participants when completing a MOOC? How could MOOCs become more relevant to a broader number of people worldwide? How can MOOCs be more meaningful to professionals? Share your vision for MOOCs and education over the next 5, 10, and 15 years. When analyzing these questions in relationship to the research questions discussed in this dissertation, the focus group

primarily informs the third and fourth research questions: “What were the negative and positives?” and “how will MOOCs influence the future?” In the section below, I summarize the general finding before discussing them in detail region by region later on.

What were the positives and negatives of the MOOC experience?

Several questions in the focus group were considered relevant to understanding the positives and negatives of participants’ MOOC experiences. These questions are included below. The names of participants were modified to prevent them from being identified, but their nationality was not changed, in order to provide readers with additional information. Four focus group questions were analyzed to explore the positives and negatives of the MOOC experience:

- F1Q1A - How is your experience as an international student different from that of a non-international student when completing a MOOC?
- F1Q1B - Are there language or cultural differences that emerged during your participation in MOOCs? Please share one or two interesting experiences or situations.
- F1Q2A - In your opinion, what are the main difficulties for international students when taking a MOOC?
- F1Q2B - In what ways are MOOCs currently addressing the difficulties faced by international students?

Qualitative Analysis – General Overview

International participants taking part in the focus group considered their experience to have been mostly positive, despite facing some challenges including

language difficulties, internet or technology limitations, local acceptance of MOOC credentials, time zone complications, and difficulties in participating in group and synchronous MOOC activities. Despite this, overall international participants considered most differences between them and U.S. participants to be minor. Language limitations were less relevant than expected due to most participants' high English proficiency levels together with the availability of subtitles for many of the course videos. However, focus group participants did observe that specialized vocabulary and colloquialisms can be difficult to translate. Therefore, some international participants believed that MOOC courses would benefit from the use of a glossary and additional pre-course resources including a more detailed description of pre-requisites. However, sometimes language challenges were seen as an opportunity. Various participants expressed how their vocabulary had improved substantially since their MOOC participation. Focus group participants noted that, although the use of idioms and colloquialisms specific to the United States could be confusing, it also helped them understand new expressions. By and large, participants seemed highly satisfied with instructors' efforts and appreciated the MOOCs' high production quality. However, some international participants expressed difficulties understanding accents, and some expressed an initial apprehension towards expressing themselves openly in forums for fear of being misunderstood.

For various participants, technology and internet connectivity limitations meant it was important for them to be able to download videos in small file sizes with high audio quality. Sometimes participants were unclear about the due dates and there were other time zone misunderstandings. Focus group participants explained that sometimes

examples and activities were too U.S.A.-centric. To resolve this issue, courses may benefit from incorporating additional international guest speakers, and greater diversity of examples. Other concerns expressed by focus group participants included the use of non-open access articles, which meant that it was difficult, expensive or impossible for some participants to access the reading materials.

Some participants have joined networks in LinkedIn and elsewhere and shared their MOOC experiences with co-workers and community members, and social networking within Coursera has improved with the integration of LinkedIn. For most participants, however, MOOCs have not increased their professional or personal social network. Despite limited recognition of MOOCs among employers, some focus group participants indicated that they nonetheless include MOOC completions on their CVs. Focus group participants explained that, for an unemployed participant, completing MOOC can symbolize their willingness to learn. On the other hand, some focus group participants were relatively unconcerned with using MOOCs for professional development. These participants stated that they considered learning as their primary hobby, and that MOOCs were, for them, mainly something to do in their free time, rather than a professional development opportunity. In fact, one such participant had completed over seventy MOOCs.

Analysis by Region:

The following section shares the experiences of participants by region. Responses are organized by question.

Africa

Concerning language barriers, some participants felt that the spoken English of most MOOC professors was clear, and accent or enunciation problems were addressed well by subtitles. As in other regions, however, language barriers were perceived as more of an issue in the peer-review system. Participants explained that “In the peer-review essay, examples abound all over Coursera courses where people on either side - native and non-native English speakers - of the language barrier complain of how they were usually marked down as a result of difference in language. Either a non-native speaker not understanding the nuances in a native speaker or a native speaker not understanding the challenges in expression by the non-native speaker” (Asha, Nigeria). Another African participant (Omari, Zambia) mentioned how there was one important or key difference with MOOCs compared to in person classes, as it was much more difficult for him to express himself online compared to in-person, due to the limitations of an online forum where one must write down answers. He felt that he could convey around 300 words in five minutes speaking but much less when writing online.

The participant from Nigeria mentioned that his first language was officially English (Asha, Nigeria). To him, it was exciting to take MOOCs this time around because of the use of signature tracks and not because of his language. While he observed that there are slight differences due to dialects in the videos, it was often easy to understand information that was written down. Similarly, another participant living in Zambia mentioned how, while there were participants in the forum from all parts of the

world, he did not feel a major “language difference arising anywhere” especially for higher education participants (Omari, Zambia).

With regards to cultural barriers, participants were aware of differences such as some cultures being high context and others low context. Participants mentioned how examples of these differences were common in the forums: “Some cultures take insults openly while others demand polite insults etc. Some are banal with strangers or forthright while others are circumspect and try to be 'correct'. Although I might add that active engagement in a forum usually results in some intercultural transfer and exchange, so we end up becoming more global in our thinking and less parochial.” (Asha, Nigeria)

Other cultural barriers are sometimes less visible. A participant (Zoya, Nigeria) mentioned how, despite her interest in registering for Signature Tracks, that she had been unable to pay because of the use of different online banking systems. Eventually, Coursera decided to waive her cost for Signature Track fees. The participant also complained about receiving a poor response to an assignment she submitted that later limited her from receiving a certificate. The participant mentions having to fight that “one too like an activist” before it was corrected (Zoya, Nigeria). A participant from Zambia mentioned that, while he noticed obvious cultural differences, he never found them to be conflictive: “Rather with differing perspectives, the world opens up and you learn new things” (Omari, Zambia).

This participant also mentioned how initially he understood that the United States healthcare system was the best in the world, but from interacting with classmates from the United States, he learned that the United States health care system can also be

considered exploitative, with very high “out of pocket” expenses: “The insurance model is riddled with problems of adverse selection and moral hazard” (Omari, Zambia). He mentions that while it would be great to be able to do the course in England or the U.S., for working professionals it is hard to find both the time and the funding to do so.

Some participants believed there were very few differences, and by extension few difficulties, between participants in the United States and international participants. For example, they pointed out that English has become a global language learned by many people as a second tongue, even if it is not their native language. Therefore, many participants spoke it fluently despite it not being their first language (Omari, Zambia). Options were also given to participants who have videos, transcriptions, and PowerPoints that help participants without language proficiency to understand the content better. According to one African participant, by presenting the content in a range of different formats, “at least a participant will be able to get more than 80% of the message using the various options given” (Zoya, Nigeria). Pdf copies or transcripts can also help address comprehension problems.

Zoya also mentioned that time is a major challenge for most international participants in MOOCs. Being able to download videos and watch them when is most appropriate can help with time constraints, with participants being able to watch videos when commuting in public transportation, or a work break. Poor internet is also an issue: “Most of the countries have good access to internet only in the major cities, but in the villages and the smaller town where the majority of the people that are interested in the

MOOCS work the net services are poor" (Zoya, Nigeria). The participant mentioned how this was a major reason why she submitted her responses late.

With respect to financial problems, differences in the banking industry limited the ability of some international participants to access the premium features of the MOOCs, such as Signature Tracks. For example, due to banking differences and lack of a credit card, Zoya (Nigeria) had financial difficulties paying for MOOCs services such as Signature Tracks or additional resources as she intended.

Despite these financial obstacles, MOOCs are addressing this challenge by being flexible and making exceptions, including not charging for Signature Tracks in certain situations. (Zoya, Nigeria) Zoya also received support in other aspects of the MOOC, such as being given more time to respond to questions and submit assignments.

By contrast, another participant explained how there were no major difficulties for international participants, as some of the differences actually benefitted international participants more than their US counterparts: "being ahead of U.S. in terms of time zones, we actually get more time, which is an advantage" (Omari, Zambia). In addition, because there are more difficulties when living in a developing country, where the participant believes they have seen and faced more challenges, it may be easier to find ways in which to apply what he had learned. In comparison to non-MOOC courses, this participant (Omari, Zambia) also mentioned the relatively low cost of MOOC courses as a way in which MOOCs offer an opportunity that would otherwise be financially impossible for many international students.

On the other hand, another participant explained how the main difficulty is that MOOC organizers do not understand the lives some international participants live. He then explained further that, as a Nigerian participant, he has difficulty getting meals and meeting other basic needs. To him, MOOCs are a major sacrifice in terms of time and cost. He also noted various infrastructural problems: “My internet service is rotten. My computer is just barely hanging on. I usually do not have power for days and many times I have to work by torchlight” (Asha, Nigeria). The participant then commented that this sacrifice was worth it because it also provided him a “huge boost up in life” (Asha, Nigeria). While he gives the course all he can, sometimes he has been unable to meet deadlines and the MOOC staff are usually not very understanding regarding the day-to-day struggles he faces.

Because of this, the participant commented that he often has to write repeatedly about his problems in the forum to reach “somebody’s conscience or memory or empathy” (Asha, Nigeria). Although some of the instructors tried to help address his “unique” challenges, by calling them “unique”, it highlights how instructors took it for granted that participants would have a certain level of internet access. To address this issue and take into account conditions in the developing world, Asha suggested that in some instances they could allow for more time for peer assessments, reduce video sizes, encourage easy grading, allow for retaking quizzes, and “not requiring me to make videos or find a map of my city 200 years ago or find building codes etc.” (Asha, Nigeria). For the most part, the international participant’s only recourse was to be vocal about their

problems. He explains, “I have learnt that a solution for an international participant is get on the forum early with your complaints” (Asha, Nigeria).

Asia

A cultural concern expressed by one Asian focus group participant was that sometimes “one is required to comply with texts that we don’t always agree with” (Sai, India). Another Asian participant felt these differences exist because participants come from “different backgrounds and environments” (Camille, Philippines). For example, terms like “greenwashing” may not be understood by most international participants. However, this participant went on to explain that he considered most of the misunderstandings to be humorous, “more than anything, it makes me smile, laugh, and have ‘oooh’ moments” (Camille, Philippines). Another participant from Asia mentioned how “positionality is often ignored” and there was an “assumption that everyone understands the Western contexts” (Sai, India). By contrast, a participant from India had a more positive interpretation of the U.S. centric context of the MOOCS (Aadhya, India). This participant explained that while examples were often local, this was not always a disadvantage for international participants, as it allowed her to compare the U.S. or the U.K. to her country.

Another Asian participant mentioned that while learning “excites [him] from the heart” (Che-wei, Taiwan), he was confused as to whether it was helpful to include “unrelated learning” in the MOOCs, such as learning about Medicare, Medicaid, and other U.S. specific content. However, he mentioned how learning was still fun in itself. Sometimes professors would talk about Thanksgiving Holiday or other U.S. events that

are “far-from-reach and has nothing to do with my local society” (Che-wei, Taiwan). He mentions that more Asian universities are also now developing MOOCs, but that he doesn’t enroll in MOOCs to pass but only because the content interest him. Che-wei also mentioned the flexibility afforded by MOOCs, which allow a participant to study on the weekends instead of during normal business hours.

A participant from India (Siti, India) highlighted how it was noticeable that some participants from certain geographies prefer a more open form of communication while others preferred a closed type of communication. In addition, she observed that some international participants faced difficulties in participating fully in online chats within the MOOCs because of time zone differences. Siti also felt that participants from the United States were more likely to contribute during the weekend while non-U.S. participants contributed regularly throughout the week.

Another participant from India who had completed over 20 MOOCs (Anaisha, India) explained that, despite participating in various MOOCs, she had not participated in a single live session or group work. She believed that group work would result in only learning a part of the material. Consequently, she preferred working on projects alone to be able to learn more from the project. Anaisha also felt that live sessions were mostly geared towards local participants: “they never appealed to me. I do not even see post event recording” (Anaisha, India). “With the short time available to carry out project for a MOOC, there is not enough time to strike that chord with each other which is at the heart of any group project. Had it been an offline class room set up, the same challenges could

be addressed in the same amount of time with success. Same for the live activity. I always think it may be a waste of time" (Anaisha, India).

Regarding the MOOC instructors' teaching style, however, Anaisha was impressed by the professor's efforts and the "teaching approach by the professors in the west. They have truly mastered the 'art' and 'science' of teaching (Anaisha, India). However, sometimes she also felt that the content could be too technical and that instructors should try to not make questions too difficult to understand. In addition, she often had to listen to videos more than once to better understand them, thereby doubling or tripling the time a participant needed for the lecture.

A participant from Japan (Kaito, Japan) also explained how the course had taken him a long time to complete: "I used a lot of paper. I printed out every reading material and zoomed up to 140%. Fortunately, there is a nice convenience store having a high-performing copy machine in the front of my condo. I went there at midnight…. After that I read and read and read weekly materials" (Kaito, Japan). One of the details he noticed while being a part of the course is that English itself is very different in different parts of the world.

Another participant (Mohammed, India) complained about having difficulty accessing some of the study materials, with some courses requiring the purchase of hard copies and/or e-books. This participant also had problems with the humor of one faculty member, whose jokes he had found offensive.

According to Riya (India) the topic the instructor focused on or considered issues of urgency was related to her culture and living standards but she felt for the most part her experience was the same as a participant in the United States.

Other cultural differences included access to modern, newer technological equipment. A participant explained (Sora, Sri Lanka) how he had a problem downloading the course videos as he had reached his monthly internet access quota. Similarly, Anaisha (India) mentioned having to save her bandwidth to watch lecture videos and online research.

Various Asian participants cited other participants' use of colloquialisms and the courses as suffering from "U.S.-centricity" (Riya, India). "The guest speakers, in particular, had a pronounced U.S. world-view" (Riya, India). Similarly, Mohammed (India), explained how even the way MOOC instructors and materials described certain professions, such as nurses and doctors, was also U.S.-centric. Other participants, while acknowledging the U.S.-centrity of the courses, felt that this "is something unavoidable right now as that is where the majority of the Professors and lecturers are from" (Pari, Malaysia). Pari also felt that language and cultural differences were only minor limitations to MOOC success and her main difficulty was "remembering the different time zone" (Pari, Malaysia).

Participants noted that problems with non-familiar terms could be solved with a dictionary or Google. "On the positive side I learn many new English terms and also familiarize myself with the many British units" (Pari, Malaysia). To her the problems also varied depending on the course one participated in. Another participant (Reyansh,

India) mentioned that translations are never perfect. This to him went both ways as "English translations of courses offered in non-English language aren't good enough either" (Reyansh, India).

However, various participants did mention problems that could be more easily addressed, such as some professors speaking too quickly. A participant from Japan (Kaito, Japan) mentioned how, due to having little confidence in his writing, writing took a lot of time. His difficulty writing led him to interact less in discussions. In one instance, he "wrote a rough draft, then polished it. But I wondered if it was not good, so I discarded it, then began to rewrite. But after that, the wave had already gone. All the participants moved to next issues, so my post left there… Someday I would like to surf on a big wave" (Kaito, Japan).

In terms of language, another Asian participant (Camille, Philippines) also mentioned some participants have difficulties expressing themselves in the forums or in writing. However, this participant also noted that he benefited from having more time to respond in an online setting in comparison to an in-person classroom experience. While sometimes you may not understand the professor or other participants, "the bottom line is I can ask for clarification if I don't understand" (Camille, Philippines).

Another Asian participant (Aadhya, India) explained that while English was not her first language, she had studied in a school where students spoke English all of her life, making her very fluent in the language. This participant had lived in the U.S. for a few years and completed over 30 MOOCs. Despite her fluency, she encouraged the inclusion of captions as they "really help while viewing lectures if the words or accent is

unfamiliar". She also believed it would be very helpful to include transcripts of the lectures in Pdf format. While they are currently available in txt format in some courses, that format was not as helpful as they were not in readable text format.

Another Asian participant (Pari, Malaysia) explained how while English was not her first language, it was the language in which she was most proficient. To another Asia participant (Sora, Sri Lanka) differences were minimal in both language and culture between U.S. and international participants. This participant commented that "MOOCs should be global, as by design they are to cater to a wider audience & the wider the participation, the better it becomes" (Sora, Sri Lanka). Sora did also comment, however, that he sometimes found it "difficult to express myself fully due to English not being" his native tongue (Sora, Sri Lanka). Despite this Sora also felt that subtitles in other languages were not needed, as it is not the same as listening to the tutor: "It will be as if we are reading a text then" (Sora, Sri Lanka).

Language difficulties resulted in some participants "re-watching the content several times till the content was fully understood" (Anaisha, India). Consequently, Anaisha felt she always needed more time to complete assignments. Despite her difficulties, she wished she had been able to study these subjects sooner as they could have resulted in her moving into a different career path. MOOCs had "certainly helped in improving [her] language skills" (Anaisha, India).

A number of difficulties experienced by participants were shared in the focus group. One of the participants (Sai, India) mentioned that, while some courses provided participants with sufficient literature, when he wanted to learn more about the subject, he

was faced with paywalls, as the articles were not freely available. In some courses, he mentioned that it would be preferable for MOOC instructors to post links to materials that were open source. This was also mentioned by another Asian participant (Sora, Sri Lanka) who explained that additional resources listed as optional were often not available free to participants, disheartening participants without the discretionary income to purchase them. He commented that, with some participants attending Coursera because they are unable to afford a more traditional program, making additional resources available at a price, even if it is optional "should be discouraged" (Sora, Sri Lanka).

He argues that materials should, at the very least, be offered at a discount. Another participant (Reyansh, India) mentioned how he participated in a MOOC where the instructor utilized proprietary software explaining that he was frustrated because "I can't purchase that. I wish GPLed software were used" (Reyansh, India). The participant further explained that a "discounted price of $29.95 is actually equivalent to 1 week's food bill for my extended family of 5 adults and 2 children… A $120 textbook is incomprehensible here" (Reyansh, India). While Open Source Software may be available, it may not have the same level of quality as other software options.

Another participant (Camille, Philippines) explained that the courses require a high level of English proficiency. While the participant points out that having the courses in English makes sense, she also explains "the exchange of ideas is better when the course is translated into other languages" (Camille, Philippines). It is not only the course but also the materials including the open source readings that are in English. She argues that those would need to be translated as well. However, recognizing the difficulty in

translating every part of the course, she felt it was likely that the courses would remain in English.

Another Asian participant (Pari, Malaysia) felt that, as long as subtitles were available, the course being in English was not as much of a problem. Some participants (Anaisha, India) used subtitles often. In fact, sometimes after exhausting her data plan, she resorted to reading the transcript instead of watching the video. Despite her limited English proficiency, she felt it was helpful for the course to be in English because of its use professionally. For her it would also be helpful for the videos to remain small in file size as they can be more easily downloaded: “40 Mb is way too much! Nothing beyond 10-15 mb per video” (Anaisha, India).

Another participant (Riya, India) also agreed that the courses being in English could be a problem as well as cultural differences explaining that in some instances international participants could not “relate to a given context at all” (Riya, India). Her solutions were to use as little idiomatic English as possible, and to include guest speakers from different parts of the world: “Say a Chinese, a South Asian, an Arab, a Central African, and East European. They can maybe take a couple of lectures in the whole course” (Riya, India). In doing so, more participants will be able to relate the materials to their daily lives and professional careers. Courses sometimes also included assignments that were very U.S. centric, including assignments that required an understanding of the U.S. financial system (Siti, India). While this is a problem in many courses, other professors have taken steps to address it (Anaisha, India).

A participant from India (Aadhya, India) mentioned how participants in India had two major challenges; a lack of access to computers and lack of access to high-speed internet. In a private college where she teaches, only 10% of the participants had personal computers with internet access at home. She believes that perhaps “MOOC” centers set up by educational institutions or private operations could function as classroom extensions. Another participant from India (Sai, India) however mentioned that this was unlikely and that in the “city” it was easy for her to have internet access. She explained that since there are no free public libraries in most places in India, it was very unlikely for the government to set up MOOC centers. “It would take too long and get mired in political and bureaucratic conflicts” (Aadhya, India). Instead, (she felt it was easier for participants to use “internet cafes” which remain common in India. While that is a possibility for some MOOCs, for some that require more specialized equipment, she felt they require a personally owned or personalized computer.

Internet speed was a problem in other parts of Asia as well, not just in India. Other participants from Asia (Wei & Sora, FG) mentioned how in some places one can have difficulty participating in MOOCs due to low internet speeds and an unreliable connection. In some courses, “the ability to download the video helps a lot” (Pari, Malaysia). However, in some cases participants were “reaching the capacity limit of downloads” because of MOOCs (Sora, Sri Lanka). This participant (Sora, Sri Lanka) suggested “providing videos in different formats & sizes” a well as transcripts of videos for all courses so that participants with different internet connection speed could still access the resources (Sora, Sri Lanka). In other MOOCs, participants are also able to

respond to questions more than once. This participant also believed that it would also be helpful if the government provided additional assistance through internet centers. He also felt that low quality downloaded videos were more helpful than audio files as it was easier to follow along and not get distracted. Another participant (Riya, India) felt that mailing Pdfs of lectures to registered learners would also be helpful. This participant was also in favor of submitting exams in Pdf format to help participants in places with poor internet connection.

For another Asia participant (Mohammed, India), the biggest challenge was personal as many participants take many courses simultaneously which sometimes have different deadline schedules. In his case, a Sunday night submission was best. He also felt language was a major issue as some assignments seemed to have been submitted relying on Google Translate or some other translation software. Other participants (Pari, Malaysia) also agreed that having different submission deadlines for different classes could get confusing and be a problem. Despite this, these two participants agreed in that over-enrollment was not a problem. While sometimes you could get carried over and register for too many courses, it was partly the breath of Coursera that was fascinating.

However, with many participants failing to complete the course, another participant (Che-wei, Taiwan) suggested the potential benefit of requiring participants to pay for a certificate so that they are more active in the course and more likely to complete it. This participant also mentioned that he sometimes participated in courses that he did not necessarily plan on completing if a course was attractive but difficult or perhaps beyond their comprehension, in which case he would also unenroll from the course.

While more direct interaction with the instructor would be helpful, a participant mentioned (Che-wei, Taiwan) how he had gained “much valuable knowledge and experience from [his] international classmates more than directly from the teacher, either in lecture or homework” (Che-wei, Taiwan). He supported offering distinguished participants the opportunity of participating as a “global TA” in future offerings, a position already offered in some courses, to reduce the workload of the course staff. Another participant (Anaisha, India) expressed her love for discussion forums where “no one remains without help!” with other participants and teaching assistants who are “willing to help all of the time” (Anaisha, India). To her participant support for each other is a 24*7 helpline: “No matter what time and what questions you post. Someone is always out there to help you, guide you, handhold you!” (Anaisha, India).

In a very personal example, she explained that: “I was once thinking of dropping out of [a] final exam of [a] CS course from MIT as I had other exams to take. I thought I cannot make it. My forum peers encouraged me so much that I wrote the exam and got overall course aggregate of 92%. It was only that motivation that made me take the exam I had almost given up!” (Anaisha, India). To her MOOCs discussion forums should not change as they even point out to mistakes in the course, and greatly enhance the participant experience.

Americas (excluding U.S.A.)

Various international participants who participated in MOOCs in the Americas were from Canada. These participants by in large felt that there were very few differences in their experience in comparison to a participant from the United States. A participant

from Canada (Eleanor, Canada) felt that MOOCs are more likely to include U.S.-based examples but that this is also the same with the textbooks she used in Canada. “I definitely know more about the presidents than prime ministers!” she contends (Eleanor, Canada). A participant from Argentina (Phillip, Argentina) felt that there were no major cultural or language differences. The only differences he noticed were minor, including differences in accents and the use of examples that were not as relatable.

Another American participant, this time from Mexico (Alfonso, Mexico) felt that people in rural areas of Mexico and other parts of the world are more likely to have a slower internet connection and download limits compared to U.S. participants. Because of this, this participant noted, it is important that video lectures do not exceed their download limits. This participant (Alfonso, Mexico) also felt that it would be helpful to include subtitles for all videos, to make them more accessible to all participants including non-native speakers. Similarly, a participant (Ludimila, Brazil) from Brazil shared how she had had some difficulties listening to people speaking in English. To her subtitles were very helpful: “I always appreciate good subtitles to help me understand what people say” (Ludimila, Brazil). In general, it seemed that to most participants who completed the MOOC, learning or improving their English was seen a positive challenge and an additional benefit of MOOCs. One of the Brazilian participants (Ludimila, Brazil) mentioned having to watch videos multiple times to better understand them.

Other participants were less positive. A participant (Fidel, Venezuela) shared how he still had a hard time communicating in the forums and relied on Google Translate to share his opinions with the rest of the class. MOOCs required more of his time than he

had available. Another participant (Carmen, Argentina) from Argentina, a nurse, remembered learning in detail about the U.S. health system and how that differed from Argentina. “Took me a while to understand that the concept of health service in the U.S. is different form the one I’ve grew up with in Argentina” (Carmen, Argentina). The U.S. and a participant specific culture could be seen as very different depending on the participant (Reynaldo, Haiti).

Another participant (Sandra, Brazil) felt that some of the participants in the course were prejudiced: “A few topics full of prejudice, but I think it’s normal in a course with thousands of persons all around the world”. To her (Sandra, Brazil) MOOCs require learners to be open-minded as there are many differences and nationalities within the participant body taking a MOOC. To her “MOOCs can help people become more open-minded and respect the differences around the world” (Sandra, Brazil).

Various participants saw subtitles as a very good solution to language concerns. It was also helpful to have a dictionary available in their computers. One participant (Alicia, Argentina) commented that in a course about aging, the video conversations’ text was not accurate enough: “There were too many missed words” (Phillip, Argentina). She also collaborated with the captioning process in Spanish in one of the courses, but felt more could be done to advertise opportunities to help caption and translate materials. This participant (Alicia, Argentina) also shared more information about how one of the translation programs, Amara.org, works. One of the difficulties she emphasized was how the translator could choose to translate either from the English audio or from the English text/caption file. While she chose to translate from the audio, if someone translates from

the text in English, they “propagate the errors if they existed” (Alicia, Argentina). However, captions greatly helped many participants to understand the materials because sometimes instructors talked too fast to follow without them (Carmen, Argentina). In contrast, one participant (Reynaldo, Haiti) commented that subtitles were perhaps having also a negative impact as participants would try less to understand or to “find out what are the meaning of those words” (Reynaldo, Haiti).

MOOCs could also focus less on U.S. specific content: “If you are going to produce a MOOC for a world audience, then the content should reflect the world rather than just a very small part of it” (Rosa, Canada). For example, in a course about agriculture, the resources mentioned were unlikely to be available in developing regions: “Countrywide, these resources exist, but they are hard to find and/or too expensive for the average farmer” (Alfonso, Mexico). This participant (Alfonso, Mexico) recommended that the professor provide two examples reflecting a broader range of country conditions, or the course could also have a wiki that includes additional worldwide resources where participants can look up any country.

Other important differences include differences in technology (Alfonso, Mexico). In some areas, internet connections are still 14.4 kbps. Others did not have their own internet access (Reynaldo, Haiti). To address this common difficulty, one participant (Alicia, Argentina) felt it was helpful to keep videos under 10 minutes and to provide a glossary of terms. In addition, she felt it would be helpful to further standardize aspects of the syllabus in every course so that the structure then further helps foreign participants. More time could also be given to participants to participate in forum discussions and

exchange opinions (Fidel, Venezuela). Participants could also be encouraged to participate in projects to improve their understanding of the course subject matter and utilize it in a practical setting.

Some of the difficulties faced by participants in the Americas (Phillip, Argentina) were figuring out the time of the exams and assignments, and how to use the discussion forums. This is somewhat surprising since they are often in a similar time zone. One participant (Alicia, Argentina), had to download the course videos and papers in advance due to time constraints. To reduce the number of participants who withdraw from the course due to its greater than expected difficulty, a pre-course placement test could be included (Leo, Brazil). Another participant (Sandra, Brazil) felt that it would also be helpful if texts were created in a lower language level instead of an academic language level. While subtitles and translated texts are helpful, having text in a lower level of English would perhaps be most helpful

Europe

One of the participants from Europe (Max, Switzerland) mentioned that it had been difficult getting used to questions that are written with tricky or complicated wording since English was not his mother tongue. The participant explained that while he did well even when guessing, that he would study harder because of trick questions. Another participant (Brandy, Spain) had a similar experience. Other participants (Nikita, Ireland) appreciated trick multiple-choice questions. While there was a preference for filling in answers, he (Max, Switzerland) also had difficulties with writing essays because of their time requirement. Some participants (Gilbert, Spain) also found it difficult to

interact with other participants due to cultural differences: “I always have the fear of an inappropriate expression or a misinterpretation” (Gilbert, Spain).

While he only completed one essay, one participant explained that “it is very rewarding to see that other participants take the time to read, understand and comment on one’s work” (Max, Switzerland). This participant also saw essays which he considered were poor because the writer was not a native speaker. He mentioned that the essay was very hard to grade because “I suspected that someone has used an online translator” (Max, Switzerland). MOOCs, however, were also an opportunity for participants to improve their English (Mary, Ivan, Katrien, Irina, Elena, Lisa). Sometimes faculty accents were a small difficulty (Irina, Czech Republic). Subtitles were also helpful (Sasha, Irina, Katrien): “the language, thanks to the subtitles is not a problem, rather it is an opportunity to improve their English” (Katrien, Italy). One participant was firmly against translation as “translation removes the added benefit of improving English. Which is not something to neglect” (Laura, Romania). Instead of supporting the translation of the courses to other languages, another participant (Sasha, United Kingdom) proposed that each participant use an online service to translate lecture transcripts if needed.

Another participant (Nikita, Ireland) complained that peer review also had problems, including receiving reviews of only five words on occasion, rather than detailed feedback. It is also common for international participants to apologize for their language. One participant (Lizzie, Netherlands) felt that such apologies should be “forbidden”: “We use English as a lingua franca, not as the official language” (Lizzie,

Netherlands). The participant also shared how her English vocabulary “had been greatly improved since [she] started taking these courses” (Lizzie, Netherlands). Even participants (Brandy, Spain) who consider themselves fluent, had to occasionally look up words in the dictionary when using the discussion forum and lectures, thereby further improving their English. Having a glossary like the one included in the Canine Theriogenology site was also helpful (Nikita, Ireland). Others with lower English levels found the language to be a barrier, in that it increased the time commitment necessary to learn the course materials and complete the MOOC. For example, one participant (Gilbert, Spain) often watched the videos multiple times (2 or 3 times) because of language difficulties. Another participant (Martha, Netherlands) also shared that she took on average 2 to 3 times more for her to complete a course because of language difficulties.

There were also concerns about MOOCs being too country specific: “Even though the courses are made for international participants, they relate to the country where the University is placed” (Brandy, Spain). This participant went further to discuss the impact of different worldviews: “We experience the world with a certain mind set, which is quite different from person to person. This difference amplifies across cultures” (Brandy, Spain). Courses also utilize “colloquial American idioms, or social settings peculiar to the U.S. society” (Allison, Italy). Other colloquialisms included the use of the U.S. units of measurement instead of the metric system in some courses, as well as an emphasis on the peculiarities of the U.S. farm system including government subsidies (Steven, France). There were times when terms such as “Monday night quarterbacking”

were confusing to even UK participants (Tim, United Kingdom), whose first language was English. Forms can also be intimidating even when English is one's native language possibly due to most participants being introverted (Tim, United Kingdom).

Another participant (Sarah, Portugal) explained that, to avoid such problems, she chose courses that focused on general issues rather than country-specific or local issues. Regarding cultural differences between MOOC participants, Americans were seen as more vocal and forceful in their questions than international participants (Nikita, Ireland). To some participants (Ivan, Russia) these cultural differences did not hinder learning. Other participants (Ivan, Russia) also felt that having a MOOC in English was advantageous because English is the preferred language in the scientific field. In addition, while an international participant may have some additional difficulties, even when a participant does not complete the course, MOOCs are still an enriching and "positive experience" (Catherine, Greece).

Some suggestions for improving international participants' MOOC experiences included making assignments that allow participants to focus on aspects of a problem from a different perspective, such as asking "European participants and North American participants to see the problem from the African perspective, African participants from the Asian one and so on" (Steven, France). Other participants were concerned with some course resources not being freely or openly available, making them difficult, expensive or impossible to access. One participant (Allison, Italy) resorted to finding a pirated copy of a suggested reading.

On the other hand, even this participant (Allison, Italy) felt that asking participants to buy a textbook for the course should be considered acceptable, with faculty being only responsible for providing a PDF printout of slides, and accessible references. Participants generally appeared positive about the benefits of hearing from diverse perspectives while taking a MOOC. A participant from Greece (Catherine, Greece) commented that the "MOOC gave me the change to read about experiences from distant places as India, Russia, and Japan". Another participant (Elena, Spain) mentioned how many different opinions were shared in forums with people from around the world about agriculture. Posting in forums helped her to "know more about other different cultural realities" (Elena, Spain).

Further localization was not "a first priority" (Catherine, Greece) among European focus group participants. In fact, for some participants the international aspect of MOOCs makes them even more special. "What I like about MOOCs is that you can embrace other cultures" (Catherine, Greece). While it was sometimes more American than international, to some participants (Martha, Netherlands) this was also very interesting. Many modules are also increasingly "international in reach, with professors who originate from the U.S., which adds a global inclusive sense… The range of different counties represented creates a great deal of interesting experience" (Sasha, United Kingdom). Rather than promoting localization, the MOOC can leverage the different experiences and backgrounds of their participants to further enrich the course site.

To address international problems, one participant (Laura, Romania) suggested that resources be made available offline for low connectivity participants, as well as providing low-resolution videos for people with slow internet connections or strict download limits. Connectivity is improving worldwide but some places continue to have a slower connection. Language was a major concern of various participants. However, they felt Coursera was, for the most part, doing its best in addressing most of the problems. One participant (Sasha, United Kingdom) explained how classes often have minimum language requirements. MOOCs participants may enroll thinking they are able to meet the language requirements of the course, and struggle to different degrees. Providing "guidance on level of language which is likely to be needed for a class" would be helpful (Sasha, United Kingdom). Also, a timetable explaining when the deadlines are seen as helpful. For example, some MOOCs include a time conversion table to help participants from other parts of the world understand course deadlines in their time zone.

With MOOCs mostly modeled after university courses the instructor taught previously, they likely "reflect the examples and experience of the location" (Sasha, United Kingdom). These concerns were shared by other participants (Catherine, Greece). In terms of prerequisites for taking a MOOC, participants noted that having international pre-requisites is difficult as some cultures "value creativity and others value discipline. Different values, different backgrounds" (Laura, Romania). A European participant (Sasha, United Kingdom) also pointed out that while most MOOCs in Coursera are in English that the speakers themselves are sometimes not originally from the U.S. Sometimes, perhaps surprisingly, these speakers are easier to understand than native

English speakers are. “Cultural differences also mean that some participants appear to be rude to others from different country” (Sasha, United Kingdom). Another participant (Catherine, Greece) also differentiated between speaking English and dominating the language.

Some participants complained about long texts in English. “When the MOOC has a really global perspective, it would be nice not to add too much reading” (Lizzie, Netherlands). This participant was also in favor of creative assignments rather than writing intensive tasks so that “the challenge is equal for all participants” (Lizzie, Netherlands). Other participants also spoke against asking participants to read too much, seeing too much reading as a “constraint” (Sarah, Portugal). For one participant (Laura, Romania) it was acceptable if she was assigned between 20-50 pages of reading a week as part of the activities, “in-between videos and form activity” but no more than 4 hours of reading per week.

International participants also favored “smaller clips within videos” (Nikita, Ireland) as well as PowerPoint graphs. A participant (Gilbert, Spain) who used to live in Peru mentioned that in Peru it would have been very helpful to have low quality videos, or audio files. A participant who had spent some time in Afghanistan also mentioned not being able to watch the videos because of their size and coding. For participants who would like more readings, the instructor can also include a recommended reading list or additional resources that are not required. “Too much reading to me is when, in order to get through the course, I must devote as much time to it as a full-time course” (Allison, Italy). Another participant (Martin, Norway) mentioned difficulties with the sound

quality of the recordings: “I’m fluent enough in English to follow the discussion by listening as long as the sound is reasonably good” (Martin, Norway).

Another participant (Max, Switzerland) mentioned finding abbreviations and other U.S. specific details confusing. Sometimes he also was confused with some of the deadlines because of time differences. Similarly, “[l]ive discussions forced participants to log in at odd times” (Max, Switzerland). Having difficulties because of U.S. centricity was also a concern for other participants (Brandy, Spain). “Luckily there are forms where you can ask questions regarding U.S. regulations or companies” (Brandy, Spain). Another participant (Laura, Romania) mentioned “paying attention to feedback and adapting to different cultures will make the difference” (Laura, Romania).

Other participants felt that these problems were not as important as “time constraints and assignments” (Sarah, Portugal). She argued in support of deadlines that are more flexible. “All courses could, ostensibly, still be running weeks after the course closed” (Nikita, Ireland). The language problem was a major problem for some participants “regardless the proficiency of the non-native participants” (Brandy, Spain). This participant mentioned how it would also be beneficial to receive a list of readings upfront before the course starts. Having a list of the “5-20 most important technical terms of each lecture topic” (Lisa, Germany) would also be helpful. Regarding MOOC completion, another participant (Elena, Spain) felt it would be helpful to have a preview or a demo of the course, as she would not have enrolled in the course she did not finish if a demo had been available. In another instance, the participant (Elena, Spain)

undervalued the difficulty of the course and she left the course because it was too difficult.

Some language difficulties are addressed by subtitles including subtitles in other languages like Spanish (Steven, Martin, Raul, Catherine). She suggested having subtitles in additional languages. Subtitles were also criticized for being of limited quality. “I totally agree to the accuracy of the subtitles. Sometimes complete sentences are missing!” (Catherine, Greece). However, subtitles files are available in most if not all cases (Martin, Norway). Another suggestion to further increase accessibility was to provide an interface with Coursera in other languages, as well as maybe sub-forums in other languages. A participant (Laura, Romania) who sometimes had English difficulties mentioned not being criticized for her language but felt most examples were U.S. based.

This participant also thought it would be nice to be able to locate participants near them. Other participants were against the idea of a course being in their native tongue as they would be unable to improve their English skills: “I would not be interested in courses in Italian. So, perfecting the language is an advantage” (Allison, Italy). Despite his support for English as the lingua franca, other participants (Steven, France) felt MOOCs should be for everyone, “even non-English speakers” (Steven, France). Other participants agreed that “the main difficulty could be English” (Joseph, Spain).

The experience of European participants was very diverse. One participant mentioned having little to no difficulties because of time differences. He stated it just required managing one’s time and schedule. This participant (Gilbert, Spain) mentioned following the course with co-workers and friends. “We realized that we understand

different things and each one gets different information. I think this is enriching because we clarify ideas and concepts at breakfast. I cannot have this type of interaction in MOOCs" (Gilbert, Spain). The participant mentioned having language difficulties but having to address them with tools such as Google translator.

Another participant (Catherine, Greece) mentioned how he took a course offered by the University of Melbourne and that she was surprised to not be able to understand anything, "neither the questions nor the answers" (Catherine, Greece). The course apparently was not just difficult for her but most participants and the test was eventually cancelled when most participants failed. To her instructors need to evaluate their courses to adjust them to their audience without "degrading the context of their courses" (Catherine, Greece). About subtitles, she felt they were often translated afterwards and there were often mistakes.

Oceania

A high percentage of participants in Oceania were native English speakers. One of these participants mentioned how he "thought that the posts from non-English speaking participants were on the whole really good" (Jack, Australia). He mentions that you could see that they had tried to express themselves as well as possible and that they had understood the materials and made good contributions, sharing their own regional experiences. While he did not think there were language challenges, he did notice colloquialisms.

He also mentioned the date and time presenting a challenge at times. While he could not think of a way to overcome time and date differences, to him it was very

helpful to refer back to the forums regularly. Another Oceania participant felt that some professors did not speak English clearly. He also had difficulty joining a study group for his subject of study. Working in groups was harder as an international participant.

In addition, a third participant explained how, by participating in a MOOC from the other side of the world, she sometimes had to "get out of bed in the middle of the night to participate" (Sophie, New Zealand). While this limited her participation in the live parts of the course, those parts were often optional: "I didn't participate in that project, I simply need my sleep" (Sophie, New Zealand). While being on the other side of the world was a problem, being from New Zealand, there are many cultural similarities with U.S. participants. She also mentioned how while anyone who studies can get a good mark, participants with English as a second language seemed more likely to "misinterpret instructions and post assignments in the wrong spot" (Sophie, New Zealand).

One of the participants from Oceania mentioned how his own experience as an instructor of people with limited English skills makes him believe that language is likely a barrier for international participants participating in MOOCs, unlike in her classroom where participants had translators. To him, "using the site can prove difficult for some participants whose first language is not English" (Jack, Australia). He recommended that universities should translate instructions that help participants navigate the site. He also felt it would be helpful to include subtitles and promote a respectful and positive peer review system. Another participant from Oceania also mentioned how subtitles were helpful to participants "who might have difficulty with accents, or who have a lower

vocabulary, because it will enable them to actually look up the definition of words they are unfamiliar with" (Sophie, New Zealand).

A help or support system was also recommended where participants could share their problems and receive a prompt reply. She also believes that universities are addressing the problems over time as feedback is received and acted upon. When other participants were discussing the problems with internet speed, a participant from Oceania mentioned how in Australia there is public access to high-speed internet and free internet in a number of venues including public libraries. For the second participant from Oceania, his main difficulties were completing the quiz and assignments on time. With some courses being hosted on the U.S. West Coast and others on the East Coast, it was hard for him in Australia to keep up with the correct time for each course assignment.

How would participants like to see MOOCs improve?

Several questions in the focus group were considered relevant to understanding how participants would like to see MOOCs improve. These nine focus group questions were analyzed to help answer the fourth research question:

- F1Q2C - What else could be done to help address difficulties faced by international students taking MOOCs?
- F1Q3A - In your opinion, what kinds of things do MOOCs need to do to be culturally relevant and helpful in your local context?
- F1Q3B - How could MOOCs be modified, improved, or changed for them to become more appealing to students in your country?

- F1Q3C - How could MOOCs become more relevant to a broader number of people worldwide?
- F1Q4A - How do MOOCs affect your professional development?
- F1Q4B - How was your local and international professional network impacted by participating in this MOOC?
- F1Q4C - What are ways in which MOOCs could be made more meaningful to professionals?
- F1Q5A - How do you envision MOOCs impacting education in your country? (Please remind us of your country of origin and where you currently reside.)
- F1Q5B - Share your vision for MOOCs and education (formal and informal) over the next 5, 10, and 15 years.

Qualitative Analysis – General Overview

A key benefit of MOOCs is connecting learners and professors worldwide. MOOCs are global and tend to emphasize global over local concerns. Over time, participants hoped MOOCs might increase in local relevance with the support of governments, companies and universities. Various participants commented on the need to improve MOOC marketing and explain how MOOCs can benefit people at various career stages, not just traditional participants. For example, participants felt that employers remain mostly unaware of MOOCs and their professional development benefits. With the right approach, MOOCs can help millions more. Additional partnerships can increase MOOC impact, including further collaboration with local institutions and the use of MOOCs as CourseWare. MOOCs could also broaden their appeal by collaborating with

local NGOs and IGOs. Learners with lower English proficiency would benefit from additional translations and localized resources.

MOOCs help participants directly and indirectly, by broadening their understanding of multiple fields and/or helping them improve their expertise in a very specific subfield. Participants attend MOOCs with the hope of changing careers, obtaining a promotion, or due to their desire to learn something new, but employers seldom encourage participation among employees as a way to learn new skills. Focus group participants suggested that employers could require that participants complete MOOCs as professional development in the future. The participants felt that MOOC certificates currently have various limitations, not least of which is the way in which certificates are designed, which does not tell an employer or potential employer much information about the MOOC, the participant's performance, etc. In the future, to increase MOOC certificates' professional value, focus group participants suggested that certificates could include a serial number, participant's grades, topics covered in the course, the logo of the university, as well as other elements.

During the next five years, most participants believe that MOOCs will increase in visibility. Over time, they may offer academic credit, and industry-supported certificates. MOOCs may also have greater local participation, and increasing local-global collaboration. Focus group participants were hopeful that MOOCs would increase in relevance to a greater number of participants and offer new possibilities. With recent increases in the costs of traditional higher education, together with a growing international demand, participants believed that the higher education field could benefit

greatly from MOOC availability and improvements. For example, MOOCs can reach millions that are currently unable to enroll in higher education, as well as help participants who have yet to decide their field of study. High school participants will be able to test out various subjects before committing to a higher education program. MOOCs as courseware offer additional possibilities for future growth. Whereas MOOCs today offer mostly introductory courses, more advanced courses could be developed. Focus group participants acknowledged that MOOCs may not remain free forever, as they are forced to adapt to achieve sustainability. Technological improvements will also increase what is possible through MOOCs in the near future, making the courses available, relevant and engaging for a greater number of diverse learners from around the world.

Analysis by Region:

The following section shares the experiences of participants by region.

Africa

A participant mentioned how it would be a great idea to link the program to local institutions, which could help improve the MOOC's presence and recognition in the country. Another participant explained how courses in Coursera can be too advanced. She argues that, while for a western person Coursera can be like an "add-on", like a form of "continuous development", for a participant in Nigeria, the required foundational knowledge "is not already existent" (Asha, Nigeria). She mentions how the easiest courses were the MBA or other master level courses because the instructor did not assume participants had prior knowledge of the subject. Assuming a participant went to a

good high school and had a good high school education is also a problem. She explains, “That some or many African education is quite substandard comparatively. Especially in infrastructure, quality of educational resources and faculty. We do not use computers, projectors, internet usually. We don’t have functioning school or university libraries with books later than the 1960s” (Asha, Nigeria). She mentions how their pedagogy, theories, procedures and practices are usually dated. This participant explained how it is because of Coursera that she has learned more this year than in the past seven years when the participant attended a Medical College.

This focus group in itself was mentioned as a way in which to make the course more relevant as the study appreciated their feedback: “You are not treated like a dummy who just passively absorbs and ought not to deviate one bit from what was taught or said at the cost of loss of grade. I like the style, exposure and opportunity to participate in a more twenty-first century education system” (Asha, Nigeria). She explains that while she might complain the forums she greatly appreciated MOOCs and is very grateful for the opportunity. She feels it is important to let faculty know of problems, as they may not be aware of “your peculiar challenges” (Asha, Nigeria). Sometimes staff can help by moderating the atmosphere including asking participants to “consider the other might not be a native-English speaker in peer grading or requiring more courtesy on the forum” (Asha, Nigeria).

Another participant explains how “semi-MOOCs” or in-person events would be helpful: “Semi-MOOCs, meaning an avenue for physical interaction between the participants and the lecturers” (Zoya, Nigeria). To her psychologically, many people

locally consider online programs less valuable than classroom in-person learning experiences. An in-person meeting to kickstart the MOOC or other in-person events would increase its legitimacy. In addition, she explained how it would be helpful to increase the strength of the certificate by working with countries' embassies and linking with internationally recognized NGOs. She also felt it would be helpful to link the program to some network of the labor market to help participants find jobs.

Another recommendation related to giving participants access to an online library or journals, including some form of institutionalized login. The participant (Omari, Zambia) supported charging participants a fee as well as providing certificate courses (or longer courses) rather than only short module courses. Last, he felt that allowing participants to "earn credit would be excellent" (Omari, Zambia).

One participant explained that if she had graduated from an Ivy League college then attending a MOOC probably makes little difference for her future. She, however, lacked any education credential, having lost her high school certificate 30 years ago. This participant further stated that now she has over 70 Statements of Achievement and hopes to complete 100 Coursera courses by next year. After completing the 50th course, she was told by Coursera that the whole staff knows her. She mentions feeling on top of the world: "I said in my street, in my community, in my country I am a nobody. But through Coursera… people know me. I received phone calls from two reporters from the U.S." (Asha, Nigeria).

She mentions that Coursera has made a "huge" difference. However, she is uncertain if it will translate into a job. While its economic impact on her life is yet to

materialize, she mentions that it had a major impact in her self-esteem. “I already have washed away so many years of low self-esteem through Coursera” (Asha, Nigeria). “So yes, yes Coursera has made a huge, HUGE impact on my life. I can’t say enough thanks to moocs :)” (Asha, Nigeria). This participant mentioned how she earns less than $1,000 each quarter. Nevertheless, she feels there is a lot of potential for MOOCs to enable participants to access new opportunities. She has personally encouraged others to participate in Coursera courses, including his physician who wanted to know more about antimicrobials.

Despite the potential, she explains that there is little marketing for MOOCs locally. “It’s all over in the news in western countries, here it is almost non-existent in the mass media” (Asha, Nigeria). She feels that MOOCs “might be that magic bullet to help Sub-Saharan Africa especially as some of the challenges are being tackled” (Asha, Nigeria). To this participant, the dropout rate in MOOCs was not consequential, as all participants are required to do to register for a course is fill out a very simple form. Many people may register for a MOOC with no real intention of participating, let alone completing the course. For this reason, she did not believe that it was reasonable to compare MOOC dropout rates to those of traditional courses.

Another participant explained that more than a professional impact, it had allowed for self-enrichment and a better understanding of subjects. To make it more meaningful, he suggested requiring minimum criteria for joining. While the participant had completed a number of courses, he had not been very active in the forums. To him, with “people of various levels of understanding and training, the quality of debate and postings are not

very enriching" (Omari, Zambia). He also recommended offering academic credit to participants. While he doubts there is a professional impact, he believes it has helped him learn "many new things despite already having a higher level of academic achievement" (Omari, Zambia).

When asked to share their vision of MOOCs over the next five, ten and fifteen years, one of the participants explained how he is "completely biased towards moocs" (Asha, Nigeria). To him, MOOCs are being now impacted by industrialization and globalization, with education now having major changes after "thousands of years" (Asha, Nigeria). Citing the movie "The Matrix," where people are connected to a computer and learn instantaneously, this participant believes we are headed in that direction. However, she felt MOOC credentials need to be improved by adding additional verification systems (Such as requiring a system like Signature Tracks in all MOOCs), and for employers to MOOCs as valuable employment qualifications. Despite her enthusiasm, she does not believe MOOCs will replace traditional brick and mortar schools, comparing the two to online and regular commerce, with both having their space within the industry.

When discussing reasons as to why education has taken longer to change than other sectors, she mentioned that the infrastructure is only now changing to digital, allowing groups to communicate remotely and "hence moocs" (Asha, Nigeria). She noted that this is especially true with respect to verification services and testing. Now with webcams, remote software and other advancements, participants can complete online testing and participant identities can be verified. She believes that there will be constant

improvement including tactile-feedback, virtual reality, and even systems for digital smell, all or which would allow, among other things, “medical participants to practice remote clinicals or engineers remove circuits” (Asha, Nigeria).

Another participant explained that he believed MOOCs will have a major impact in coming years, commenting that already millions are participating in places like India. From this participant’s perspective, in India the internet is cheap and widespread, and “[w]ith communication technologies improving in Africa, MOOC will also become increasingly popular” (Omari, Zambia). The participant mentions how currently most courses are for undergraduates, but hopefully there will be higher-level courses from popular universities also online in the future. He believes this type of course will grow exponentially because of the high cost of campus-based courses and what these courses offer.

Asia

One of the participants (Sai, India) suggested the use of additional, supplementary readings to focus on other perspectives. “Or perhaps a quota distribution could be in place. Maybe of 3 readings, 1 could be theory, and the other 2 could be a ‘local’ perspective and the other could be an ‘international’ perspective” (Sai, India). Another participant (Riya, India) expressed a similar opinion, and explained that it was helpful, at least in humanities courses, to look at most issues from three different perspectives: “(1) the developed world, (2) the developing world & (3) the undeveloped world” (Riya, India).

The increased usefulness of certificates was also mentioned as a way in which to improve MOOCs and make them more appealing to participants: “Accepting MOOC [certificates] might make it easier for rural participants [to] see the value of online education” (Aadhya, India). She also mentions how this may also be perceived as a threat to the teaching community as it could affect their livelihood. MOOCs being developed in other languages and for remedial courses was also seen as important by some participants (Che-wei, Taiwan). Remedial courses could help participants improve their writing, or provide them with the mathematical knowledge required for more advanced courses. While participants may have a good understanding of English, some participants may not “be proficient enough to perform homework or peer assessments in this second-language” resulting in lower scores in assignments (Che-wei, Taiwan).

A link with a local university was also mentioned as helpful. Making a link with a “few universities or institutions in India to promote MOOCs as an existing form of reference to further our knowledge in a particular area, it would be very helpful” (Sai, India). This participant mentioned how, by taking MOOCs, she was able to gain a better understanding of an area of study that isn’t well-taught in India. A participant from Malaysia (Pari, Malaysia), also felt that greater advertisement would be very helpful and as well as greater involvement of local universities in helping to monitor forums as well as advertisement. Local universities could also help in assessment and by providing credits.

Despite the benefits of local involvement, to some participants (Anaisha, India), it is important for MOOCs to remain “global, boundaryless”: “Instead of breaking down

itself into small local contexts, emphasis should be on building a global context" (Anaisha, India). Rather than focusing on making MOOCs local, the participant suggests in focusing only on not making MOOCs a "test of English" and work on eligibility criteria from a "global perspective" with an emphasis in participants who want to learn rather than their nationality (Anaisha, India).

By collaborating with local universities, local institutions could award participants credentials that would be more valuable locally (Alina, India). Local partners can help participants in the process of continuing their education locally as well as helping increase the relevance of one's MOOC achievement in a resume or CV (Alina, India). Another participant (Anaisha, India) complained after taking over twenty MOOCs about the quality of instruction in her home country of India explaining that while instructors have the requisite knowledge and education, that instructors in India are not 'good' instructors, and lack 'method' in their teaching in comparison to MOOC instructors. Apart from a few exceptions, she mentions that she "would not take course by an Indian Instructor given the choice" (Anaisha, India).

To some others (Sora, Sri Lanka) the courses were close to perfect as they were. Instead of modifying these courses to be more culturally relevant, this participant suggested that more courses could be developed by universities in other parts of the world. Collaborating with local universities can help MOOCs grow as well as provide access to higher education in people's mother language (Che-wei, Taiwan). Another participant (Reyansh, India) hoped MOOCs would be consolidated under a single organization, as that would increase the relevance and recognition of the certificate.

While certificates could be made more relevant, “the real pleasure is in broadening our horizons” (Sora, Sri Lanka). Another participant (Reyansh, India) mentioned that part of the problem with MOOCs is the lack of instant achievement, with a friend deciding not to participate in MOOCs because they would not help him in obtaining a promotion. Some suggestions to address this issue included further reaching out by Coursera and universities developing MOOCs to employers so that MOOCs are more relevant in the job market and can improve participants’ career prospects (Anaisha, India). It will also be helpful to publicly share participant success stories.

It seemed that most Asian participants (Anaisha, India) did not believe MOOCs had an impact on their professional or local networks, but they had some impact on their professional development, although a much bigger professional development impact is possible in the future. Some recommended solutions included offering MOOCs beyond introductory courses, industry accepted certificates, and greater collaboration with employers.

Relating a personal story, a participant (Camille, Philippines) mentioned how she learned from Dr. Jason Hill’s course as it “tweaked my curiosity and aptitude when it comes to agriculture”. Since the course, the participant was asked by the governor of the island to exchange ideas and discuss vegetable cultivation on the island and her plans for cultivating tomatoes after sharing her newfound knowledge from the course. While the participant declined the invitation because she does not consider herself an expert, she noted that various new opportunities opened after participating in the MOOC. The

participant is planning to continue to learn about agriculture and visit an agricultural school in the south of her country in the near future.

Another participant (Sai, India) mentioned how employers could use MOOCs to their advantage and would benefit from them being free. He found them to be very helpful for employers who seldom are willing to pay for employee development themselves. MOOCs could be used as “continuing education requirement for employees” (Pari, Malaysia). One participant (Reyansh, India) mentioned how MOOC had made him better at his job. “I am brushing up self-confidence too” (Reyansh, India). MOOCs can also help people broaden their professional development, “in so many areas of past interest that may be deteriorating, as well upgrading those of current interest” (Viktor, Malaysia). In addition, one focus group participant explained that participants with a limited academic past could benefit extensively from MOOCs (Reyansh, India).

By contrast, other participants (Riya, India), did not feel MOOCs would be very useful for employers, as she had not yet taken a MOOC that was related to her professional vocation. Another participant (Pari, Malaysia) supported this position sharing that she had only taken science-based MOOCs while having an accounting background. The participant who had taken mainly math related MOOCs (Alina, India) considered her MOOC participation to be mostly a hobby and does not think she will eventually work in a math or science-based job in the future based on her MOOC experience.

Obtaining a recognized certificate as a result of MOOC participation was very important to some (Alina, India). This participant (Alina, India) explained that while

MOOCs may be very helpful in the U.S., locally courses need to be affiliated to a local university or professor to be locally relevant. To this participant, without a recognized certificate, MOOCs will continue to have a more limited professional value.

Another participant (Riya, India) explained how it would be helpful if MOOC courses could be carried over into a qualification in a broader field. For example, courses in finance management, materials management and other short MOOC counting towards a broader business management course. Another participant (Sora, Sri Lanka) had taken mostly MOOCs related to their professional career, but this participant had only completed one MOOC so far despite registering for various courses. For MOOCs to be more meaningful to his professional development, it would be helpful if MOOC providers engaged employers so that courses can be developed taking into account the skills that would be required for employment (Pari, Malaysia). Having input from the employer would also increase the recognition of the certificate.

Other benefits of MOOCs for employers mentioned by the participants included, MOOCs short duration, and the ability of MOOCs to quickly update the knowledge of many employees (Pari, Malaysia). While some “yak around about [their] MOOC achievements,” he has also been afraid to include them in his CV “for fear of getting laughed at” (Reyansh, India): “here everybody is new/alien to MOOCs” (Reyansh, India). In addition to helping participants learn more about their current professional field, a person can also “develop [his] future specialty from experience in MOOC(s)” (Mohammed, India). MOOCs can also help participants review other fields of study before starting their work career (Viktor, Malaysia).

Another participant (Anaisha, India) was very skeptical about how MOOCs could be more helpful in the future, believing that MOOCs are unlikely to remain free. This participant suggested that MOOCs were currently free to enable the institutions and organizations coordinating them to learn more about participants' online behavior, logistical issues, security challenges, figuring out what works, and address other hurdles needed to eventually develop MOOCs under a for-profit model. This participant (Anaisha, India) considered the focus group part of this study that will help organizations eventually market MOOCs as for-profit online courses.

When asked how MOOCs were impacting education in their country and their vision for MOOC over the next five, ten and fifteen years, a participant from India (Sai, India) mentioned how MOOCs enable participants to learn about other teaching methods. A participant from Malaysia (Pari, Malaysia) was surprised there was still no local university offering MOOCs. While she did not feel there would be much change locally in the use of MOOCs, perhaps in 15 years there would be a lot more local involvement. To her (Pari, Malaysia) MOOCs provide an alternative to the current system, expanding the universities' role in providing education and hope for millions.

While in places like Sri Lanka (Sora, Sri Lanka) participants can attend university tuition free, only a small number of people do attend. To him "there is a huge place for MOOCs in our country" (Sora, Sri Lanka) as MOOCs have a greater use as an informal mode of education. A participant from India (Reyansh, India) felt that MOOCs could bring out the best of the world and allow participants to "tune themselves to a global level

of academics" (Reyansh, India). This participant felt that the future will be "virtual/digital and not institutional" (Reyansh, India) replacing one on one interactions. \

By contrast, when thinking about the future, one participant (Sai, India) felt that that online education should not take over the role of traditional education: "I do not believe that getting the whole education process onto a virtual platform would be something I would support" (Sai, India). Other participants felt differently. To another Asian participant (Riya, India), as technology advances, "the lines between on-site learning and MOOCs are going to blur to a great extent" (Riya, India). To her the real resistance is not from learners, as millions could benefit from these courses, but from universities and teachers who may be reluctant to teach practically anonymous participants. Universities, however, need to "work out a proper fee structure and 'franchisee' arrangements" because, until then, MOOCs will continue to be secondary to traditional in person courses.

Another participant (Pari, Malaysia) felt that the reluctance to use MOOCs was mainly a reluctance to new things and felt MOOCs would be more of a secondary option. A participant from Sri Lanka (Sora, Sri Lanka) mentioned how for him, it can be difficult to pay for courses and MOOCs can help people learn whatever they want. A participant from Malaysia (Viktor, Malaysia) explained how in Malaysia a course's recognition is regulated by the Malaysian Qualifications Agency (MQA) and a license is required for courses to be recognized locally.

To him (Viktor, Malaysia) the top MOOCs could make inroads with local universities becoming involved as well but local universities may be unable to meet same

level of quality initially. In 10-15 years, He believes a large portion of education will take place online either formally or informally. He also expects Singapore to be at the forefront of the process. A participant from Taiwan (Muhammad) explained how only one local university is currently equipped with MOOCs.

This participant felt that MOOCs show that increasingly flipping the class is possible, where participants can watch lectures whenever it is best for them, and more active discussions in regular meet ups and more time for group activities during class. In the future, the participant believes more online learning will be accredited and more participants will be able to complete degrees from their homes. One participant from India (Anaisha, India) provided a detailed explanation about how demand is developed using MBAs as an example and how MOOCs are unlikely to remain free with the current system mainly testing what is possible.

This participant felt that MOOCs were unlikely to make a major impact in India in the short term. Part of her concern is economics and technology accessibility: “In India, participants do not have the luxury of having individual laptops or tablets to themselves. There is typically a desktop ‘per family which is shared by everyone” (Anaisha, India). The participant also mentioned difficulties with internet access. In 15 years, however, she considered that MOOCs could be making a significant impact. To her MOOCs will have a much larger impact if institutions start offering degree/master courses online similar to what they currently offer on campus.

America (W/o U.S.A.)

Participants were asked about how MOOCs could become more culturally relevant for participants, one participant explained how the answer would vary greatly depending on the subject of the MOOC, with courses in areas like math, information technology, or history needing no adjustments, while for courses in areas with regional cultural or physical differences it would be helpful to have “experts [participate] from a wider geographical range” (Alejandra, Canada).

Another participant (Phillip, Argentina) felt the appeal of the courses could increase if they were offered from other regions including courses by European universities, as they would not include a North American bias but a different bias, allowing participants to experience courses from different cultural points of view. To one participant (Rosa, Canada) this was very important also for U.S. participants, as very few of them have travelled outside of the United States and consider the U.S. to be the “center of the Universe” (Rosa, Canada).

While some courses state that a participant does not need to have a background in the field, some of the concepts that are assumed by the instructor to be common knowledge may not be in fact common knowledge for some international participants (Carmen, Argentina). To address this issue, this participant (Carmen, Argentina) felt it would be helpful if introductory reading materials were made available, as well as additional partnerships with local universities including Latin American institutions. Going further, it would be helpful if Coursera partners with governments and companies and registers both the grades and additional information about the course, including its

contents, on the statements of accomplishment given to participants who complete the MOOC (Leo, Brazil).

One way to reach a broader number of people is by allowing people to participate using their smartphones. One participant's (Alicia, Argentina) solution to increasing the appeal of Coursera was to expand courses offered by Coursera to other parts of the world. "Just [have] other countries contribute courses to Coursera" (Alicia, Argentina). When taking a MOOC in Spanish offered by a university in Chile she noticed that there was greater local appeal. "To be more appealing to participants in my country, some of my country's universities may engage with their MOOCs". To her any "internationalization" of "contextualization" would be detrimental as it would hurt the "MOOC spirit" and would prefer to invite new partners rather than modifying current courses (Alicia, Argentina).

While another participant (Rebecca, Brazil) did consider language to be a major barrier for some, according to her, international participants are often aware of some of these difficulties before enrolling and she saw "no point in trying to adapt [MOOCs] to other cultures" (Rebecca, Brazil). This participant then went further to explain that, for participants in Brazil, she could not think of anything apart for language and contact with other participants that could help MOOCs appeal to more Brazilian participants. She also mentioned that pedagogically she felt MOOCs were superior in their style of instruction to her undergraduate instructors in Brazil.

Another participant (Leo, Brazil) also from Brazil disagreed. To him, MOOCs are better utilized as technical or professional level training rather than as a college level

course competing with traditional universities. While they are a sign of expertise in a subject, and should be seen as such by employers, MOOCs are often of brief duration. He then suggested that participants be given a possibility of earning or winning signature track certification to increase the practical value of their MOOC credential, as the cost of signature tracks can be a financial hurdle for many international participants. To some participants (Ludimila, Brazil) cost is another major hurdle in addition to language, and sometimes it is a combination of the two: “Few people in my city speaks English and they can’t pay for traditional English courses, so if they even are interested in MOOCs, they won’t participate because English is necessary” (Ludimila, Brazil). To her MOOCs continued improvements would benefit many, allowing for the development of a large forum where participants can exchange ideas and develop friendships.

When thinking of long-term benefit, one participant (Ludimila, Brazil) mentioned how a friend had been able to use MOOCs to improve her programming skills and was now likely to receive a promotion as a result. MOOCs have gained greater popularity over time. When she (Ludimila, Brazil) first learned of MOOCs, none of her friends were participating, but now many more people know about MOOCs, although, in Brazil, many still do not know about MOOCs. She suggested that, for Coursera and MOOCs to further expand and increase in local relevance, it would also be helpful for organizations to offer participants a course on how to develop a MOOC themselves.

To increase awareness of MOOCs, it would be helpful to partner with local educational and public institutions, as well as increase awareness though the use of social media, and develop subtitles in Brazilian Portuguese (Sandra, Brazil). Another Brazilian

participant (Leo, Brazil) also felt that it would be helpful to develop new partnerships between institutions, especially between Brazilian and American universities.

When asked if the MOOC impacted their professional career and how, for one participant (Phillip, Argentina) it had been a way to study in a field different from his profession. He explains that, despite living in an area with many universities, MOOCs provide an additional convenience not offered by the other institutions. Unlike local courses, MOOCs were more likely to be taught by “well-known people in the subject matter which gives it credibility" (Phillip, Argentina).

Another participant (Alejandra, Canada) explained how the knowledge learned on the MOOC had allow her to apply for a new job. The participant (Alejandra, Canada) also made contacts for political lobbying through MOOCs. To her MOOCs have been a source of ideas and information sharing. Nevertheless, other focus group participants felt that MOOCs could do more to encourage networking. According to various participants (Alicia, Argentina) the MOOCs in which they had participated had little to no networking impact. Another participant (Sandra, Brazil) was more optimistic, stating that although MOOCs did not help her current work and professional network, MOOCs could help other professionals and were helpful as background for the classes she is taking at university.

For one participant (Rosa, Canada) MOOCs need to be more difficult, layered and structured to be acceptable as professional qualifications. Providing participants with more details about the MOOC and its difficulty would reduce the number of participants who develop false expectations and potentially reduce dropout rates. While certificates

may become more useful professionally in the future, their current value was seen as limited. One participant (Alicia, Argentina) explained that MOOC certificates currently have little to no value in the professional sphere: “Personally I do not value the certificate and I do not know any employer or hhrr [human resources] recruiting professional who even know what it is” (Alicia, Argentina). Despite the challenge, she felt an improved certificate is the best way to increase MOOCs’ professional recognition. Another participant (Rebecca, Brazil) argued that certificates would be much more valuable if they were considered a specialization.

For another participant (Carmen, Argentina) she used her sabbatical to commit a substantial amount of time to MOOCs. She took MOOCs in areas that she felt she was lacking experience with the goal of redefining her “professional profile towards Information Technology” (Carmen, Argentina). For her, while MOOCs did not provide academic credit, she felt they were likely to pay dividends in her next job. Similarly, a focus group participant (Rebecca, Brazil) who specializes in language translation felt that MOOCs had a lot to offer to her professional career. She felt it would be very helpful if more courses offered certificates. It would also be helpful to improve the quality of the certificate. The certificate “says more what it is than what it is not” (Leo, Brazil). Other participants (Sandra, Brazil) felt it would be helpful to reduce the size or removing the disclaimer currently included in the certificates that explains that the MOOC certificate is not equivalent to a course taken at a university.

When asked about the impact of MOOCs on friendships, focus group participants did not perceive a lasting impact in many cases. One participant explained the lack of

lasting connections made in MOOCs as due, in part to a lack of face-to-face interaction with other participants, as she felt that most people are not interested in keeping in touch with a stranger (Rebecca, Brazil). Another participant (Leo, Brazil) felt that MOOCs' impact on professional and personal relationships is hard to perceive or feel immediately but could become more apparent later on: "The knowledges are incorporated and they will make effect or affect us as time goes by" (Leo, Brazil). He also shared that as a medical doctor that he had seen many patients become very interested in MOOCs when they learned about them. To him MOOCs will likely spread through his country.

Another participant (Fidel, Venezuela) felt that MOOCs and access to knowledge would be increasingly important in the future, with a greater emphasis on personalized, lifelong and universal education. He explained that it was important to "accelerate their development to provide access to education to people in developing countries… Smartphones and MOOCs, as an example, could definitely help build a better, more sustainable world" (Fidel, Venezuela).

When thinking of MOOCs in the next five, ten and fifteen years, one participant (Phillip, Argentina) shared how MOOCs allow a participant to continue learning without "necessarily enrolling in a long-term program that might be difficult to follow through on a regular basis" (Phillip, Argentina). For another, (Alejandra, Canada) MOOCs are not about replacing classroom time, but creating new international connections with participants from all over the world and creating access to education for people in remote areas and all over the world: "They present an unequalled learning opportunity" (Alejandra, Canada). To her a major advantage of the MOOC format is that it can provide

access to everyone regardless of his or her socio-economic status and help to decentralize "knowledge power" from developed countries (Alejandra, Canada). In this participant's opinion, the information sharing that takes place in MOOCs "is bound to make the world a better place" (Alejandra, Canada).

Another participant (Rosa, Canada) felt that, despite the benefits of MOOCs, changing educational paradigms is an extraordinarily difficult task or "like trying to turn a supertanker on a dime" (Rosa, Canada). By contrast, a participant (Alicia, Argentina) from Argentina felt that in five years, professors may either require or encourage the optional participation of her participants' in MOOCs, with professors using MOOCs as a tool to supplement, rather than replace, traditional courses. Eventually in 15 years, she felt that many professional skills will be available for learning using MOOCs and it will be more accepted within the formal academic community. Another participant (Carmen, Argentina) from Argentina felt that MOOCs could be very valuable as an alternative for people who live far away from big cities. She envisions that, in 10 years, MOOCs will provide academic credit.

Similarly, a participant (Rebecca, Brazil) from Brazil believed that MOOCs would likely have a greater formal and informal role in education in the future. According to her MOOCs will "soon formally be part of college syllabus as an extension or specialization or even they will operate as some sort of substitution for courses of higher or maybe technical education level that require classroom attendance" (Rebecca, Brazil). Another participant (Sandra, Brazil) also agreed, believing that MOOCs would be increasingly accepted for credit and workers could use them to obtain qualifications.

While currently there is some prejudice against MOOCs and online learning, to her this is likely to change in the next 5 years.

Another participant (Leo, Brazil) from Brazil explained that, currently, a participant-exchange program called “Science Without Frontiers” sends one hundred thousand Brazilian participants to the best universities in the world at no cost. For this participant, MOOCs can go even further with online education have the potential of reaching millions of people all over the world. He imagines MOOCs “linked to governments, companies, and international organizations in order to achieve its goals in providing people education, high cultural level, and autonomy and financial independence” (Leo, Brazil).

A participant (Fidel, Venezuela) from Venezuela shared how MOOCs help address some of the “neediest areas” including agriculture, mathematics, management, computer science, and others (Fidel, Venezuela). Consequently, this participant argued that all universities worldwide should cooperate in MOOCs. To him, the global educational model will be modified by MOOCs over time and all universities in the world should unite and develop MOOCs in cooperation. Likewise, another participant (Sandra, Brazil) considered MOOCs to represent “Global Education itself” (Sandra, Brazil).

Europe

Millions of new participants could benefit from MOOCs especially those that have “no hope of attending any type of university” (Sasha, United Kingdom). In fact, the majority of participants from Europe proposed only minor changes to the MOOCs, as

they were generally satisfied with their experience. One participant (Ivan, Russia) favorably compared MOOCs to brick and mortar universities: “Real-life bone-and-flesh university-level courses for grown-ups are offered just in some big cities, WHEREAS MOOCs are a similar opportunity for everybody everywhere (provided the internet reaches them)” (Ivan, Russia). They allow you to access information at prestigious universities and teachers. While there was widespread support for MOOCs, some participants (Elena, Spain) also pointed out that MOOCs are unlikely to bring down the cost of regular higher education. “I do believe myself that MOOCs are such a good idea than it’s better than everything else” (Laura, Romania).

Rather than changing Coursera, some participants (Max, Nikita) emphasized how Coursera already offers a diverse number of courses and how learners who take part in Coursera represent a special type of person: “We are all ‘addicted’ to learning (most sign up to more courses they can handle” (Max, Switzerland). This participant (Max, Switzerland) from Switzerland then went on to discuss how many people have yet to learn about Coursera.

Increasing the visibility of MOOCs was recommended as a solution. One participant explained how she first learned of Coursera though a Facebook friend. (Nikita, Ireland). She learned about a course that after a few years is still is in development and has not started. Yet by learning about Coursera from her friend, she “discovered a pot of gold!” (Nikita, Ireland). Since then she has had a great experience in Coursera and wishes more people new about it. While there have been some positive changes like working closely with LinkedIn, more could be done for advertisement and

visibility. Other participants also felt there should be more advertising, “at least on the internet and on the main page of the universities participating in the courses” (Ivan, Russia).

To some “modifying content or changing deliver styles can only decrease quality” (Nekane, Spain). On the other hand, another participant (Brandy, Spain) felt courses need to do more to be culturally aware of differences internationally. For example, a topic like GMOs can be complex to discuss internationally: “Whereas GMOs are more widely accepted by participants in the U.S. GMOs are kind of a taboo in Europe” (Brandy, Spain). This led to some participants feeling offended when GMOs were discussed as a key solution to world hunger. Another participant (Lizzie, Netherlands) mentioned also taking a course about food and there being many cultural differences.

Other participants (Nikita, Ireland) were more critical, supporting additional changes in MOOCs, such as for larger MOOCs lasting 11/12 weeks to be divided into mini MOOCs of four weeks each. Currently, while some MOOCs last only four weeks, others can last twelve weeks or more. To increase retention and completion rates, focus group participants suggested those longer courses should probably be broken up into smaller MOOCs. The different parts or MOOCs comprising a broader course could follow each other in sequence. According to one participant from the UK (Albert, United Kingdom) who had been enrolled in an Open University, MOOCs also offered the added benefit of being shorter, requiring a smaller time commitment than the six to nine-month time commitments required by the Open University courses she had attended.

Concerns about MOOCs demanding too much from participants was not uncommon. For example, one participant (Lizzie, Netherlands) explained how without a break for a “mid-term review” she would not have had the time to complete the course: “I don’t know if I would have succeeded without those short breaks” (Lizzie, Netherlands). Another participant (Brandy, Spain) who often recommended MOOCs to his friends argued that time availability and English proficiency are two main requirements of MOOCs but that having more flexible deadline should make MOOCs more attractive.

When talking about the certificate and evaluation components of the MOOCs, one participant (Max, Switzerland) expressed some concern that testing was perhaps too easy, overly theory-based (few or no labs available), and that cheating is harder to prevent in MOOCs than in traditional courses. Another participant (Nikita, Ireland) agreed with the virtual lab idea, commenting that if MOOCs could include virtual labs in the future, that would take MOOCs “to the highest stratosphere in terms of education on-line!” (Nikita, Ireland).

Regarding certification, one participant (Sarah, Portugal) felt it would be helpful to connect colleges and universities to certificates equivalent to other educational achievements. Without a greater recognition of the certificates, the participant felt they would not be as helpful in one’s CV as traditional courses. A basic upgrade to the certificate could be to include the number and date of issue on the certificate, as well as the logo of the University where the course was taught (Ivan, Russia). If the MOOC is formally recognized as a part of the curriculum, many more participants will become

aware of them and interested (Joseph, Spain). Another suggestion was for MOOCs to offer a “full track of courses equivalent to a full study program” (Laura, Romania).

Others (Brandy, Spain) were less interested in a certificate or formal credential, explaining that, for them, what was important was “the knowledge you have gained throughout the course. Your knowledge is still the same, no matter if our statement is certified or not” (Brandy, Spain). To her (Brandy, Spain) universities and employers should be more accepting of certificates received from MOOC completions. Cooperation between universities to release the same MOOC and include local adaptations to make it more useful was also suggested (Steven, France).

Regarding the local relevance of MOOCs, an Italian participant (Allison, Italy) explained that “open university” is not a common system in Italy. MOOCs offer a possibility for people that are not currently enrolled in a University, yet she could not see how having courses in Italian by an Italian university would be better as they would likely be local. A Russian (Ivan, Russia) participant explained that MOOCs for Russian participants are already culturally relevant, and he saw no problems with them as they are currently.

A participant from Spain (Joseph, Spain) who felt that although MOOCs were great as they were, also acknowledged that many more participants would benefit from MOOCs if they were also available in Spanish. Participating also from Spain, an unemployed participant (Elena, Spain) explained the benefits of free education services for unemployed people. In Spain, there is currently a 26% unemployment and 50% underemployment rate. Although this participant (Elena, Spain) also pointed out that

MOOCs in Spanish can also be found at https://www.miriadax.net, other participants (Raul, Spain) felt there still not many Spanish universities involved in MOOC development and most people still do not know what MOOCs are.

Collaboration was preferred over localization, with one participant (Steven, France) proposing a MOOC created through cooperation by various universities from different countries, where instructors could provide a range of different opinions and perspectives: “Maybe the same MOOC could be taught in different tongues and subtitled in several” (Steven, France). Requirements for participating that need to be taken into account are a good computer and internet speed. A participant (Nikita, Ireland) also supported the use of institutional fees. This participant was also supportive of making courses “more generic in nature” as to appeal and apply to a greater number of people. MOOCs should also allow materials to be downloaded so that they can be used also as courseware (Nikita, Ireland).

A participant from England (Tim, United Kingdom) felt very little needed to change for MOOCs to be more appealing in the UK. A participant from Norway (Martin, Norway) felt similarly. According to the participant in Norway, about 99% of Norwegian television is in English with Norwegian subtitles. Only children’s movies and shows and fully dubbed. As such, he did not feel modifications were needed to increase the appeal of the MOOC in English, but had MOOCs been in Chinese or Russian he believes it would be different as he is not familiar with these languages. A participant from France also pointed out that there are already courses in other languages, including courses in French offered by prestigious institutions from Lausanne, Geneva and Ecole Normale

Superieure. By contrast, other participants believed that, to improve MOOCs further, course creators should consider greater contextualization and consciously act to reduce cultural biases and stereotypes. (Laura, Romania).

When looking at the different motivations for participating in MOOCs, the majority of European participants (Joseph, Martin, Catherine, Martha, Lizzie, Brandy, Gilbert, Ivan, Sasha) were taking MOOCs for the fun of learning while also improving their skills on a subject: “These are not offered as qualifications to practice a profession, but are valuable continuing professional development” (Martha, Netherlands). MOOCs allow a participant to continue their education from home and take courses from prestigious universities (Laura, Romania). Nevertheless, one participant (Lizzie, Netherlands) shared how her supervisor reacted very positively once she found out she was taking MOOCs. The first MOOC the participant (Lizzie, Netherlands) took was for professional development but the second MOOC was not related to her line of work. To this participant (Lizzie, Netherlands) “if you take the MOOC(s) seriously, you will tell a good story about your professional development, and your manager will be serious about it as well”.

To her that fact that MOOCs are free does not mean they are worth nothing. MOOCs not only demonstrate “one’s interest in the subject but also a recognition of one’s continuing interest in professional/personal development” (Nikita, Ireland). While some employers do not trust e-learning, some participants believed that MOOC participants should (Laura, Romania) do their best to explain to the employer the benefits of online courses. One participant (Sasha, United Kingdom) explained that if she was in

the early stages of her career she would make the case to her employer and “challenge those who dismiss their value” but that “it is quite likely that they have very little idea what they are talking about” (Sasha, United Kingdom).

Another participant (Brandy, Spain) also explained that she had joined MOOCs for her personal interests, not as part of a formal professional development objective, yet she looks forward to using obtained certificates in her future career. This was also the case with another participant (Sasha, United Kingdom), who felt that whether or not the MOOC was closely related to her work, it had considerable value to her work and development. Another participant (Nikita, Ireland) explained how MOOCs did not apply to his current studies but hoped they will be helpful to his professional career in the future. Another participant (Max, Switzerland) shared how MOOCs allow one to build up their own curriculum vitae. “I can try out introductory courses in areas new to me. Specialized courses offer cutting edge material that would be very hard to find on my own” (Max, Switzerland). To one participant (Tim, United Kingdom) MOOCs have helped him explore an interest that he may pursue further in the future thanks to his positive experience.

To other participants (Ivan, Russia) MOOCs were closely related to their professional career. For example, a researcher in the Department of Food Production, had taken MOOCs that helped him stay at the forefront of scientific research in the field, commenting that the “design and results of the studies are very useful for me in the professional sense” (Ivan, Russia). Resources that were not directly related to his profession were also helpful in expanding his horizons. Another participant (Steven,

France) who works in the wine industry explained how he was initially unemployed and is currently underemployed, and that he saw MOOCs as a way to complete his education. This participant believed that while he initially saw little professional impact of MOOC participation, as time has gone on, MOOCs have increasingly helped him in his professional career. Other participants were more measured in their assessment of MOOCs' utility for professional development. For example, a participant from the UK (Martin, Norway) commented that although MOOCs may help many participants in their professional development but not necessarily to the same extent as a "course with a degree would" (Martin, Norway).

Another participant (Sarah, Portugal) explained how MOOCs help any worker, as they help develop important skills for every job like "public speaking, innovation, leadership, etc." However, when asked about her professional network, she did not feel that despite meeting people in a group activity from Australia, United Kingdom, India, Ghana and other places that her professional network had expanded. Another participant (Gilbert, Spain) worked in the MOOC with people from her work strengthening their relationship.

However, he added participants from the course to his LinkedIn and joined a group in the social network following his advice. Another participant (Allison, Italy) also joined a LinkedIn professional network after her MOOC experience. This participant (Allison, Italy) later learned that one of the people in the LinkedIn group lived across the street. To her professional network is already possible in the MOOCs forums. "However, anonymous postings don't really help networking" (Allison, Italy). Various other

participants (Allison, Ivan) also included their MOOC achievements on their LinkedIn pages, with one participant (Tim, United Kingdom) including his MOOC completions within his certifications section of his LinkedIn profile.

A participant from Romania (Laura, Romania) who had completed seven MOOCs between Coursera and EdX, had included all of her courses in her CV and had so far received four certificates. By contrast, another participant (Raul, Spain) felt that, despite being useful, MOOC certificates were not equivalent to a traditional certification. Not all participants (Ivan, Russia) found other professionals in their area based on their MOOC participation and also felt that MOOCs had not had much of an impact in their professional network, (Brandy, Martha, Albert, Tim) with some not knowing anyone else who had completed a MOOC locally (Martha, Netherlands).

Nonetheless, other participants (Nikita, Ireland) felt that their MOOC participation will impact their professional network positively in the future. To some (Steven, France) MOOCs could do more to encourage interactions by professionals in specific fields, maybe by “encouraging people to meet in the forums, [or] do some group work” (Steven, France). Forums could be used by recruiters to find potential employees (Martin, Norway). It was also clear that MOOC certificates are not offered in the same way as a license/degree that takes 3 to 4 years full-time on campus to complete (Martha, Netherlands). A participant from Greece (Catherine, Greece) did not believe MOOCs would have an impact on her professional profile. While Coursera is working with LinkedIn, to her “this doesn’t mean much to [her] professional position” (Catherine, Greece).

Some participants (Joseph, Spain) also met other professionals within MOOCs. When thinking of ways MOOCs could become more meaningful to professionals, one participant (Brandy, Spain) felt it would be important for employers to accept them and recognize MOOCs' value as a professional development tool. Otherwise, it would be helpful for the certificate to also include an overview of subjects / topics covered in the course in the certificate. Other recommendations are to include a serial number, the duration of the course, and date (Ivan, Russia). Certificates should also be accompanied by the logo and name of the University as well as a link to the home page of the University and a way to verify its authenticity. To improve the local and international professional network it is important for MOOC certificates to be more "solid" (Brandy, Spain). Some felt that, without participants having the possibility of earning academic credit, employers would not take MOOC seriously (Martin, Norway).

It would be helpful if Coursera "could be validated and recognized by the authorities and employers at our countries" (Gilbert, Spain). This participant suggested that, perhaps for a fee, participants who obtain certificates with distinction should also be able to obtain a hard copy. Another recommendation (Martin, Norway) was to remove the disclaimer included in the certificates for participants who complete the course using Signature Tracks that verifies their identity. The disclaimer in the certificate states that:

> "The online offering of this class does not reflect the entire curriculum offered to participants enrolled at a (university offering MOOC). This statement does not affirm that this participant was enrolled as a participant at the (university offering MOOC) in any way. It does not confer a (university offering MOOC) grade. It does not confer a (university offering MOOC) credit. It does not confer a (university offering MOOC) degree, and it does not verify the identity of the participant."

Some MOOC participants saw this disclaimer or similar versions of it as excessive. Others (Sasha, United Kingdom) argued that MOOCs were not designed with the intent of "providing complete training for a profession" (Sasha, United Kingdom). Whereas for other focus group participants, (Laura, Romania) it is only a matter of time before MOOCs become more relevant and accepted: "We cannot learn in a [system] designed in the 18th century and find meaning in the 21st century" (Laura, Romania). "It is my responsibility to learn, it's their problem if they don't understand… yet" (Laura, Romania).

When thinking about MOOC impacts on education in their country and sharing a vision for the next five ten or fifteen years, one participant from Spain (Brandy, Spain) stated that MOOCs are very helpful for the future of education, which is becoming increasingly privatized and expensive, particularly in times of economic crisis: "MOOCs will be a good chance for people here, who are impacted by the crisis, to keep up with the international standards" (Brandy, Spain). Other participants suggested that one reason for the reduced impact of MOOCs on education systems to date is that many participants remain unaware of MOOCs. For example, one participant (Lizzie, Netherlands) from the Netherlands mentioned how MOOCs are not well known in her country but they can appeal to a lot more people because they are freely accessible. English is also not a problem for many people in the Netherlands, especially those that have a college level education. However, she felt that English skills were not as strong among less educated people, so these people might find taking a MOOC in English more difficult. By contrast,

according to a participant (Nikita, Ireland) from Ireland, people with lower levels of education are also the ones that would benefit the most from a MOOC in her country.

The high cost of tertiary education was also a concern among certain focus group participants (Nikita, Ireland). For one participant, especially when a government implements an austerity policy, it hurts mostly people at the lower end of the economic scale. “Registration fees have increased so that much that it makes it impossible for most second-level participants to even consider University” (Nikita, Ireland). While on paper in theory there are officially no fees, “this has been side-stepped and replaced by the exorbitant registration fees” (Nikita, Ireland). A participant (Tim, United Kingdom) from the UK shared how universities that used to be public are now, from one year to the next charging up to £9,000 British pounds to participants.

Another participant (Ivan, Russia) from Russia also complained about the cost of distance learning: “learning is always for a fee, and the fee is almost the same with payment of full-time study” (Ivan, Russia). When he took free Russian courses, he noticed that they were lower in quality. A participant (Gilbert, Spain) from Spain mentioned that the online courses he was familiar with were also lower in quality, and that the quality of MOOCs had surprised him. The quality of MOOCs was also highlighted. A participant (Max, Switzerland) mentioned also that in the forums some participants shared how they felt MOOCs were better for professional development than the traditional professional development courses for which participants pay thousands of dollars: “The quality of most the courses I have taken is outstanding” (Max, Switzerland). “MOOCs changed my opinion towards lectures. Great teachers make a difference” (Max,

Switzerland). Most MOOC professors were considered to be enthusiastic (Nikita, Ireland).

When asked about their vision for the future, one participant (Sasha, United Kingdom) believes that “problems of validation, certification and international acceptance should surely be addressed satisfactorily” over next 15 years (Sasha, United Kingdom). MOOCs are seen by most as having a bigger impact over time, and as “an opportunity for universities to cut costs” (Brandy, Spain). Higher education has also rendered some jobs out of reach for many people, as degrees are expensive and are now required for jobs that did not require them previously (Albert, United Kingdom). One participant (Martin, Norway) wondered if MOOCs could, in this sense, be a negative change as, while many jobs used to only require a high school degree, now they require a bachelor’s and, in the future, if jobs require participants to complete MOOC courses, that could also be a hurdle for employment.

One participant (Allison, Italy) felt that some instructors, in particular adjunct professors, are worried about losing their jobs eventually because of MOOCs and other technological influences. For a participant (Allison, Italy) in Italy MOOCs are an opportunity to have a “university-level course without being enrolled in a formal program” (Allison, Italy). This participant felt that she did not need a diploma. Another participant (Laura, Romania) felt that MOOCs, as they mature, could become an alternative or complement a person’s formal education: “It’s simply easier and cheaper, and it’s not that difficult to prevent fraud” (Laura, Romania). Rather than replacing the

university, one participant (Brandy, Spain) saw MOOCs as a tool to improve formal and informal education.

This participant (Brandy, Spain) sees schools as also a place where you gain social competences. A participant (Max, Switzerland) from Switzerland also agreed, mentioning that MOOCs do not “offer hand on experience, real exams, seminars” (Max, Switzerland). A similar comment was shared by a participant from France (Steven, France) who felt that MOOCs cannot replace the “real interactions between people, in the classroom and outside of the classroom” (Steven, France). Spaces like labs and fieldtrips are available in some MOOCs but they remain hard to emulate online and replace.

Another participant (Sarah, Portugal) shared how many professionals are looking mainly at a way in which to update their knowledge. Another participant (Lizzie, Netherlands) mentioned how they can help everyone including participants who are considering university but unsure about their area of study. “An opportunity to learn and not be able to carry out labs is still better than not study at all” (Ivan, Russia). The Romanian participant (Laura, Romania) felt that while there are many ‘MOOCskeptics’ that he himself had changed his opinion after trying them. MOOCs can help in ‘underdeveloped countries to get education resources which they can’t have there” (Elena, Spain).

Over the next 10 years one participant (Laura, Romania) predicted that 5 to 10 Romanian Universities would begin providing MOOCs and the government will make legal provisions to “insure that MOOCs provide legal status certificates making them professionally relevant for the participants. In 10 years, all employers will accept a

change in the education paradigm. In 15 years, MOOC's will successfully complement in-person education." (Laura, Romania) However, others were not as optimistic (Steven, Brandy).

For one participant (Nikita, Ireland) in her vision, MOOCs will become more widely known worldwide over time and promoted as part of the curriculum. While many are unable to access higher education, MOOCs can help those participants to continue growing and learning: "MOOCs are the ideal way of furthering education outside the 'system', enhancing people's sense of personal worth, and perhaps giving them a better chance of employment" (Nikita, Ireland). For another participant (Ivan, Russia), he hoped that, over the next 5 to 10 years, MOOCs will award participants with certificates that are comparable to a higher education diploma. To achieve this, he felt it was important for several courses to be grouped in one module so that an "advanced" certificate could be issued for completing the bunch.

A participant (Allison, Italy) from Italy who felt MOOCs were as good as a university degree and knowing that medical participants in Italy continue their education online, she still did not foresee MOOCs being used in a similar way. However, maybe in 10 years' time she could see MOOCs being recognized more professionally. Another participant (Steven, France) felt that in the future they could also provide college grades and may help people in difficult situations like people in prison and other closed communities. MOOCs today, however, "are not trusted" (Catherine, Greece). She did not have any other friends who were taking MOOCs. This participant (Catherine, Greece) felt that MOOCs would be more relevant in the future but first need to address cheating in

order to gain more widespread acceptance. Nevertheless, she was hopeful that, in 10-15 years, “people with vision will have established an educational system where on line learning will work on a daily basis” (Catherine, Greece).

For a participant (Gilbert, Spain) who had lived in both Peru and Spain, he felt having more MOOCs in other language might also be important in the future. For him learning English had been expensive and he argued that many people around the world cannot afford to learn sufficient English to be able to complete the courses. Because of this it would be helpful to have MOOCs in other languages and continue to improve, online learning technologies while, if possible, keeping costs for participants at zero. When thinking of other changes that may happen in the future, one participant (Sasha, United Kingdom) felt that education would increasingly become less formal and tightly controlled, getting rid of state borders. To her “the interaction between learners… can help solve some of the problems experienced in the world” (Sasha, United Kingdom)

Oceania

When asked how the MOOC could be improved and be made more relevant, a participant from Oceania (Jack, Australia) felt that tight deadlines, and timed testing are not conducive to good learning. To him it doesn’t matter how many times a participant needs to take a test or exam as long as “they can demonstrate that they have actually learned the concept and understand what was being presented” (Jack, Australia). To him assignments should account for the fact that participants have different forms of learning (visual, auditory, and kinesthetic). This participant felt that a problem with MOOCs remains the people’s limited understanding of what they represent. When discussing the

importance of a MOOC Statement of Accomplishment, he felt that a public education program explaining MOOCs' merits should be implemented, as a lack of knowledge impedes MOOCs' acceptance and reduces acknowledgement of their value.

To him, to become more culturally relevant, MOOCs should develop a "generic style, omitting language that contains colloquialism and expressions which are in common use in the country of origin but outside have little or no meaning" (Jack, Australia). He believed that such phrases should only be used in conjunction with an explanation so that others can understand the expression. Instead of localizing, she believes a MOOC would benefit if the delivery platform was universal, and participants would not "find surprises not encountered previously" (Jack, Australia). Another participant in Oceania felt that MOOCs are particularly amazing in that one can access experts on any subject. To him more "interviews and opinions and short appearances from experts from different cultures would be inclusive and give a broader range of perspectives" (Sophie, New Zealand).

One of the participants from Oceania explained how for him MOOCs are sufficiently specialized to be helpful in his work. He explained that: "I do not require a full degree course if I want to learn a specific area which is of interest to me in my work as a writer/photographer" (Jack, Australia). In a recent MOOC, he explained that the MOOC had allowed him to further explore the different individual components, which he felt enhanced the learning process. In the forum, the participant was able to gain an insight into other cultures. To him "MOOCs could be made more meaningful to

professionals by extending the scope of the reference material and making supplementary resources available or providing links to additional material" (Jack, Australia).

Another participant from Oceania explained that she participated in MOOCs "for fun for the most part" (Sophie, New Zealand). In MOOCs, she had been able to meet interesting people and learn new skills. Interestingly, while she had learned new skills that could help her at work, she had not told her boss about her achievements yet. She participated for personal enjoyment and for personal growth, rather than for professional development reasons. When thinking of the future, an Australian focus group participant explained that, currently, education in Australia can be prohibitively expensive: "Education was free in this country at one stage, but successive governments have made numerous dips into the pot, with the result that education costs too much" (Jack, Australia). To him, MOOCs are a way for participants to study topics that "would otherwise not be obtainable in the usual way" (Jack, Australia). Coursera and MOOCs will become more important and more widely utilized as people become more aware of such courses.

He believes that while he cannot predict when or if a change will happen, he can imagine people "undertaking courses just out of interest in the subject" or "self-educating" themselves as well as "obtaining their professional development studies" (Jack, Australia). He believes that courses should be grouped to help participants cover a core area of study in a particular field. Finally, he predicts that MOOCs will "provide a solid alternative for people who cannot meet the high costs of education" (Jack, Australia).

MOOCs are seen as having a lot of potential: “At home where my son is studying high school, MOOCs could act as a tutor in the subjects he struggles in (physics mostly) and among my friends” (Sophie, New Zealand). While she believes there will always be a place for traditional universities, MOOCs will help supplement learning. She saw the future of MOOCs everywhere, from her office, where the employee training budget had been cut, to helping people with heavy workloads to continue studying.

Summary of Findings from the Focus Groups

In analyzing the experience of 81 individuals, the focus groups provided many details about MOOC experiences. While there are noticeable differences between the regions, focus group participants also shared many common positives and negative aspects of MOOCs. Some participants experienced additional challenges in completing the MOOC primarily due to language and technology barriers. Some regions like Oceania had very few participants who were not native English speakers, while in other regions participants had more difficulty understanding the instructor. There were also many common concerns between participants of different regions such as wanting MOOC resources to be less U.S.-centric such as including having more international guest speakers.

Overall, participants were very appreciative about the opportunity to participate in a MOOC. It was a transformative opportunity for many. Lacking the financial resources or the flexibility in their day-to-day activities to enroll in a traditional educational institution, or not having a comparable institution nearby, participating in MOOCs expands educational opportunities for many. While participants mentioned some

negatives, the positive aspects of the experience greatly outweighed the negative. From participating in their first MOOC to participating in their 50th MOOC, all participants learned new facts and increased their subject matter expertise. MOOC participation was influenced by the personal interest and goals for self-improvement more so than their current employment or employer motivation.

Some of participants' criticism and suggestions for improvements such as including subtitles in MOOC videos have been acted upon and are now a part of many MOOCs. Similarly, many MOOCs utilize only OERs or OA articles has also been included into most MOOCs. While participants also complained about download speed and the lack of access to alternate versions of resources that were easier to download, many MOOCs do not offer alternative versions of resources but expect a level of technological access as a requirement to participate. Similarly, while MOOCs often include subtitles, English skills are necessary for English-speaking MOOCs with few of them including subtitles in other languages or dubbing.

Focus group participants were not very critical of MOOCs in their responses. While acknowledging a number of challenges, most focus group participants spoke of overcoming these challenges through diligence and hard work. Some participants mentioned having to read materials two or three times over and having to spend more than expected studying to succeed. In some instances, they spoke positively about improving their English as a result. This finding was encouraging but also hints to a selection bias, after all, the overwhelming majority of people that enroll in a MOOC do not complete it. Because of the self-selection bias of this focus group, it is perhaps not

surprising that these participants had an overall very positive perspective and had in most instances completed the course. Most focus group participants completed the UMN MOOC successfully.

Some participants seemed to have joined the focus group partly because they were appreciative of the opportunity to learn in MOOCs. They seemed to be more interested in improving MOOC and contributing to their development than receiving a gift card for participating in the study. The MOOCs had provided participants with a unique opportunity and they were interested in sharing with others their experience. The focus group took place after the surveys. Focus group participants participated in the focus group after having already completed three different surveys (Pre-MOOC, Post-MOOC, and International Participant MOOC Survey), and were then asked to participate in a focus group that lasted a whole week. By in large focus group participants had a positive experience.

Some of the participants mentioned not being very comfortable thinking of themselves as international participants, and in separating participants in participants from the U.S. vs “Others,” emphasizing instead their similarities as global participants. In a way, these participants are part of an international elite, people with an above average education, prior subject matter expertise, access to technological resources, technological expertise, and the English language skills needed to succeed in an MOOC. While these participants joined from all over the world and are in this sense international, they are also a unique population. Not everyone in his or her country of residence can complete an MOOC.

MOOCs had improved the lives of various participants including helping some participants receive job offers, gain promotions, start new careers, catch up with the latest research in the field, and explore subjects they had wanted to learn more about for a long time. Participants also were able to exchange ideas with thousands of other participants with similar interests and building new professional relationships. Various participants felt that it would be helpful for the certificate to be considered more valuable. Only a few participants were including MOOC results in their CVs.

MOOCs could be more influential through local partnerships increasing the value of the certificate of completion and linking participants to potential employers. By participating in MOOCs, participants learn many important skills that are valuable in the work force. Being shorter than traditional courses and easy to access from anywhere, MOOCs can also be developed intentionally for professional development courses. Employers can require employees to complete MOOC as part of their ongoing professional development. Some participants also wanted MOOC a better user authentication system to discourage cheating.

To many focus group participants, MOOCs and online learning is the future of learning, able to reach the neediest areas, and allowing for more a more personalized learning experience. MOOCs can help participants obtain a much cheaper education. Participants were also supportive of the development of more MOOCs regionally in the future. Participants envisioned MOOCs becoming more relevant overtime. While participants had diverse views on what would the future of MOOCs would be like, they

believed that MOOCs had personally benefited them, improved their outlook, and that MOOCs would continue to gain ground becoming even more popular in the future.

Chapter VII – Recommendations and Conclusions

Improving World Education through MOOCs

This dissertation focuses on the experience of international participants in the first five University of Minnesota MOOCs developed in the United States. This study was designed as an exploratory mixed methods study that analyzed the experience of international participants by region and HDI levels. This chapter discusses the major findings of this study. While many MOOCs today are also developed in other parts of the world, most MOOC participants are still international participants attending MOOCs developed in the United States (Schworm, 2014; ICEF, 2014; Wilson & Gruzd, 2014; Adham & Lundqvist, 2015; Kim, et al., 2015; Santos, et al., 2017; Pérez-Álvarez, et al., 2017; Zheng & Yang, 2017; Larionova, Brown, Bystrova, & Sinitsyn, 2018; Joksimović, et al., 2018). To many of these participants MOOCs offer a unique and transformational opportunity.

This dissertation answers four major research questions: 1) Who are the participants in these MOOCs?; 2) Why are they participating in these MOOCs?; 3) What are the positive and negative aspects of their experience?; and 4) What recommendations do they have for improving MOOCs? These questions provide a better understanding of the international participant experience in MOOCs, more specifically in Coursera xMOOCs, and helps assess whether MOOCs are enabling participants who previously lacked access to further their education. As explained by one of the founders of Coursera, Dr. Koller, education is a “fundamental human right” and anyone around the world with ability and motivation should be able to obtain the “skills that they need to make a better

life for themselves, their families, and their communities" (Koller, 2012; Severance, 2012; Head, 2017; Carey, 2015). This statement, and the idea that MOOCs might help make this a reality, were major motivations for this study.

MOOCs provide participants with a unique opportunity, particularly for those of limited financial means. For some participants, what they learned in MOOCs allowed them to start new careers, improve their knowledge in an area of interest, and also share their newly gained knowledge with their communities, as well as many other applications. However, studies such as Ma & Lee (2018) show that many barriers to the use of MOOCs in developing countries remain including usage, value, and tradition barriers. Ma and Lee's focus group study of Chinese college students found that internet access and the increasing costs of participating made MOOCs difficult to use and not as attractive as other alternatives. Cultural traditions also limit the use of MOOCs as they are not widely accepted as a formal learning alternative (Ma & Lee, 2018).

MOOC studies repeatedly show a high satisfaction rate among MOOC participants, including in this study (Ho, et al., 2015; Khalil & Ebner, 2015; Schuwer, et al., 2015; Shrader, 2016). Few participants were critical of MOOCs despite suggesting some areas of improvement. Some of the concerns of participants in this dissertation mirror those expressed in other MOOC studies (World Bank, 2000; Basañes, 2015; Dewar, et al., 2014). Specifically, challenges international participants faced included time and work constraints, family-related responsibilities, technological issues, time-zone differences, and other hurdles. However, virtually all respondents in the study were grateful for the opportunity to learn more about a subject of interest at little or no cost

from internationally renowned faculty members and researchers. In fact, challenges such as language barriers due to limited English skills were generally seen as part of the learning experience. Taking a MOOC in English was an opportunity to improve their English skills, a very valuable skill in today's global economy. Similar results have been found by other studies, with even a small percentage of participants enrolling in MOOCs primarily to improve their English language skills (Shrader, 2016).

However, for those people around the world interested in the field, but who choose not to participate in the MOOC, language skills are likely a limiting factor (Chen, 2013; Head, 2017; Kizilcec, et al., 2017). These people were not captured by this study, as it focuses only on MOOC participants and completers. Many potential participants around the world, particularly in impoverished areas and developing countries, do not speak English and would be unable to complete these MOOCs without translation or localization (Basañes, 2015; Dewar, et al., 2014; Escher, et al., 2014). By better understanding the motivations of participants from developing regions and their challenges, MOOCs can better address these challenges in their design and increase their acessibility to participants would benefit the most from MOOCs and are currently less likely to participate.

A major limitation of this study is self-selection bias and its focus only on participants that responded to the surveys instead of potential participants who chose not to enroll in the course, or who did not respond to the surveys (Bethlehem, 2010; Khazaal, et al., 2014). Self-selection bias is a common problem faced by online surveys that participants are not required to take to complete the course. Self-selection bias also

represents a challenge for online focus groups (Bethlehem, 2010; Khazaal, et al., 2014). The methods utilized in this study relied on participants choosing to participate. As a result, MOOC participants who are more passionate about MOOCs were more likely to participate in the surveys and focus groups. The study was also conducted in English. With the focus groups requiring extensive written communications with the moderator, English proficiency may have had an impact on the representation of candidates.

To address these limitations, more studies of non-participants in developing regions should be conducted (Garcia-Febo, 2010; Ma & Lee, 2018). A parallel study of international college-ready individuals or individuals who would like to continue their education but are not participating in MOOCs would provide a valuable insight into the reasons why they are not participating and the differences between them and international MOOC participants.

The study found clear differences between international participants and those resident in the U.S., and more noticeable differences between participants from lower HDI regions and U.S. participants than between international participants from higher HDI regions and U.S. participants. However, it is important to note that various participants in the focus group expressed that, instead of being classified as international participants, they preferred being perceived as global citizens. These international participants did not believe there were relevant differences between their MOOC experience and that of participants from other geographical regions, and instead considered themselves a part of a larger online learning community without borders, a part of a globalized world (Smith, et al., 2017; UNESCO, 2014). As argued by pro-

globalization voices, MOOCs are further flattening the world, allowing learners anywhere to improve their education and take part in a global community (Friedman, 2013). Other writers, echoing broader critiques of globalization, have criticized MOOCs for being mainly developed in the “Global North,” and thereby promoting a “North” to “South” knowledge transfer (Kizilcec, et al., 2017). By contrast, a number of participants in this study did not appear concerned about the “North” to “South” dominance of MOOCs, but rather saw MOOCs as a major personal opportunity. Participants were mostly interested in the personal gains provided by MOOCs.

Participants worried that MOOCs would eventually no longer be freely accessible. One participant from Nigeria had completed over 100 MOOCs despite living in very difficult conditions, with limited access to electricity and other commodities. To him, MOOCs available at no cost were a once in a lifetime opportunity that would likely be expensive in the future. Various scholars have also commented that increases in the price of MOOCs are likely or inevitable, as providers move towards adopting a sustainable and profitable business model (Shah, 2017; Shah, 2018; Anders, 2015; Che, et al., 2016; Head, 2017; Losh, 2017). Coursera and other MOOC providers are for-profit enterprises. While many MOOCs still offer free access to their materials for auditing, most Coursera MOOCs require a payment to receive a certificate and grading, challenging the idea that they are still Massive *Open* Online Courses (MOOCs) instead of Massive for Profit Online Courses (MPOC). As MOOC providers move away from openness they resemble less the first cMOOCs and xMOOCs and are more akin to earlier initiatives such as Allearn and Fathom, whose primary difference with Coursera, Udacity,

Udemy and other online learning platforms are not their goals and intent, but improvements in learning management systems, faster internet access, video streaming capabilities, HTML 5.0, machine learning, spread of Web 2.0 technologies and other tools that were not available in 2001.

When participants described their experience in MOOCs, they shared that a participant's nationality is mostly invisible within a MOOC. In MOOCs, participants from all over the world work on projects together. Participants interact primarily in English and apart from the initial "get to know your classmates" forum questions where participants are often asked to share some information about themselves, participants do not have an easy way of knowing another participant's nationality. Even in forum responses, various participants deemphasized their nationality. Other participants disagreed and felt that they had faced clear barriers due to their nationality, particularly participants from lower HDI regions such as Africa, Asia, and the Americas (W/o U.S.A.). These participants were more likely to report having to ask Coursera for additional support, having difficulties with writing in English, and were more likely to work with participants in the MOOC forums that also spoke their local language.

While some participants consider themselves to be a part of the global classroom and share a global identity, aspects of their experience vary based on their geographical region. Regional differences in participants' experiences have also been observed in other MOOC studies (Jansen, et al., 2015; Oyo & Kalema, 2014; Castillo, et al., 2015; Garcia-Febo, 2010). MOOCs can be particularly helpful to students from places that do not

provide their citizens with sufficient higher education opportunities (World Bank, 2000; Africa-America Institute, 2015; Maharey, 2011; Czerniewicz, et al., 2014).

Participants taking part in MOOCs from different regions live under contrasting conditions, with different HDI levels and per capita income (Rohs & Ganz, 2015). Despite the need for improvements in access to education in areas with lower HDI levels, these regions unfortunately had the lowest participation rates in MOOCs in general (Zawacki-Richter, et al., 2018; Oyo & Kalema, 2014; Tømte, Fevolden, & Aanstad, 2017), and in this study in particular. The table below compares the GDP per capita in 2014, the number of internet users per 100 people in 2014, the gross enrollment ratio in tertiary education in 2014, and the HDI levels in 2014. In Africa on average only 31 people out of 100 have internet access, in contrast to 87 people out of 100 in the United States. There are also major differences in gross enrollment in tertiary education, and the regions' Human Development Index scores.

The contrasting values in the above table illustrate the stark differences between one region and another. Africa and Asia have the lowest GDPs per capita, internet user density, enrollment in tertiary education, and HDI values. These two regions would benefit the most from MOOCs yet, unfortunately, they also had the lowest participation rates. This is particularly relevant due to the increases in the size of the student population in these regions, as Czerniewicz, et al. (2014) observed: "The worldwide trends in the expansion of Higher Education are amplified in Africa, where the student population tripled from 2.7 million in 1991 to 9.3 million in 2006" (Czerniewicz, et al., 2014, p. 123).

Table 7.1
Regional Comparisons

Participants by global region (Collapsed)		GDP per capita (current U.S.$) WB 2014	Internet users (per 100 people) WB 2014	Gross enrollment ratio, tertiary, both sexes (%) WB 2014	Human Development Index (2014)
Africa	Mean	2982.62	31.25	14.17	.57
	Std. Dev	2262.53	16.36	10.30	.09
Asia	Mean	11357.48	39.77	32.92	.70
	Std. Dev	17178.12	25.21	18.30	.11
Europe	Mean	36072.01	78.36	70.96	.88
	Std. Dev	18196.69	13.09	15.78	.04
Oceania	Mean	58009.99	83.72	86.21	.93
	Std. Dev	10635.77	7.40	9.24	.03
Ameri-	Mean	26000.55	65.55	51.10	.81
cas*	Std. Dev	19871.64	19.22	15.37	.09
United	Mean	54629.50	87.36	89.08	.91
States	Std. Dev	.00	.00	.00	.00
Total	Mean	39646.53	74.49	71.14	.85
	Std. Dev	21270.75	21.96	25.03	.11

**(W/o U.S.A.)*

These differences are visualized in this chapter in a typology that compares the answers of participants from lower HDI regions to participants from higher HDI regions. Summary tables of the regional differences are also included in this chapter. Grouping international participant into two broad groups is a reductionist approach, and it remains important to look at differences not just between regions but also within regions at a more micro level. Nevertheless, this study found some interesting differences when dividing international participants into two broad groups by regional HDI levels.

Out of the MOOCs studied in this dissertation, 54.1% of participants were not from the United States, and European participants accounted for the largest percentage of

participants at 21.0%. Africa and Oceania accounted for the lowest percentages at 3.5% and 2.9% respectively. In Africa and Asia, MOOC participation rates are 4.8 times lower than the global average. It is evident that, despite reaching millions of participants, MOOCs are currently only educating a small percentage of individuals. Asia accounts for 59.66% of the world's population in 2017, and together with Africa, these regions may account for 82.69% of the world's population by 2100. Despite the hope placed in MOOCs by their creators to educate the world, they are currently falling far short of that mark. However, with improvements, MOOCs can help geographical regions address the growing demand for higher education opportunities. In the next sections, I provide a summary of my findings about each of the four research questions, discuss the differences between regions, and introduce a new typology of international MOOC participants.

Table 7.2
Regional Population and MOOC Participation

Location	Population 2017*	Participation	Part. by Pop.	Population 2050*	Population 2100*
World	7,550	19,738	2.61	9,772	11,184
Africa	1,256	692	0.55	2,528	4,468
Asia	4,504	2,430	0.54	5,257	4,780
Europe	742	4,146	5.59	716	653
Americas**	683	2,834	4.15	825	764
U.S.A.	324	9,065	27.95	390	447
Oceania	41	571	13.93	57	72

* Population estimates are based on the *World Population Prospects: The 2017 Revision* by the United Nations. The values are rounded to the millionth.

** *(W/o U.S.A.)*

Who are the participants in these MOOCs?

Table 7.3

Survey Results – Analysis summary. Key results– Question #1

Pre-MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q4- Have not taken MOOCs previously	40.4	41.0	42.2	49.0	47.8	58.3
Q8- Participant gender (% of females)	41.4	50.7	65.3	73.0	63.1	74.5
Q10- Non-English mother tongue	65.7	83.2	79.6	18.4	64.4	11.8
Q11- Advanced English proficiency	38.1	28.2	33.9	75.8	39.1	84.1

Q5 - To what degree did each of the following negatively impact your participation in this course?

Post-MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q5B**- Problems w/ internet connection	44.3	18.1	6.1	11.1	9.5	4.7
Q5C**- Problems w/ My computer	5.9	5.4	4.9	2.8	6.2	4.2
Q5F**- Work responsibilities	51.7	47.9	48.6	31.1	49.6	35.8

**(W/o U.S.A.)*

***Q5 - (To a moderate or a large degree)*

Intl. Part. MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*
Q10- 11+ years of professional experience	37.2	37.5	46.1	63.0	41.4
Q15- Enrolled in signature track	20.2	8.7	9.6	3.6	13.8

**(W/o U.S.A.)*

In the next section, I will focus on the first research question: Who are the participants in these MOOCs? The table above, Table 7.3, is a shortened version of Table 5.2 emphasizing some of the main survey findings which participants further elaborated upon in their focus groups responses. This study found that participants from lower HDI regions, Africa, Asia, and the Americas (W/o U.S.A.), tended to align more in their responses than participants from higher HDI regions such as Europe and Oceania, whose responses were typically more similar to those of participants from the United States than other international participants. However, the data also reveals some commonalities in the experiences of international participants regardless of region and HDI levels.

This study advances a typology of international participants by grouping responses from regions with lower HDI levels in contrast to regions with higher HDI levels. In doing so, this study contends that there are two primary types of international participants, those from lower HDI regions and those from higher HDI regions. When combining the HDI values of Africa (HDI 0.57), Asia (HDI 0.70), and Americas (HDI 0.81) this results in an average HDI of 0.69, which is considered a medium HDI level (.70 to .55). Combining Europe (HDI 0.88) and Oceania (0.93) results in an average HDI of 0.91, which is the same as the HDI of the United States in 2014 and classified as a very high HDI level (1.00 to .80).

Table 7.4

Typology of International Participants (By Region's HDI) – Question #1

Human Development Index (2014) by Groups		
Lower HDI (Africa, Asia, America)	Mean	0.69
Higher HDI (Europe, Oceania)	Mean	0.91
U.S.A.	Mean	0.91

Pre-MOOC Survey Questions	Lower HDI	Higher HDI	U.S.A.
Q13- Total responses by region	30.2%	23.9%	45.9%
Q1- Prior experience in that field	43.2%	39.8%	40.1%
Q4- Have not taken MOOCs previously	43.1%	45.6%	58.3%
Q5- Weekly hours available (11+)	21.3%	20.7%	24.5%
Q6- Plans to complete the MOOC	88.3%	84.0%	85.1%
Q8- Participant gender (% of females)	51.7%	69.2%	74.5%
Q9- Participants over 30 years old	46.6%	52.8%	64.0%
Q10- Non-English mother tongue	71.1%	49.0%	11.8%
Q11- Advanced English proficiency	35.1%	54.9%	84.1%

Q5 - To what degree did each of the following negatively impact your participation in this course?

Post-MOOC Survey Questions	Lower HDI	Higher HDI	U.S.A.
Q5A**- Unfamiliarity w/ technology	4.9%	4.9%	4.0%
Q5B**- Problems w/ internet connection	24.0%	8.6%	4.7%
Q5C**- Problems w/ My computer	5.8%	3.9%	4.2%
Q5D**- Time zone issues	9.6%	6.4%	1.1%
Q5E**- Family responsibilities	26.3%	30.4%	27.6%
Q5F**- Work responsibilities	49.7%	39.9%	35.8%
Q7- 6+ Study hours per week	22.9%	19.4%	13.1%

***Q5 - (To a moderate or a large degree)*

Intl. Part. MOOC Survey Questions	Lower HDI	Higher HDI
Q1- Native lang. course (very important)	26.4%	45.5%
Q2D- Writing English adv. proficiency	40.8%	59.0%
Q3A- Finished associate degree or above	87.4%	88.6%
Q3B- Graduate coursework or above	51.5%	52.6%
Q10- 11+ years of professional experience	38.7%	54.6%
Q15- Enrolled in signature track	14.2%	6.6%
Q21B- Owns A laptop computer	77.6%	81.3%
Q21C- Own an internet capable phone	46.5%	53.1%
Q23- Mean value - willingness to pay ($)	$227.6	$190.7

** Lower HDI regions include Africa, Asia and America w/o U.S.A.*
Higher HDI regions include Europe and Oceania.

Table 7.4 highlights the differences between lower HDI regions and higher HDI regions. In regions with lower HDI levels, roughly half of the participants were female whereas in higher HDI regions, female MOOC participants predominated. While 74.5% of participants in the U.S.A. were female, the percentage decreased slightly to 69.2% when combining all higher HDI regions and was much lower for the lower HDI region at 51.7%.

In addition, participants from lower HDI regions were likely to be younger and they were less likely to be proficient in English. It was therefore somewhat surprising to discover that despite lower levels of English proficiency, participants from lower HDI regions were also less interested in the course being developed in their native tongue. These lower HDI region participants were also willing to pay a higher cost to access the MOOC, but less likely to own a laptop or an internet capable phone. This highlights a strong interest in improving their education despite their more limited financial resources. On a related note, lower HDI region participants were also much more likely to enroll in signature tracks and to have a desire to complete the MOOC than their higher HDI region counterparts.

Participants from lower HDI regions also reported having more technology problems such as problems with their internet connection. Whereas only 4.7% of participants in the U.S.A. had problems with their internet connection, this percentage was 8.6% for higher HDI region, and 24.0% for the lower HDI region. When analyzing their response to the focus group questions using this dichotomy, it was common for international participants from Asia, Africa, and the America (W/o U.S.A.) to share

anecdotes of living without electricity, or not having high speed internet at home, or facing other hardships that were not shared by participants in Oceania, or Europe.

Participants from Canada (who were included in the low HDI region category because they were grouped with participants from the rest of the Americas) were an exception, as their access to technology was similar to that of participants from Oceania and Europe. I considered separating Canada from the lower HDI group but decided to maintain the UN geoscheme throughout the analysis. When the Americas (W/o U.S.A.) were removed from the lower HDI region, this accentuated the differences between the lower HDI regions (Asia & Africa) and higher HDI (Europe & Oceania) regions.

This typology is imperfect, due to the heterogeneity of the regions classified as higher or lower HDI, but it is a useful tool primarily for highlighting trends that require further study. In higher HDI regions MOOCs appear to be fulfilling the lifelong learning and continuing education goals of some individuals. In contrast, in lower HDI regions, MOOCs were more likely to be seen as helping individuals learn skills that would help them find better employment. There were also clear differences in the responses of participants when analyzed through this typology in the other research questions as discussed in the following sections.

According to the pre-MOOC survey data, most participants in the study were not from the United States, with 21.0% being European, 14.4% from the Americas (W/o U.S.A.) and 12.3% from Asia. These percentages are not unusual, as most studies that have analyzed participants' demographics have likewise found most participants in MOOCs offered by institutions in the United States are international (Ho, et al., 2015;

Castillo, et al., 2015). The MOOC participants' experiences were, in general, positive and illustrative of the potential beneficial impact that MOOCs can have in transforming higher education internationally. While MOOCs have been criticized for primarily reaching those that already have a high level of education, and therefore serving to enlarge the "knowledge gap rather than close it," millions of participants from Least Developed Countries (LCDs) are benefiting from MOOCs developed in the United States (Rohs & Ganz, 2015, p. 6). MOOCs can and are transforming higher education by increasing alternatives and providing hope to many who previously lacked the ability to continue their education.

Despite the high dropout rate, millions of participants are taking part in MOOCs and learning about subjects that are of interest to them, including participants from countries with a low HDI level. This was also the case for me. The MOOCs I took as an international participant were very rewarding and I look forward to taking other MOOCs in the future. I learned about a subject that I had an interest in for a long time in a series of MOOCs whose quality was similar to that of online courses I had previously taken at the University of Minnesota. Each MOOC was individually shorter, but as a series of MOOCs it was comparable to a university course. However, the claims made by Rohs & Ganz (2015) that MOOCs, while appealing to international participants, are mainly helping those who already have an education and more access to resources than the average individual in these countries are also accurate. While I am an international participant from Venezuela, I had a level of access to resources unlike most Venezuelans, with a home computer since I was born in 1984, and access to the internet since 1991,

and I was born in a family where most of my uncles and aunts were physicians, PhDs and trained professionals. Various of my grandparents, great uncles and great aunts were college educated.

In the statistical analysis of participants in the UMN MOOCs, this study found that the participants from Africa and Asia and other developing regions who took part in the MOOC tended to be individuals who had greater access to resources than most of the local population. Despite their presumably privileged societal position, in comparison to other MOOC participants, African and Asian MOOC participants seemed to face more challenges in successfully completing the course. Despite these difficulties, the African and Asian MOOC participants were, on average, more motivated than their peers.

Many international participants, particularly those from higher HDI regions, could be considered “professional learners” or “someone who might be well beyond their college years and takes these online courses with the goal of achieving professional and career growth” (Shah, 2017). These individuals were less interested in career advancement or increasing the value of the credential but staying up-to-date in their field and lifelong learning.

Most MOOC participants, 50.3%, were taking their first MOOC when they enrolled in the University of Minnesota MOOCs. A majority, 54.4%, of participants were over 30 years old, and older than the traditional higher education student. The percentage of participants over 30 was lower among international participants at 46.3%. It is not surprising that individuals over 30 may be more likely to participate in MOOCs than in traditional university courses, as some participants may have difficulty attending a

traditional higher education program during work hours yet have an interest in learning new skills. In general, more students are attending college at an older age, with 38% of college students being over 25 and 58% working while studying (Berman, 2017). Globally, more adults are choosing to retrain themselves and enroll in higher education. Continuously learning and unlearning are important 21st century skills (Cobo & Moravec, 2011). MOOCs are a way in which adults can learn new skills despite having little time available. Since MOOCs started, various providers have also begun to offer "specializations" and "nanodegrees" also focusing on the professional learner who wants to further their career (Nazerian, 2018).

English language proficiency is a major barrier for participating in English-only MOOCs, particularly for participants from lower HDI regions. While English is increasingly learned internationally, there are millions of college-ready participants who are not proficient in English (Wit, 2016; Xue & Zuo, 2013). Overall, 58.3% of participants in the MOOCs studied in this dissertation considered themselves to have advanced English proficiency. However, among international participants, this percentage was only 36.5%. In Asia, only 28.2% considered themselves to have an advanced English proficiency. A large percentage, 34.8%, of international participants considered themselves proficient but not advanced proficient. In Asia, 44.1% of participants considered themselves to be proficient.

The highest percentage of participants that spoke English as a native language were in Oceania at 75.8% and the U.S.A. at 84.1%. Most Oceania participants were from either Australia, 492 participants, or New Zealand, 69 participants, out of a total of 571

participants from this region. For participants in Africa, the Americas (w/o U.S.A.), Asia, and Europe, English was often not their first language. In Asia, 705 participants were from India, 268 participants from China and 242 from the Philippines out of 2,430 participants. Improving translation and localization would help many more participants, especially participants from Asia and Africa, to access these MOOCs.

Universities in the United States require international students to take an English proficiency exam (TOEFL), yet MOOCs do not generally require participants to complete a language exam. Instead, participants must individually determine if they have the required language skills to complete an English-language MOOC in Coursera. Many of the participants who fail to complete MOOCs may be dropping out for this reason. It is not often cited as a reason for not completing MOOCs, but participants' responses to the focus groups indicated that is an important reason for not completing an MOOC. English is often assumed as a requirement and therefore not studied as a barrier (Hone & Said, 2016; Onah, Sinclair, & Boyatt, 2014).

Including a pre-MOOC test for English as well as other knowledge pre-requirements may help reduce the high dropout rate experienced by MOOCs but could also serve as a deterrent to international participants who were unsure of their English language abilities, thereby reducing initial enrollment. To further increase participation, MOOCs can be translated and localized and, when possible, "wrapped" to include local support (Kizilcec, et al., 2017; Zawacki-Richter, et al., 2018; Norberg, Händel, & Ödling, 2015). Coursera also offers several English learning MOOCs that participants could complete before enrolling in a MOOC that requires certain language skills. MOOCs for

learning English would ideally remain freely accessible even if other types of MOOCs require a payment to receive a certificate to help participants obtain the basic skills needed to enroll in other MOOCs.

Only 4.3% of all participants and 4.7% of international participants were unfamiliar with the technology needed to complete the MOOC to a large or moderate degree, while 8.7% of had problems with their internet connection including 11.9% of international participants. This problem was much greater in both Africa, 44.3%, and Asia, 18.1% than in other regions. With close to half of participants from Africa having connectivity problems, it is not surprising that very few participants from Africa enrolled in the courses. These challenges have been often cited as challenges for MOOC participants and reasons for high dropout rates (Hone & Said, 2016; Onah, Sinclair, & Boyatt, 2014).

In the future, these problems will hopefully be solved by better mobile networks, and growing smart phone ubiquity (Dewar, et al., 2014). Smart devices, which are pocket-sized computers, increasingly have larger screens, allowing users to complete tasks with greater ease such as reading books, watching videos, or participating in an online course or MOOCs. Smart phones have improved dramatically over the years, with most now having a processing capacity many times greater than computers from the 1980s and 1990s. To reach a greater percentage of individuals, particularly those in developing regions, it is helpful for MOOCs to increasingly design for access via a smartphone interface (Oyo & Kalema, 2014; Israel, 2015; Norberg, Händel, & Ödling, 2015; Chen, 2013; Escher, et al., 2014).

As an illustration of the rapid improvement in smartphone technology, in 2012, I developed an educational program in the Dominican Republic and distributed a series of Droid HTC Incredible mobile devices with 16 GB of Open Educational Resources in a micro SD card. These devices had a 1 GHz single core CPU and 512 MB of RAM and 1 GB of storage space. These devices went into production in 2010 to compete with the Apple iPhone 3GS at a cost of $500 or $199 with a 2-year contract. In 2018, these devices can be purchased used on eBay for $10, the same price for which you can also purchase a used iPhone 3GS. Optimizing MOOCs for a smartphone screen will further increase access to these resources in the future.

Time zone differences were not a concern for most participants in the UMN MOOCs, with only 4.4% of all participants and 6.7% of international participants considering it to be a moderate or large concern, despite MOOCs being offered internationally and deadlines usually being set at the time zone of the instructors (Kamenetz, 2013; Voss, 2013). Participants from Africa (13.0%) and Asia (10.5%) once again considered it a bigger problem compared to participants from other regions.

Family responsibilities and work responsibilities were challenging for participants from every region at an average of 29.2% and 42.6% of participants respectively, and 30.4% and 48.1% for international participants. To address this problem, MOOCs can provide some flexibility with deadlines, and adapt the difficulty of the course so that most participants consider it appropriate. Having a series of optional assignments for people with more time available would address the different needs of participants. Some recent initiatives in course design such as those encouraged by the LMS Gradecraft

(www.gradecraft.com) include the use of optional assignments and multiple ways to obtain a passing grade. By including such optional assignments, eager participants can learn beyond the requirements of the MOOC and other less committed participants have multiple ways to obtain a certificate for the MOOC (Aguilar, Holman, & Fishman, 2014).

Studies have shown that MOOC participants tend to have very high levels of education (Chuang & Ho, 2016; Bayeck, 2016). Over half of MOOC participants have obtained a bachelor's degree, and the percentage is usually much higher. Christensen, et al. (2013) found that 83% of MOOC participants had a post-secondary degree and 79.4% had a bachelor's degree or higher (Christensen, et al., 2013). This study had similar findings. In the Americas (w/o U.S.A.), the region with the lowest percentage of participants who had obtained a higher education degree, 85.2% had at least an associate degree. In Asia, the region with the highest percentage of participants with a higher education degree, 89.6% had an associate degree or above. Also 60.5% of Europeans had completed some graduate work, and 87.8% had at least an associate degree. These percentages are much higher than the education levels of the general population, once again highlighting that MOOC participants represent a highly educated subsection of society. According to the OECD (2017), from data of 22 EU member countries, only 33.2% of the EU population has some tertiary education (including short-cycle tertiary education), 54.6% lower than the education levels reported by European participants in the MOOCs studied in this dissertation. In Africa, only 6% of people in Sub-Saharan Africa have obtained a tertiary degree and 7% of individuals in North Africa (IBRD, 2000). Only 5% of African youth complete in any form of higher education

(Czerniewicz, et al., 2014, p. 123). Despite this, 87.5% of participants from Africa that participated in these MOOCs had at least an associate degree.

The participants in these MOOCs were primarily female, except for African participants, where only 41.4% of participants were women. This is unusual for MOOC studies. Christensen, et al. (2013) found 56.9% of participants to be males. The HarvardX and MITx (2012-2016) study found only 33% of participants were females (Chuang & Ho, 2016). This disparity may be due to the type of courses. The percentage of male students have been found to be particularly high in engineering and computer science MOOCs, none of which were among the courses analyzed for this project. Chuang & Ho (2016) found that women accounted for only 17% of participants in computer science EdX MOOCs and 16% in STEM MOOCs, but 47% in MOOCs on the humanities, history, religion, design, and education. However, the percentage of women taking MOOCs in this study were higher than any group in the Chuang & Ho (2016) longitudinal study.

On average, in the MOOCs studied in this dissertation, 60.3% of international participants were women, with Asia having the second lowest percentage of women participating at 50.7%, and the United States the highest at 74.5%. With women participating in greater percentages in other regions, this suggests more could be done to encourage women in Africa and Asia to participate in MOOCs. Currently two-thirds of the 774 million illiterate people in the world are female (UNESCO, 2013). There are also 58 million children who should be attending primary school but who are currently out of school worldwide. Most of these are female, with three fourths of them living in sub-

Saharan Africa and Southern Asia (United Nations, 2015, p. 59). The disparity between male and female participation in developing countries increases in secondary education, and even more so in tertiary education (Africa-America Institute, 2015). Women are also underrepresented in advanced degree programs and science-related fields. Encouraging greater participation of women in MOOCs from Africa and Asia would be helpful in increasing the economic output of countries in these regions.

The demographic data show that, overall, much more can be done to attract participants from developing regions, especially from Asia and Africa. Adapting MOOCs for mobile devices, including pre-MOOC tests, offering free English learning MOOCs, and waiving the MOOC registration fees for women from developing regions will help more participants access and benefit from MOOCs and help address the education crisis facing the globe and the challenge developing regions face in providing access to higher education. “Wrapping” MOOCs so that they are enhanced by local support should also increase completion rates in developing regions.

Why are they participating?

Table 7.5

Survey Results – Analysis summary. Key results – Question #2

Pre-MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q2 - Why did you enroll in this course?	Agree or Strongly Agree – Combined Percentages					
Q2A- Relevant to academic field of study	66.9	52.7	48.2	43.3	59.4	42.8
Q2B- Skills will help my job / career	80.8	60.6	57.7	50.7	67.5	55.3
Q2E- No alternative close geographically	42.0	41.0	26.9	22.9	28.7	16.3
Q2J- Decide whether to continue	39.9	33.4	23.2	32.1	28.1	28.2
Q2K- Make professional connections	55.6	40.5	25.2	16.9	33.4	22.9
Q2L- Obtain a badge or certification	69.1	53.8	42.8	31.2	48.3	30.4

**America – W/o U.S.A.*

Intl. Part. MOOC Survey Questions	Africa	Asia	Europe	Oceania	America*
Questions - Q9 to Q12	Relevant & Very Relevant - Percentages				
Q9- MOOC completion relevant to employer	36.3	20.8	8.3	17.2	25.1
Q12- MOOC content relevant to employer	59.8	32.3	20.7	27.5	41.4
Q13- MOOC content relevant to desired job	74.2	41.9	36.2	40.5	47.6
Question Q14 (A-E)*	Important & Very Important Percentages				
Q14A- Obtaining a statement of completion	60.2	46.3	31.5	29.8	50.4
Q14B- Obtaining a passing grade	61.7	47.4	29.4	36.9	46.9
Q14C- Obtaining Academic Credit	64.4	38.8	22.8	22.0	34.9
Q14D- Learning New Knowledge	92.7	83.2	75.8	77.4	84.9
Q14E- Reinforcing Prior Knowledge	84.4	71.9	67.9	65.5	80.4

***Q14 How important are the following for your professional career? (A-E)*

There are wide varieties of reasons why participants enroll in MOOCs. In addition to this dissertation, various other studies have analyzed MOOC participants' motivations for enrollment. Chen, et al. (2015) determined that 52% of participants were participating to improve their careers by either finding a new job, starting a new business, receiving a pay increase, a promotion, or some other benefit. Twenty six percent of these individuals were interested in finding a new job, the largest group of "career builder" participants

(Zhenghao, et al., 2015). Wang & Baker (2015) looked at reasons for participating and the differences in completion rates. Individuals that were “curious to take an online course” or were enrolled in the MOOC because the “course is offered by a prestigious university” were less likely to complete the MOOC than participants who joined a MOOC due to an interest in the particular subject (Wang & Baker, 2015).

Another study that analyzed the motivations of participants in a series of interviews found that participants joined MOOCs for professional needs, to complement courses they were already taking, to impress a potential employer, to prepare for college, to connect with people with likeminded interests, and out of curiosity (Zheng, et al., 2015). The table above, Table 7.5, is a shortened version of Table 5.4 emphasizing some of the main survey findings which participants further elaborated upon in their focus groups responses. This table highlights the differences in motivation between regions with lower HDI levels such as Africa, Asia and the Americas (W/o U.S.A.) in contrast with regions with higher HDI levels such as Europe and Oceania.

In the pre-MOOC survey analyzed in this dissertation, participants were asked to rate which of twelve different reasons were more influential in their decision to participate. Most of the reasons were somewhat relevant for a substantial percentage of participants, but a few reasons stood out as the biggest motivators for participants to take part in MOOCs in this study. The most commonly cited reasons for enrollment were a general interest in the topic and hoping that the MOOCs would be fun and enjoyable. These opinions were held by 96.6% and 87.0% of participants, including 96.1% and 84.6% of international participants respectively.

The most common response to why they were participating in MOOCs was a general interest in the topic, at 96.6%. In the United States, 97.1% of participants agreed or strongly agreed, compared to 96.1% of international participants. This is not surprising, as generally only individuals who are interested would decide to participate in an optional educational activity that did not provide people with a credential accepted by most employers. This result also aligns with other studies' findings of participants joining MOOCs primarily for self-improvement (Zhenghao, et al., 2015). The percentage of MOOC enrollees who decide to participate out of a general interest in the subject may, however, be lower in 2018, as many MOOCs have transitioned away from being free of charge to being only available at a cost, but in 2013 most MOOCs were available at no cost (Coldewey, 2017; Shah, 2017).

The second most common response was thinking the MOOC would be "fun and enjoyable". While millions participate in MOOCs, they are likely a subset of the population, a group that enjoys spending their free time learning and studying. Instead of spending time on other leisure activities, MOOC participants invest their free time in learning without the guarantee of any formal benefits. For some, including one participant who had completed over a hundred MOOCs, completing a MOOC is a fun and an enjoyable leisure activity. These motivations resonated with me personally, as they also represented reasons why I decided to enroll in a particular MOOC specialization over its alternatives.

Finding the MOOC "fun and enjoyable" was most common among participants from the United States, at 89.6%, compared to a slightly lower percentage, 84.6%, of

international participants. While there was some difference between regions, even for African participants, which were the lowest percentage in this category, 76.6% agreed or strongly agreed that they enrolled, in part, because they believed the course would be enjoyable. With the internet and regular access to information, individuals can learn from an almost unlimited number of e-books, websites, educational video sources, and other materials. Over two million books are published yearly and over 300 hours of videos are uploaded to YouTube every minute (IPA, 2014; McConnell, 2015; Prensky, 2001). Given the amount of information with which individuals are increasingly surrounded, focusing on making MOOCs more fun and enjoyable could further increase their ability to reach participants who would benefit from these courses but are currently not utilizing them. For example, by including gamification elements like those included in GradeCraft, MOOCs could appeal to more participants by appearing “fun and enjoyable”, including those that are currently underrepresented (Holman, et al., 2015).

Most xMOOCs are similar in various ways to traditional online courses, with automatically graded quizzes, forums for discussion, video lectures, pdfs for readings, and assignment uploads. A major difference in design, however, is xMOOCs’ emphasis on peer review rather than assessment only by the course instructor (Balfour, 2013; Piech, et al., 2013; Suen, 2014). In addition, keeping educational videos concise, often under five minutes, is a way by which MOOCs increase their accessibility and make themselves more enjoyable for the learner (Yousef, et al., 2014).

The best MOOCs include interesting content and deliver it in a way that is both useful and memorable. By being entertaining, some of the videos in the Game Design

Specialization courses in which I enrolled were quite memorable. One of the instructors utilized a puppet to have a conversation with himself. On a related note, in the University of Minnesota MOOC Thermodynamics, Professor Cramer illustrated a fun instructive experiment in the video introduction to the course. His course has one of the highest student ratings for University of Minnesota MOOCs.

A large percentage of participants, 58.9%, believed that the skills learned in the MOOCs would help their job or career. These results were similar to those observed by Chen, et al.'s (2015) study. Many participants (56.2%) decided to enroll partly because they felt that traditional courses are too expensive. For others (48.4%), the MOOC was relevant to their academic field of study. These percentages were similar for international participants at 62.1%, 54.4%, 53.1%. Participants from the United States were more likely to think that traditional courses are too expensive in comparison to MOOCs, at 58.4%. This is likely due to the relative cost of an academic credit at a traditional institution compared to the costs of purchasing a MOOC certificate. Based on OECD data, while the average annual cost of tuition in the United States is $8,202, it is only $1,830 in Spain and $1,124 in Portugal (Jackson & Nudelman, 2017). In some parts of the world, the cost of higher education is much closer to the cost of a MOOC certificate.

Participants from Africa were most interested in MOOCs helping them in his/her job or career (80.8%), followed by participants in the Americas (W/o U.S.A.) at 67.5%, and Asia at 60.6%. The higher percentage of affirmative responses from Africa may be partly due to current unemployment rates in the region, together with a very high vulnerable employment rate, and total poverty rate. Vulnerable employment includes

own-account workers and contributing family workers who are unlikely to have formal work arrangements. Looking at Sub-Saharan Africa as an example, in 2016, it had an unemployment rate of 7.2%, a vulnerable employment rate at 68.0%, and a poverty rate of 63.7% (ILO, 2017).

Regarding the relevance of MOOCs to their academic field of study, African participants were once again more likely to agree or strongly agree at 66.9% followed by participants in the Americas (W/o U.S.A.) at 59.4%, and Asia at 52.7%. In contrast, Oceania and the United States, regions with higher HDI levels, had the lowest percentage of participants who agreed or strongly agreed they had enrolled in the MOOC because it was relevant to their academic field of study. Overall, it appeared that participants from regions with lower HDIs were more interested in the potential impact of MOOCs for their careers and field of study.

Another similarity between African and Asian participants was the importance given to not being geographically close to educational institutions in deciding to enroll in a MOOC, with a higher number of participants in Africa agreeing at 42%, followed by Asia, at 41%, compared to the average of 24.4%. Only 17.3% of participants from the United States agreed or strongly agreed, followed by Oceania at 22.9%. Despite inroads, developing countries continue to struggle to provide access to higher education to their population (IBRD, 2000). Higher education systems in developing countries are “chronically underfunded” and “face escalating demand” (IBRD, 2000, p. 10). It is not surprising that most participants in U.S. MOOCs are international participants as this parallel the growth of international students in brick and mortar higher education

institutions in the United States in recent years. The number of foreign students with F1 visas increased from 110,000 in 2001 to 524,000 in 2012 (Ruiz, 2014). STEM graduate programs in the United States have seen a dramatic increase in international student enrollment. By 2015, 55% of graduate students in mathematics, engineering, and computer science were international students (Wingfield, 2017). MOOCs with the highest enrollment have also usually been in STEM and computer science (Chuang & Ho, 2016).

With fewer higher education options available, many college ready individuals and individuals looking to improve their career outlook in Africa, Asia, and the Americas (W/o U.S.A.) saw MOOCs as a unique opportunity to improve their education, whereas participants in the United States, Oceania and Europe had additional options available. For some, participating in a MOOC may be competing with the opportunity to enroll in a similar course in the local community college, while for others, there are no comparable alternatives. These results are similar to those found by Said (2017), who interviewed various Egyptian learners who had taken part in MOOCs. For Said, MOOCs provide a "life-changing opportunity for those who are less advantaged and have limited access to education" (Said, 2017, p. 730). Even when participants have access to a higher education institution, MOOCs can supplement their study. A study of Russian students (Larionova, et al., 2018) also found learners in Russia benefitted from participating in MOOCs by raising their academic achievement when used in a blended learning approach or in an online learning setting when combined with tutor support (Larionova, Brown, Bystrova, & Sinitsyn, 2018).

When grouping Oceania with Europe and the United States, the three regions with the highest HDI, the differences between these MOOC participants and those from lower HDI regions are clear. For example, in terms of taking a MOOC to make professional connections, 55.6% of African participants agreed or strongly agreed, compared to only 16.9% of participants in Oceania. Similarly, when asked if it was important to enrolling that the MOOC was offered by the University of Minnesota, 37.3% of African participants agreed or strongly agreed compared to only 11.5% of participants from Oceania. This was also the case when asked if they had enrolled because the course was offered by a prestigious university, 45.7% of participants from Africa agreed or strongly agreed in contrast to only 18.8% of participants from Oceania. As with other questions, the values from Asia participants and participants from the Americas (W/o U.S.A.) were similar to each other, while the values of participants from Oceania, Europe and the United States were similar to each other as well.

In the IPMS, participants were asked about which reasons most accurately reflected why they were participating in the MOOC. Options given were: self-improvement, improved job outlook, curiosity, and to pass time. Instead of being asked which were reasons that led them to enroll, this question asked which were the most important reasons for participating. Most participants stated taking the MOOC for self-improvement at 82.2%. Oceania and Africa had the highest percentages at 87.4% and 83.7%, while Asia and the Americas had the lowest percentages at 82.2% and 80.7%.

The second highest reason they mentioned for participating was out of curiosity. Close to half of participants, 48.3%, participated for this reason. As with many other

responses, the same separations by regions were visible, with more participants from Europe and Oceania at 55.5% and 54.0% citing curiosity as a major reason for participating, while only 25.2% of participants from Africa were participating out of curiosity. Percentages in Asia and the Americas (W/o U.S.A.) joining out of curiosity were also lower than for higher HDI areas. For participants from regions with lower HDI levels the course was a unique opportunity and their motivation was less from curiosity than self-improvement.

When asked specifically about improved job outlook, participants from Africa were most likely to consider this a major reason for participating, at 43.7%. The second highest region where participants cited this reason was in Europe at 29.1% followed by Asia and the Americas (W/o U.S.A.). Oceania had the lowest percentage at 26.4%. A problem with this question is that it did not specify how the MOOC would improve their job outlook, is it by gaining new skills or by including their participation in their CV? Overall, regions with higher levels of unemployment highlighted improved job outlook as a major reason for participating. According to the World Development Indicators, Europe and Central Asia had a higher unemployment rate from 2007-2011 at 8.0%, compared to Latin America and the Caribbean at 7.7%, South Asia at 3.5%, and East Asia and the Pacific at 4.2%. Unemployment was even higher in the Euro area at 10.1% (World Bank, 2013).

While a majority of participants enrolled partly because the MOOC seemed “fun and enjoyable”, this did not mean that participants were enrolling to pass time or only for leisure. Despite 84.6% of international participants mentioning the MOOC being “fun

and enjoyable" as reflecting their reason for participating, less than 10% of participants were participating in MOOCs to pass time, indicating that most participants took part in these MOOCs for a more meaningful reason. However, participants from Oceania were more likely to cite this reason, at 8.0%, than participants from Africa, at 4.4%.

Many were participating because the MOOC was relevant to their employers. Participants in Africa, the Americas (W/o U.S.A.), and Asia were more likely to consider the MOOC relevant for their employment, whereas participants from regions with higher HDI levels considered it less relevant. Overall, 34.3% of international participants felt it was very relevant, relevant, or moderately relevant to their employers, including 62.8% of participants from Africa, and 40.0% of participants from the Americas (w/o U.S.A.). However, only 24.10% of participants from Oceania and 24.0% of participants from Europe agreed.

A higher percentage believed the content to be relevant to their current employment at 52.6%, including 85.3% of African participants, compared to only 40.8% of participants from Europe. When asked about the relevance of the MOOC for their desired job, the average was 66.1% with 89.5% of African participants as the highest value, and 58.4% as the lowest value among participants from Oceania. In these questions, participants in Africa were more likely to consider it relevant or very relevant, followed by America (W/o U.S.A.) and Asia. Regions with higher average HDI scores such as Europe and Oceania were less likely to consider MOOCs as relevant for their employer or employment. Participants from developing regions with lower HDI were more interested in the potential of MOOCs for improving their employment situation.

Most international participants were interested in learning new knowledge, with 88.4% believing it to be of at least moderate importance, and reinforcing prior knowledge, at 85.1%. This parallels the high percentage of participants who were interested in taking MOOCs for self-improvement. In both categories the regions with higher HDI levels were less likely to consider learning new knowledge or reinforcing prior knowledge important, with 83.4% of participants from Oceania believing learning new knowledge was at least moderately important, and 78.6% believing reinforcing prior knowledge was at least moderately important. In contrast, Africa, Americas (W/o U.S.A.), and Asia had the highest values with 97.6% of Africans believing it important to learn new knowledge, and 95.1% in reinforcing prior knowledge.

Overall, sixty percent believed it was at least moderately important to obtain a statement of completion, 58.5% to obtain a passing grade, and 51.5% to obtain academic credit. These percentages were again highest in Africa at 81.3%, 81.7%, and 80.9% respectively, followed by Asia and the Americas (W/o U.S.A.). Obtaining credit for participation or a passing grade in the course were seen as less important in Europe and Oceania. The percentages of African participants who considered these factors to be important were almost twice those of participants from Oceania at 44.1%, 48.8%, and 39.1% respectively. Statistically regions with higher HDI levels responded differently to most questions in comparison to regions with lower HDI levels, illustrating that while there are general reasons as to why most international participants join MOOCs, MOOCs are more likely to be considered meaningful for career development in developing regions.

Looking back at the initial promise of MOOCs of “teaching the world”, MOOCs are still in their early stages but have the potential to reach millions more (Severance, 2012; Oyo & Kalema, 2014). By developing MOOCs regionally, “wrapping” MOOCs, or augmenting them in a hybrid setting many individuals that do not currently see MOOCs as a viable alternative may change their perceptions and benefit from MOOCs (Zawacki-Richter, et al., 2018; Czerniewicz, et al., 2014; Schuwer, et al., 2015; Che, et al., 2016; Larionova, et al., 2017).

MOOCs remain primarily a “North” to “South” transfer of knowledge but there are plans to develop additional MOOCs in every region of the world or adapt existing courses to increase their usefulness locally (Adham & Lundqvist, 2015; Oyo & Kalema, 2014; Tømte, Fevolden, & Aanstad, 2017; Norberg, Händel, & Ödling, 2015). U.S. MOOC providers also include non-U.S.A. MOOCs but, so far, these courses represent a small minority of offerings or are overwhelmingly from institutions in countries with high HDI levels.

In addition to the lack of local alternatives, there is also local resistance to MOOCs and individuals’ hesitance to learning via the internet (Ma & Lee, 2018; Kizilcec, et al., 2017). Rohs & Ganz (2015) contended that due to the demographic characteristics of MOOC participants that “MOOCs can enlarge the knowledge gap rather than close it” (Rohs & Ganz, 2015, p. 6). However, over time as MOOC credentials gain value and support programs are developed, the individuals who would benefit the most from MOOCs may enroll in greater numbers.

To achieve this, it is important to address concerns such as the “cognitive burden of wrestling with feeling unwelcomed while trying to learn” from individuals in LDCs and to provide adequate support services, including local funding for these additional services (Kizilcec, et al., 2017, p. 251; Zawacki-Richter, et al., 2018; Norberg, Händel, & Ödling, 2015). The international demand for U.S. MOOCs appears to parallel the international demand for higher education in the U.S.A. from developing regions and it will take time for similar institutions to be available locally at a similar level of quality. For individuals from regions with low HDIs, MOOCs provide a unique way for improving their work-related skills and learning from international subject matter experts.

In summary, when grouping participants and analyzing their responses through a typology of lower HDI regions in contrast to higher HDI regions, as displayed in Table 7.7, the responses of participants from lower HDI regions were more dissimilar to those of U.S participants, whereas MOOC participants from higher HDI regions tended to enroll and participate in the courses for similar reasons to their U.S. counterparts.

Some key differences between lower HDI regions and higher HDI regions include a greater interest from international participants from lower HDI regions in obtaining a badge or certification, making professional connections, and gaining skills that would help their jobs or careers. These participants were more career minded and professionally motivated.

While only 42.8% of participants in the United States considered MOOCs to be relevant to their academic field of study, 59.7% of participants from lower HDI regions felt this way. Obtaining a badge or a certification was very important for participants in

regions with lower HDI, at 57.1% in contrast with 37.0% for regions with higher HDI levels, and only 30.4% in the United States. For participants in lower HDI regions, these MOOCs were more likely to be relevant to their employers at 44.5% to only 24.1% for participants in regions with higher HDI levels, and for their desired jobs at 54.6% in contrast to 38.4% in regions with higher HDI levels. Obtaining academic credit, learning new knowledge, reinforcing prior knowledge, and other variables linked to the MOOC having a greater professional relevance were noticeable for participants living in regions with lower HDI levels. These participants also were more likely to believe that they were unable to take a similar course locally and that signature tracks were important. Overall, international participants from lower HDI regions were more professionally-motivated in enrolling and participating in the courses.

Table 7.6

Typology of International Participants (By Region's HDI) - Question #2

Pre-MOOC Survey Questions	Lower HDI	Higher HDI	U.S.A.
Q2 - Why did you enroll in this course?	Agree or Strongly Agree – Combined Percentages		
Q2A- Relevant to academic field of study	59.7	45.8	42.8
Q2B- Skills will help my job / career	69.6	54.2	55.3
Q2C- Offered by a prestigious university	44.3	24.4	25.0
Q2D- Think the course will be enjoyable	82.2	85.9	89.6
Q2E- No alternative close geographically	37.2	24.9	16.3
Q2F- Traditional courses are expensive	56.6	55.0	58.4
Q2G- Interested in this professor	21.8	10.5	13.3
Q2H- Interested in UMN	35.2	15.9	18.6
Q2I- General interest in the topic	94.8	97.5	97.1
Q2J- Decide whether to continue	33.8	27.7	28.2
Q2K- Make professional connections	43.2	21.1	22.9
Q2L- Obtain a badge or certification	57.1	37.0	30.4
Post-MOOC Survey Questions			
Q1 - Learned as much as planned / more	74.0	73.5	68.8

Table 7.6 (Continued)

Typology of International Participants (By Region's HDI) - Question #2

Intl. Part. MOOC Survey Questions	Lower HDI	Higher HDI
Q7 Which of these reasons most accurately reflects why you are currently participating in this MOOC? (A-D)	Percentages	
Q7A- Self-improvement	82.2	84.8
Q7B- Improved job outlook	33.2	27.8
Q7C- Curiosity	38.8	54.8
Q7D- To pass time	5.9	7.5
Questions - Q9 to Q12	Relevant & Very Relevant - %	
Q9- MOOC completion relevant to employer	27.4	12.8
Q12- MOOC content relevant to employer	44.5	24.1
Q13- MOOC content relevant to desired job	54.6	38.4
Q14 How important are the following for your professional career? (A-E)	Important & Very Important Percentages	
Q14A- Obtaining a statement of completion	52.3	30.7
Q14B- Obtaining a passing grade	52.0	33.2
Q14C- Obtaining Academic Credit	46.0	22.4
Q14D- Learning New Knowledge	86.9	76.6
Q14E- Reinforcing Prior Knowledge	78.9	66.7
Questions - Q16 & Q34	Percentages (Q16 & Q34)	
Q16- Signature Tracks Is Very Important	13.2	2.9
Q34- Cannot Take a Similar Course Nearby	33.8	25.3

** Lower HDI regions include Africa, Asia and America w/o U.S.A.*
Higher HDI regions include Europe and Oceania.

When participants shared anecdotes in the online focus groups, these differences remained with participants from Asia and Africa being more likely to mention experiences such as obtaining a new job as a result of their MOOC participation or having the opportunity to help their local community by sharing their newly gained expertise. MOOCs had a transformative impact on many participants across the world, but more so on participants from lower HDI regions who, without MOOCs, would have had a more difficult time finding a way to improve their technical expertise than participants from higher HDI regions.

What were the positive and negative aspects?

Table 7.7

Survey Results – Analysis summary. Key results – Question #3

Post MOOC Survey	Africa	Asia	Europe	Oceania	America*	U.S.A.
Q3 - What factors prevented you from completing the course? (Strongly agree or agree)						
Q3A- Time commitment	77.3	69.4	59.9	55.0	65.0	60.8
Q3D- Fell behind	68.2	60.7	53.6	55.0	60.6	55.1

**America – W/o U.S.A.*

International Participant MOOC Survey	Africa	Asia	Europe	Oceania	America*
Q26 - Do you agree or disagree with these statements? (Strongly agree or agree)					
Q26A- As difficult (As traditional crs.)	35.3	34.4	28.1	32.1	33.9
Q26B- Quality comparable (To traditional crs.)	71.1	63.0	61.4	61.9	67.9
Q38 - How important are these factors to success? (A great deal or much)					
Q38A- English proficiency	88.8	89.9	92.2	92.6	89.6
Q38B- Internet connection	96.5	94.1	91.9	100.0	93.2
Q38C- Time requirements	91.4	92.4	87.7	87.9	86.4
Q38D- Prior knowledge	43.1	32.9	21.6	9.7	26.0
Q38E- Face to face interaction	22.6	21.5	11.4	4.9	10.4
Q38F- Instruction support	68.9	61.4	45.4	43.3	55.1

**America – W/o U.S.A.*

The table above, Table 7.7, is a shortened version of Table 5.6 emphasizing some of the main survey findings which participants further elaborated upon in their focus groups responses. As with the previous research questions, despite many commonalities in the experience of all international participants, participants from regions with lower HDI levels (Africa, Asia, and the Americas w/o U.S.A.) had more in common in their responses to many survey questions and focus group comments. This section summarizes

international participants' opinions about the positives and negatives of their MOOC experience.

Many articles and books have been written critiquing multiple aspects of MOOCs (Head, 2017; Schuwer, et al., 2015; Rohs & Ganz, 2015; Knox, 2016). For example, Knox (2016) analyzes MOOCs from a critical post-humanist perspective. Knox criticizes the corporate tactics of MOOC companies and the contradiction of promoting universal access to education, while simultaneously reinforcing European hegemony and colonial logic. Knox (2016) also criticizes the anthropocentric nature of MOOCs and its perpetuation of inequalities and imbalances. Head (2017) criticized various aspects of her MOOC experience including the naiveté of those who propose that MOOCs can provide access to everyone currently without access, and the negative disruptions it can have to higher education, including the shifting of costs from instructor to technologists, and cultural misunderstandings with participants, among other challenges. Rohs & Ganz (2015) emphasize how MOOCs are mainly helping those that already are highly educated. These and many other critiques have been made of MOOCs, but the data gathered in this study was mainly from participants who had benefited from MOOCs and consequently reflects a mostly positive perspective on these courses.

This study does not ignore the negative critiques of MOOCs but focuses on the opinions of the participants surveyed and those who took part in the focus groups. By being open and free MOOCs attract primarily those interested in the idea of MOOCs, a global course available to anyone with internet access, not individuals who dislike the idea of MOOCs as a concept. It is therefore not surprising that respondents in the surveys

analyzed in this dissertation were not very critical of MOOCs. Many of the participants shared stories of the benefits that participating in the MOOC had provided to them, in addition to stories of hardships they had to overcome. They were individuals from various occupations hoping to increase their knowledge and improve their economic outlook.

During the focus groups, participants explained in detail the positives and negative aspects of their experiences. Some of the major concerns shared by participants were English language proficiency, familiarity with American culture, internet quality and speed, cost of attending, assignment challenges, and time-zone differences. These challenges are corroborated by other studies and ICT4D literature (Goosen, 2015; Chen, 2012; Trucano, 2013; Czerniewicz, et al., 2014). Participants did not, however, seem concerned with the North to South direction of knowledge exchange of Coursera U.S.-based MOOCs.

Various challenges to success in a MOOC, including internet quality and speed, were more common among participants from Africa, Asia, and the Americas (W/o U.S.A.) (regions with lower average HDI levels) than among participants from Europe or Oceania. While internet access has increased worldwide, access is not universal, with developing regions having the lowest coverage and speed (Wu, 2016; Rohs & Ganz, 2015; ITU, 2017). Internet speed and quality varies substantially internationally, and having basic access is not sufficient for various activities, particularly streaming videos or participating in real-time activities (ITU, 2017). Lack of access to high speed internet was highlighted by a number of the focus group participants in this study. For example, a

focus group participant from India mentioned that in the private college where she teaches, only 10% of students had access to a personal computer and internet access at home (Aadhya, India). Another Indian participant pointed out that, unlike in the United States, public libraries or coffee shops with internet access are not common in certain areas of the world (Sai, India). By 2015, only 22% of Indians had access to the Internet, and only 18% of Indians owned a smartphone in 2016 (Poushter, 2017; Zainulbhai, 2016).

The digital divide is still a problem in many parts of the world. According to the Pew Research Center, only 54% of adults have access to the internet globally, compared to 87% of adults in advanced economies (Poushter, 2016). Despite inroads, internet access remains very limited in some parts of Asia and Africa. For example, only 11% of Ugandans, 8% of Ethiopians, 15% of Pakistanis, and 30% of Indonesians have access to the internet at least occasionally or own a smartphone (Poushter, 2016). This lack of reliable access to the internet causes issues for MOOC participants, not only in watching required lectures or videos, but also in timely submitting assignments and completing the course within the allotted timeframe. For an African participant in one of the UMN MOOCs studied in this dissertation, having poor internet led her to submit assignments late (Zoya, Nigeria). She explained that, despite local interest in MOOCs in rural Nigeria, adequate access to the internet is only available in major cities. Similarly, a participant from Mexico mentioned how in some places it is still common for people to use a 14.4 kbps connection instead of broadband internet (Alfonso, Mexico). Some MOOC capabilities rely on Web 2.0 improvements that do not work properly without adequate

internet speeds (Cobo & Moravec, 2011; Nations, 2016; Okello-Obura & Ssekitto, 2015). In 2014, the average internet speed in the United States was 18.2 Mbps or 18,200.0 Kbps (Wilson, 2014), a speed over a thousand times faster than Alfonso's internet speed in Mexico.

In addition to lower average internet speeds, some participants also had internet quota limitations. A participant from Sri Lanka had a problem downloading course materials after he had exceeded his monthly internet access quota (Sora, Sri Lanka). The quality, format, and length of a video file included in a MOOC influenced its accessibility. To remedy this, participants suggested that it is helpful for videos to be made available in "different formats and sizes" to account for different internet speeds and availability (Sora, Sri Lanka). For some participants without reliable internet connections, it would be helpful if resources were made available for download. Others would benefit more if a low-quality version of the video were made available (Laura, Romania). Participants can download the resources overnight or at work and listen or watch them when convenient. Videos can also be converted to audio files. The experience of the participant from Romania illustrates the limitations of using HDI regions as a category, as this can mask the heterogeneity of participants' experiences within each region and obscure the fact that many individuals outside of lower HDI also experience problems due to poor connectivity.

Some participants did not have their own internet access and were only able to access the internet at work or school (Reynaldo, Haiti). Designing courses for developing regions poses unique challenges in terms of learners' characteristics, institution and

service quality, instructors' characteristics, course and information quality, infrastructure and system quality, and extrinsic motivation (Bhuasiri, et al., 2012). The suggestions provided by participants would strengthen the design of online courses and MOOCs to meet the specific needs of international participants in developing regions (Andersson & Grönlund, 2009; Sife, el al., 2007).

Participants also faced cost challenges as participants in the UMN MOOCs were, in some instances, required to purchase expensive resources. While Coursera MOOCs emphasize access to free resources, some optional resources were available at a cost. A participant from Sri Lanka felt strongly that even if a resource was optional, paid resources should be discouraged and, when necessary, paid materials should be offered at a discount for international participants (Sora, Sri Lanka). However, others noted that even discounted resources might remain out of reach for some international participants. For an Indian participant, a discounted software package that was offered for $29.95 was still unaffordable as that cost was enough to feed a family of seven for a week (Reyansh, India). Similarly, a participant from Nigeria explained that participating in MOOCs was very difficult due to poverty and difficulty finding food let alone sufficient money and time to participate in the course and purchase materials (Asha, Nigeria). He had completed assignments using torchlight (Asha, Nigeria).

While unfortunate, it is not surprising that participants from some regions felt this hardship. In 2016, 10.7% of the world's population lived under $1.9 dollars a day (World Bank, 2016). While costs are a major concern that dissuades some students from enrolling in or completing the MOOC, on the other hand, some of the MOOC participants

surveyed in this dissertation felt that increasing certain costs might actually improve MOOC completion rates. For example, one focus group participant suggested that asking MOOC enrollees to pay for the certificate would make it more likely for people to complete the courses (Che-wei, Taiwan). By being free, MOOCs attract a large number of participants, but many of these participants are also not highly invested in the course partly because it is free. The zero-price effect as well as the attractiveness of luxury goods is well documented (Shampanier, Mazar, & Ariely, 2007; Mandel, Petrova, & B.Cialdini, 2006). In fact, there is some evidence to support this theory in the MOOC industry as a whole. While some MOOCs are no longer available for free, and therefore are no longer "open", the number of paying participants increased in 2017 (Lederman, 2018).

In my own experience in instructional design and educational technology, often when recommending OER and OSS, some faculty members tend to initially consider free and open resources to be of lower quality. While there are many high quality open resources, their perceived lower quality is a common faculty concern. Similarly, MOOCs, by being free, may also be underappreciated by some. As MOOCs add paywalls, however, the term MOOC becomes increasingly a misnomer, since by being "open" MOOCs should not include paywalls. Depending on the business model of the MOOC provider, some of these changes were expected, as MOOC providers are forced to adapt to become both sustainable and profitable (Porter, 2015).

MOOCs can be very expensive for the offering institution, often costing much more to produce than a traditional university course (Baker & Passmore, 2016; Head,

2017). By including a small cost (even if doing so transforms a MOOC into a massive closed online course (MCOC)), providers have increasingly recognized that they may be able to increase the net completion rate while also improving the sustainability of the MOOC providers. Thus, requiring a small payment may be a net benefit for providers and offering institutions. However, these changes may also decrease enrollment (Lederman, 2018). Paywalls are by no means inevitable. Some OER projects have adopted alternative approaches to increase sustainability. For example, Wikipedia has maintained a completely free sustainable business model through donations and advertising. This format has also worked for other OSS and OER initiatives. However, Coursera and other MOOC providers are for-profit companies, so such funding models would not necessarily translate to the for-profit sphere, or best serve the goals of the MOOC provider companies.

Unsurprisingly, some concerns such as language proficiency were mentioned mainly by participants from regions where the primary first language is not English. However even among participants whose first language is English (like most of Oceania's participants), some participants were concerned with the use of U.S. specific idioms, units, and problems. To better understand instructors' accents and not miss details, various participants felt it would be helpful to include subtitles in all the videos (Ludimila, Brazil). It was easier to understand instructors despite differences in dialects when the information was written down (Asha, Nigeria). As someone who learned English as a second language, I identified with these comments. In fact, I continue to watch films with subtitles to avoid missing any of the dialog despite being fluent in

English. Participants from countries with lower HDI levels more often mentioned the value of subtitles. However, there was also a need to improve the quality control of the subtitles, as one focus group participant pointed out that often subtitles contained errors (Philip, Argentina). In addition to subtitles in the videos, a participant felt it was helpful to include the transcripts in a Pdf file (Aadhya, India). This approach might help to address the concerns raised by participants living in areas where internet speeds or quotas would not allow for streaming the videos themselves.

Various participants watched the videos multiple times to better understand the materials, including listening to a video up to three or four times (Anaisha, India). This included not only participants from lower HDI regions but also from Europe. English language challenges were not limited to video lectures but also applied to the discussion forums, with one participant relying on Google Translate to communicate with other participants (Fidel, Venezuela). Others had difficulty interacting in discussions due to having little confidence in their writing (Kaido, Japan).

Another participant mentioned receiving very limited feedback on one peer review assignment with the reviewer mentioning to the participant that he did not have very good English, instead of focusing on the substance of what the participant was trying to convey. Having to use a dictionary or rely on a glossary to understand the discussion forum and lectures was common. Others faced difficulties participating fully in online chats, preferring a closed type of communication (Siti, India). A participant from Zambia mentioned not participating in forums because it was much slower for him to express himself in writing than speaking in English (Asha, Nigeria).

While some participants supported content translation for other participants, others felt it was not an ideal solution, as participants would no longer improve their English. A concern with translations was the retention of errors that were initially made in the subtitles (Alicia, Argentina). Instead of translating the material, a participant suggested that the script of the videos could be developed using a lower level of English easier for non-native English speakers to understand (Sandra, Brazil). On the other hand, various participants considered the language challenge as a good opportunity to improve their English (Anaisha, India). For example, Pari, from Malaysia observed that, "on the positive side I learned many new English terms and also familiarized myself with the many British units".

For various participants there was concern about MOOCs focusing too much on western context with "positionality" being "often ignored" (Sai, India). Through participating in MOOCs some participants became familiar with U.S. presidents, the U.S. health care system, and other details that were very different from their country's situation (Carmen, Argentina). Many MOOCs seem to relate more closely to "the country where the University is placed" (Brandy, Spain). Instructors utilized terms such as "Monday night quarterbacking" which were confusing even to participants from the UK (Tim, United Kingdom) or "greenwashing" which confused a participant from the Philippines (Camille, Philippines). Another instructor emphasized the Thanksgiving holiday and other "unrelated learning" (Che-wei, Taiwan). When an instructor was not clear, however, participants noted that they could ask for clarification (Camille, Philippines). Nevertheless, participants commented that it is important for MOOCs to be

designed for a “world audience” rather than “very small part of it” (Rosa, Canada). The wider the participation in the MOOC, and the more global its design “the better it becomes” (Sora, Sri Lanka).

Some of these differences were seen as positive, requiring participants to be more open-minded. Other differences were seen as a barrier. For example, in a course on agriculture, resources that were likely to be unavailable in developing countries were emphasized (Alfonso, Mexico). The practical utility of the course was diminished for this participant by a focus on resources that would be hard to find for the average farmer in his country. This was one of the challenges mentioned when developing a course for a global audience. Essay time requirements were also a challenge. To combat these obstacles, participants suggested that assignments could be designed to take advantage of the regional differences by asking participants to look at a problem from a different perspective (Steven, France). An Asian participant felt the text was not inclusive enough, requiring MOOC participants “to comply with text that we don’t always agree on” (Sai, India) and filled with “U.S.-centricity” (Riya, India). To some the course was too difficult and the questions too hard (Leo, Brazil). Long texts in English were also seen as a barrier (Lizzie, Netherlands).

A vulnerable population, international students on college campuses face language difficulties, and other cultural barriers, which can result in social exclusion, low self-esteem and decreased academic performance (Sherry, Thomas, & Chui, 2010; Olivas & Li, 2006; Chen C. P., 1999). As universities take steps to improve the environment for international students who are physically attending higher education institutions in the

United States, similar steps, including continued financial assistance for low income participants, and support with improving their English skills, will help Coursera and other MOOC providers reach and support additional international participants. MOOCs could include an optional test similar to the TOEFL to test MOOC participants' English proficiency and recommend remedial language MOOCs accordingly.

In fact, Coursera did help some participants that had been unable to afford the costs. A Nigerian participant that had an interest in using Signature Tracks was unable to do so because of differences in the banking system (Zoya, Nigeria). After explaining her situation to Coursera, they waived her fees. Regarding costs, participants mentioned the importance of receiving pdf copies of the PowerPoints, as well as not being required to buy a book, but having a free book or free access to Pdf files (Allison, Italy). The quality of the materials was also important, with one participant zooming in to 140% to better understand the materials, reading them multiple times over (Kaito, Japan).

To address time-zone concerns, flexible deadlines would be helpful (Sarah, Portugal). Some participants found it difficult to participate in live chat activities because of time-zone differences (Siti, India). To some of them the biggest difference was the time zone (Pari, Malaysia). A participant from New Zealand mentioned not being able to work in the live parts of the course because she simply needed her sleep (Sophie, New Zealand). It was helpful for live activities to take place in the weekend. However, despite these difficulties, for at least one focus group participant, the idea of local activities as a component of the course was not appealing, as she considered them as overly geared

towards the local population, which would diminish the global outlook of the MOOCs that so many students and scholars find so appealing (Anaisha, India).

When asked how certain aspects of MOOCs prevented them from completing the course, the time commitment required by the MOOC was the biggest challenge, identified as a problem by 62.4% of participants overall. There was a clear division between regions with higher HDI levels (Europe, Oceania, and the U.S.A.) and places with lower average HDI levels (Africa, Asia, and the Americas). Time commitment requirements of the MOOCs was an obstacle to completion for over three quarters of African participants (77.3%). A similar distribution of responses happened when asked about getting behind and being unable to catch up. While it was the second biggest challenge for participants over all at 56.5%, it was most impactful for African participants (68.2%), followed by Asian and American (w/o U.S.A.) participants at 60.7% and 60.6% respectively. The third most common factor was beginning to take another course (22.6% of responses overall). Regions with lower HDI levels were more likely to find this a problem. Asia had the highest percentage at 41.7%, followed by Africa at 31.8%, and America (W/o U.S.A.) at 30.6%.

With participants facing time-zone challenges and problems falling behind, it would be advantageous for MOOCs to adopt a flexible assignment system that includes more optional assignments (Holman, et al., 2015). In the United States, learning institutions are required to provide additional time and greater flexibility for students with various learning disabilities and attention hyperactivity disorder under the Americans With Disabilities Act (Moore, 2010; Kolowich, 2010). International participants face

unique challenges that can also impair their learning experience. Many international participants are working professionals with complex work-life balance challenges. By incorporating in the design of the MOOC greater flexibility, international participants that are having difficulties will have more opportunities to complete a MOOC successfully.

The MOOCs that I have been a part of or studied included weekly deadlines and, for the most part, were flexible in accepting late assignments. I even submitted a few peer review assignments hours after the deadline and did not have a problem submitting the assignment and receiving three or more peer reviews. The final MOOC in the Video Game Design specialization, the Capstone Project, including additional assignments but they were not graded. A flexible assignment system would include extra assignments in addition to those needed to obtain a maximum score in the MOOC and the participant would be able to choose which ones to complete. While some MOOCs may be incorporating this system, it is not a common course design feature. If additional flexibility is added to MOOCs it could help many international participants to complete a MOOC successfully, increasing participant satisfaction as well as improving completion rates.

Losing interest due to the subject matter, or due to the presentation style were less common reasons for not completing the MOOC. Participants were also asked about ways by which they would be more likely to complete the course. For 36.0% of participants completing the MOOCs required too much time, including 53.2% of participants from Asia. Making the credential more valuable was important for 22.0% percent of

participants, including 39.3% of participants from Asia and 30.0% of participants from Oceania.

Awarding more valuable credentials would increase the appeal of MOOCs to many international participants, including myself. Despite lingering credibility concerns, however, employers are increasingly recommending MOOCs for training purposes, particularly in the technology sector (Banks & Meinert, 2016). While it is still not common for MOOCs to be included in CVs, the practice is becoming more commonplace and is interpreted by some employers as evidence of an individual's effort to improve themselves continuously. Coursera has also worked closely with LinkedIn to facilitate the display of participants' MOOC achievements in their LinkedIn profile (Coursera, 2013).

When asked about their course experience, a large majority of participants felt that feedback was provided to improve their performance (70.9%), that they obtained a deeper understanding of the subject due to the course (80.1%), and that their interests were stimulated by the course (77.44%). These responses were also not related to a region's HDI levels. African participants had the highest percentages in all three questions at 88.7%, 83.1% and 81.9% respectively.

There were some concerns with instructors' presentations. Only 39.5% of participants agreed or strongly agreed that the instructor had presented the materials clearly. Participants from Asia and Africa were more likely to agree and strongly agree at 50.9% and 41.5% respectively. However, participants from the Americas (w/o U.S.A.) had the lowest percentage at 34.3%. It was discouraging that less than half of all

participants agreed or strongly agreed with the statement that the instructor had presented the materials clearly.

Cultural differences in education and pedagogical preferences vary internationally (Masemann, 2013; Alexander, 2002). Presentation styles also vary widely. Some MOOC studies have discussed both positive and negative reactions to instructors' pedagogical preferences in contrast to the participants' preference (Bayeck & Choi, 2018; Adham, et al., 2018). In Head's (2017) book *Disrupt This!: MOOCs and the Promises of Technology*, the author mentioned how she was surprised in one instance when a participant complained in the forum about her clothing choices, which he considered inappropriate, expressing "is she trying to seem ethnic?" (Head, 2017, p. 110). Other students then defended the professor. Head (2017) mentioned how she had carefully selected modest clothes to not offend students but had ended up offending one student regardless.

Another study looked at the influence of national culture in MOOC video production. Applying Hoftsede's (1980, 2001) cultural dimensions, Bayeck & Choi (2018) looked at various MOOC introduction videos and noticed different power distances, individualism / collectivism stances, and masculinity / femininity differences. They determined that national cultures did influence video production, and as a result, while MOOCs can be free to participate in, they are not "free from providers' culture" (Bayeck & Choi, 2018, p. 193).

Because of cultural differences, it may not be possible to present the materials in a way as to appeal to all students. When teaching thousands of students with different

learning modalities in a MOOC, it is almost inevitable that some participants may prefer a different presentation style or pedagogical approach (Romanelli, Bird, & Ryan, 2009). One way in which to tailor a MOOC to more participants' learning modalities is to include different types of assignments and ways by which to complete the MOOC successfully, with extra assignments that may be appealing to different types of learners.

In the surveys analyzed in this dissertation, participants were also asked which features had contributed more to their learning. Over 94% of participants felt that video content had been helpful to a moderate or large degree. The differences between regions were minor with a high of 95.3% and a low of 93.1%. Other features that most participants found most helpful to their learning were assignment readings (84.2%) and practice assignments and tests (78.4%). Three features that were considered less helpful were interactions with instructors and TAs, interactions in the class forum, and feedback from peer grading. These were considered helpful to a moderate or large degree by 35.2%, 41.2%, and 32.6% of participants respectively. Regions with low HDI averages found them more useful, whereas regions with high HDI averages tended to find these elements less useful. It is possible that such a difference is due to the benefits of forums, interactions with instructors, and feedback from peer grading for individuals with greater language difficulties, fewer resources, and other disadvantages. In Africa, 50.6% of participants felt that interactions with instructors and TAs had contributed to their learning to a moderate or large degree, followed by the Americas (W/o U.S.A.) at 46.3% and Asia at 43.8%. Asian participants had the highest percentages of all of the regions when asked how interactions in class forums had contributed to their learning at 49.8%,

followed by Africa at 48.8%, and Americas (W/o U.S.A.) at 46.7%. African participants were also more likely to believe that feedback from peer grading had a moderate or large contribution to their learning at 47.2%, followed by 41.5% of Americans (W/o U.S.A.) and Asians (40.9%).

International participants were also asked about their opinion of the difficulty of the MOOCs. Overall, there were very small differences between regions, with 31.6% of international participants believing that the MOOC was difficult as a traditional course. However, a large percentage of participants did not believe that MOOCs were as difficult as a traditional course. When asked about the quality of a MOOC in comparison to a traditional course, however, a large percentage of participants agreed, at 64.1% that MOOCs had the same quality as a traditional course. Of these participants, Africans were more likely to consider the quality comparable to traditional courses at 71% as well as participants from other regions with lower HDI levels such as America (w/o U.S.A.) and Asia at 68% and 63% respectively.

A series of questions also asked about important factors for success in MOOCs. In these questions, a very large percentage of participants agreed on the importance of English proficiency (90.9%), a good internet connection (93.5%), and having enough time to complete the MOOC (88.6%). Other less important factors were instructional support (52.8%), and having relevant prior knowledge (26.1%). All participants from Oceania mentioned having a good internet connection as being important a great deal or much, as well as 97% of African participants, showing an agreement among all regions to the importance of a good internet connection. Unfortunately, in some regions

connectivity is less of a guarantee. While internet access is increasing quickly worldwide, it takes time to build the required infrastructure. From 2013 to 2015, there was a 9% growth in internet access worldwide with adult users increasing from 45% to 54%. Smartphone ownership has increased even faster, from 21% in 2013 to 37% in 2015 (Poushter, 2016). Changes are happening quickly (Pappano, 2012). MOOCs have changed substantially since *The New York Times* declared 2012 “the year of the MOOC”. While there is a clear digital divide, the rapid improvement in access to the internet and internet capable devices is promising.

Participants from Africa and Asia were more likely to think that time requirements were important a great deal or much, somewhat higher than other regions at 91% and 92% respectively. However, all regions considered time requirements important at 88.6%. African and Asian participants were also more likely to mention the importance of prior knowledge, at 43% and 33%, followed by America (w/o U.S.A.) at 26%. Face-to-face interaction was also more important to African and Asian participants at 23% and 22% respectively over an average of 13.7%. Finally, participants from Africa, Asia, and the Americas (w/o U.S.A.) were also more likely to consider instructional support important at 69%, 61%, and 55% respectively over an average of 52.8%. English proficiency was also considered important by all regions at 90.9%.

Participants were asked a large number of questions in both the focus group and the survey to better understand the positive and negative aspects of their experience. Their experiences varied but, as a whole, more support is needed to address the needs of international participants both from local governments and from institutions that can

develop programs to help students succeed in MOOCs. One possible model is provided by the use of learning centers in northern Sweden to create “glonacal” blended courses to help Sami people succeed in MOOCs. Sweden incorporated their traditional “study circle” into MOOCs by creating “wrapped MOOCs” (Norberg, Händel, & Ödling, 2015). Sami communities have experienced “high levels of depopulation and brain drain”. Despite this, Norberg et al found that MOOCs can help communities transition more successfully from a traditional economy into a knowledge economy. In addition to Sweden, Larionova, et al. (2008) encouraged groups of students at the Ural Federal University in Russia to enroll in MOOCs using a framework of blended learning and online learning with tutoring support, while a control group enrolled in courses in the same subjects but studied them using the traditional model. In the project, the hybrid MOOCs resulted in higher student achievements (Larionova, et al., 2018).

In summary, when grouping the different regions into lower HDI and higher HDI categories as shown in Table 7.8, there are clear differences between these two groups. These differences influenced their experiences within the MOOC. Participants from lower HDI regions showed a greater interest in modifying the MOOCs to make them shorter, easier to complete, and reduce prior knowledge requirements, while also were supportive of the credentials given by MOOC completion becoming more useful.

Table 7.8

Typology of International Participants (By Region's HDI) - Question #3

Post MOOC Survey	Lower HDI	Higher HDI
Q3 - What factors prevented you from completing the course? (Strongly agree or agree)		
Q3A- Time commitment	70.6%	57.5%
Q3B- Subject matter	7.2%	15.1%
Q3C- Style	8.4%	19.8%
Q3D- Fell behind	63.2%	54.3%
Q3E- Began another course	34.7%	20.4%
Q4 - What would make you more likely to complete the course? (Strongly agree or agree)		
Q4A- Reducing requirements	41.4%	38.7%
Q4B- Making MOOC easier	15.3%	12.3%
Q4C- Making MOOC harder	6.0%	18.4%
Q4D- Making credential valuable	28.9%	22.4%
Q4E- Making course shorter	20.1%	7.3%

Post MOOC Survey	Lower HDI	Higher HDI
Q6 - To what extent do you agree with the following statements (Strongly agree or agree)		
Q6A- Materials presented clearly	42.2%	38.8%
Q6B- Feedback provided	76.4%	67.8%
Q6C- Deeper understanding	79.3%	80.1%
Q6D- Interest stimulated	79.1%	73.7%
Q10 - To what degree did each feature contribute to your learning? (Moderate or large degree)		
Q10A- Video content	93.9%	93.9%
Q10B- Assigned readings	86.6%	86.1%
Q10C- Practice assignments	83.3%	80.8%
Q10D- Interactions with instructors	46.9%	32.7%
Q10E- Interactions in class forum	48.4%	36.1%
Q10F- Feedback from peer grading	43.2%	29.8%

International Participant MOOC Survey	Lower HDI	Higher HDI
Q26 - Do you agree or disagree with these statements? (Strongly agree or agree)		
Q26A- As difficult (As traditional crs.)	34.5%	30.1%
Q26B- Quality comparable (To traditional crs.)	67.3%	61.7%
Q38 - How important are these factors to success? (A great deal or much)		
Q38A- English proficiency	89.4%	92.4%
Q38B- Internet connection	94.6%	96.0%
Q38C- Time requirements	90.1%	87.8%
Q38D- Prior knowledge	34.0%	15.7%
Q38E- Face to face interaction	18.2%	8.2%
Q38F- Instruction support	61.8%	44.4%

** Lower HDI regions include Africa, Asia and America w/o U.S.A.*
Higher HDI regions include Europe and Oceania.

Participants from regions with lower HDI levels were more likely to complain about time constraints, including the time commitment required for the course (70.6% among lower HDI region participants in contrast to 57.5% for participants in regions with higher HDI levels) and falling behind in their MOOC completion (63.2% of students in lower HDI regions in comparison to 54.3% for participants in regions with higher HDI levels). When asked if participants wanted the MOOC to be shorter, 20.1% of participants from lower HDI regions agreed, compare to only 7.3% of participants from higher HDI regions.

In contrast, a greater percentage of international participants from higher HDI regions, (18.4% compared to only 6.0% in lower HDI regions), would have preferred the MOOC they took to be more difficult and were less interested in making the MOOCs easier, shorter, or making the credential more valuable. Participants from lower HDI regions considered their MOOC experience to be more important for their careers, yet they also faced the greater difficulties in completing it successfully.

Participants from lower HDI regions and higher HDI regions generally agreed on many aspects. For both groups, video content, assigned readings, and practice assignments were the features that most contributed to their learning. For example, both groups agreed (93.9%) that video content contributed to their learning to a moderate or large degree. Also, assigned readings contributed to a moderate or large extent to the learning of over 86.0% of participants in both lower HDI regions and higher HDI regions.

In terms of interactions with peers or the MOOC support staff, international participants from lower HDI regions considered these interactions as more relevant to

their learning in the course. Similarly, participants from lower HDI regions were also more likely to consider the interactions in the class forum to contribute to their learning to a moderate or large degree (at 48.4% compared to only 36.1% in regions with higher HDI levels). These concerns were also shared in their written focus group responses with participants mentioning having difficulty completing assignments on time, experiencing language challenges, and facing other hardships such as irregular access to electricity. The IPMS responses showed similar findings with participants from lower HDI regions being more likely to consider face to face interaction to contribute a great deal or much to their success and to consider prior knowledge to be very important. Improving scaffolding between MOOCs and making MOOCs narrower in scope may be a way by which to retain MOOC quality while improving the success rate of participants from regions with lower HDI levels.

How would participants like to see MOOCs improve?

Table 7.9
Survey Results – Analysis summary - Key results – Question #4

International Participant MOOC Survey	Africa	Asia	Europe	Oceania	America*
Q32 How may these relationships aid in the future? (Affirmative response percentages)					
Q32A- Work collaboratively on projects	42.2	29.9	18.6	16.1	27.9
Q32B- Finding a job	24.4	17.5	10.1	3.4	13.4
Q32C- Learning about new opportunities	50.4	45.2	27.7	19.5	29.9
Q32D- Meet professionals from other countries	50.4	38.7	27.8	20.7	34.9
Q32E- Develop strong personal relationships	26.7	22.9	10.9	5.7	16.8
Q39 How important will the following factors be in the near future? (imp. & very imp. percentages)					
Q39A- "As Needed" learning opportunities	89.3	76.2	64.2	71.6	68.4
Q39B- Online project portfolios	72.6	68.8	47.6	50.6	55.8
Q39C- MOOC certificates of completion	68.8	49.5	32.4	28.3	41.2
Q39D- Higher education and advanced degrees	88.4	77.3	67.9	61.7	73.5
Q39E- Badges to demonstrate competency	62.1	56.2	37.9	30.1	48.0
Q39F- Online learning opportunities	89.3	79.5	65.4	79.0	73.3
Q39G- Mobile learning opportunities	74.4	63.2	48.3	60.5	55.3

**America – W/o U.S.A.*

The table above, Table 7.9, is a condensed version of Table 5.8, emphasizing some of the main survey findings which participants further elaborated upon in their focus group responses. This section provides a summary of "how would participants like to see MOOCs improve" based on the findings from the qualitative and quantitative research performed in this study.

In the focus groups, participants were asked to "share [their] vision for MOOCs and education (formal and informal) over the next 5, 10, and 15 years". In 2013, participants were asked a series of questions about future of MOOCs and how to improve them. Due to the length of this project (2013-2018) several of the recommendations given

by participants have since been addressed by some MOOC providers. Since 2012, “The Year of the MOOC”, MOOCs have expanded and changed at a rapid pace offering new options to potential participants (Pappano, 2012; Davis, 2016). Some MOOC providers such as Udacity have stopped advertising themselves as MOOCs, but have continued to evolve, offering a low cost higher education alternative with “nanodegrees” (Young, 2017). Some participants in the focus groups analyzed in this dissertation felt that long MOOCs, lasting 11-12 weeks should be divided into smaller 4-week courses (Nikita, Ireland) to increase student retention. This change suggested by a participant is similar to the approach taken by Udacity with its “nanodegrees”. Focusing on non-traditional participants, MOOCs may benefit from lasting only a few weeks, unlike a traditional higher education course. Other MOOC providers have made similar changes, moving away from the moniker “MOOC”, into their own variation of a low cost higher education alternative that is available to anyone over the internet. Some focus group participants in 2013 presciently pointed out MOOCs were likely to change and no longer be free in a few years (Anaisha, India).

Unlike the other research questions, this question is futures oriented, asking participants to envision the future of MOOC and share what they would like to see come about. The participants’ responses provide an insight as to where MOOCs may be headed. Individuals often overestimate the initial disruption of a technology but underestimate its long-term impact. As early 2014, some scholars and journalists claimed that MOOCs’ disruption of the higher education model had been highly exaggerated (Mintz, 2014). However, as argued by John Hennessy, Stanford president (2000-2016)

and member of Google and Cisco, “the future is still downloading” and MOOCs’ long term impact on education has yet to be fully seen (Bothwell, 2016). While statistics show that MOOCs are primarily helping those that already have a higher education, learners without degrees have reported greater benefits from MOOCs in their education and in their careers than other groups of learners. (Bothwell, 2016). MOOCs are transforming to meet the needs of learners and offering an alternative to the traditional higher education structure (Carey, 2015). Their low cost, international reach, and increasingly recognized credentials increases competition within higher education and, over time, can help to address long running problems in higher education such as Baumol’s cost disease.

It was very important for some participants in the UMN MOOCs studied in this dissertation for MOOC certificates to become more relevant or recognized (Alina, India; Alicia, Argentina). Various participants complained about the design of the certificate. They commented that the completion certificate or credential itself could easily be improved even by small changes such as including the date that it was issued or the logo of the university that developed the MOOC (Ivan, Russia). The certificate currently includes a major disclaimer explaining more what the MOOC is not than what it is (Martin, Norway).

If MOOC providers engaged employers, some focus group participants observed that MOOCs could also be developed considering the skills needed for specific jobs (Pari, Malaysia). For one participant, the Coursera MOOC was a transformational experience that not only empowered him into believing he could find a better job, but also improved his overall self-esteem (Asha, Nigeria). MOOCs can be very useful for improving

individuals' skills in jobs that require expertise but do not require a university degree (Leo, Brazil). Local employers "accepting MOOC [certificates] might make it easier for rural participants [to] see the value of online education" (Aadhya, India). Since the focus groups were conducted, while many certificates are no longer freely available, certification has also improved, and a greater number of certificates are transferable for college credit.

The unfulfilled potential of MOOCs can be visually represented by the Gartner Hype Cycle, with technologies experiencing first an innovation trigger, followed by a peak of inflated expectations, before a trough of disillusionment, followed by a slope of enlightenment, to finally reach a plateau of productivity (Panetta, 2017). In 2016, Gartner analysts placed MOOCs still within the initial phase of "innovation trigger" and determined that MOOCs were still approximately 5 to 10 years away from mainstream adoption (Bruyckere, 2016). Unfortunately, the scholarly literature on MOOCs to date tends to highlight their shortcomings rather than celebrate the impressive achievements made by MOOCs in only a few years, or discuss the growing diversity of possibilities within MOOCs (Conole, 2016; Zancanaro & Domingues, 2017; Anders, 2015). Some scholars have postulated that MOOCs are only the start of a broader disruption to higher education, with learners increasingly having more alternative, low-cost, competency-focused education providers (Christensen & Weise, 2014). Despite their limitations, however, many scholars still believe that MOOCs have the potential to transform education in the Global South, disrupt higher education around the world, and are

particularly promising in their potential for improving teacher education (Laurillard & Kennedy, 2017).

One of the suggestions for improvements made by participants in the UMN MOOCs was that U.S. MOOC providers could forge additional partnerships with local institutions, whether universities or employers. While participants in Africa, Asia, the Americas (W/o U.S.A.) and Europe were interested in such additional partnerships with local institutions, participants from Oceania appeared more interested in making MOOCs more globally standardized, with fewer colloquialisms, idioms, and U.S. specific examples. For regions with higher average unemployment rates, such as Africa, Europe, and the Americas (W/o U.S.A.), participants were interested in MOOCs becoming more helpful for finding a job by partnering with companies and increasing the relevance of the certificate.

Other participants suggested MOOCs could be improved by moving away from an online-only model. They argued that "Semi-MOOCs", which incorporate some in-person events in addition to online content, would be helpful (Zoya, Nigeria). Programs such as Kepler (https://www.kepler.org/) in Rwanda are examples of how partnerships between U.S. and local institutions or organizations can extend the impact of MOOCs. Kepler, working with the Southern New Hampshire University, has provided support services such as in-person coaching and career preparation to its students helping them to successfully complete MOOCs in a hybrid, "wrapped" setting (Swinnerton, 2017).

Some international participants were also hopeful that, in the future, more MOOCs would be offered by instructors from diverse backgrounds and different

viewpoints. Diversity can have a transformative effect in education (Milem, 2003). Some of the focus group participants suggested that increasing the internationalization of MOOC platforms would reduce the influence of particular cultures and models, that can currently sometimes overshadow alternative ways of doing things or thinking about a subject. By offering MOOCs from different regions, there would be a diversity of viewpoints, rather than primarily a U.S. point of view (Phillip, Argentina). This would also be beneficial to U.S. MOOC participants, many of whom have no prior international travel or any significant international experience (Rosa, Canada). It would also be helpful to include additional readings in MOOCs that focus on other perspectives (Sai, India). Inroads have been made in these areas since 2013, with policymakers and education advocates promoting the development of local MOOCs, the inclusion of MOOCs in the formal education curriculum, and greater local support for existing MOOCs (Larionova, et al., 2018; Lin & Zhang, 2014; Oyo & Kalema, 2014).

Some participants were supportive of translating MOOCs to make them more accessible (Ludimila, Brazil). For example, a participant from Spain believed that many more participants would benefit from MOOCs if they were also available in Spanish (Joseph, Spain). Another participant suggested that the same MOOC could be offered in multiple languages to maximize its impact: “Maybe the same MOOC could be taught in different tongues and subtitled in several” (Steven, France). In fact, Spain is one of the countries that has developed a very successful MOOC platform in a non-English language, MiriadaX (https://miriadax.net), offering dozens of courses (Medina & Aguaded, 2014). MiriadaX includes not only courses from Spain but also from Latin

America, including universities from Peru, Chile, Colombia, and other countries in Latin America, although most of its MOOCs are currently developed in Spain. So far, all of MiriadaX MOOCs remain free to the public. This platform launched a few months after the participant mentioned the importance of having MOOCs in Spanish. On a similar note, even in 2013, other focus group participants felt that MOOCs would continue to spread and, over time, that more and more countries would develop their own MOOCs and MOOC provider platforms. For example, a participant mentioned that many Romanian institutions were likely to start developing MOOCs soon (Laura, Romania).

MOOC creators could also consider reducing cultural biases and stereotypes in the courses (Laura, Romania). People with lower levels of education are less likely to know English and would benefit more from translations or MOOCs in their own language (Nikita, Ireland). Mistakes such as using colloquialisms and examples that do not translate well to other parts of the world are easy to make and instructors should review their assignments carefully to make sure they have removed these as much as possible to avoid confusing non-U.S. participants.

Progress is being made to diversify the range of viewpoints offered in MOOCs and localize courses. Some programs currently working on MOOC localization include OpenHPI, a Germany-based non-profit MOOC platform that has offered MOOCs in Chinese since February 2014 (Che, Luo, Wang, & Meinel, 2016). Translated and localized MOOCs have also been used in Saudi Arabia in Rwaq, which launched in 2013 (Adham et al, 2018).

Participants in the UMN MOOCs recommended increasing awareness of MOOCs by partnering with local educational and public institutions (Leo, Brazil). MOOCs can be "linked to governments, companies, and international organizations in order to achieve its goals in providing people education, high cultural level, and autonomy and financial independence" (Leo, Brazil). It is important for more employers to recognize and accept MOOCs as a professional development tool (Ivan, Russia). MOOCs can be used as "continuing education requirement for employees" (Pari, Malaysia). Local partners can help increase the relevance of one's MOOC achievement in a resume or CV (Alina, India).

As recommended in the focus group, since 2012, various MOOC providers including FutureLearn, Udacity, Coursera, edX, and others now offer programs that award either college credits or can be counted towards a college degree. Since 2016, FutureLearn has allowed students to earn up to 30 credits from participating in MOOCs offered by The Open University in the UK. It also allows participants to buy a certificate if they pass the MOOC to prove completion (Davis, 2016). More MOOCs are providing academic credit including Arizona State University's Global Freshman Academy (https://www.edx.org/gfa). The credits earned in edX can be transferred to any institutions that accept ASU credits and participants are not asked to pay until they pass the program so that they can receive the credit. edX MicroMasters (https://micromasters.mit.edu/) are another example of MOOCs for professional development.

MOOCs can be very helpful to the unemployed. A participant from Spain, where there was a 26% unemployment rate in 2013, explained that MOOCs are a valuable education service for unemployed people (Elena, Spain). Some focus group participants had improved their employment situation as a result of their participation in the course (Ludimila, Brazil). MOOCs also acted as a form of continuing education, enabling some participants to stay at the forefront of scientific research in their field (Ivan, Russia). A participant working in the wine industry felt that the impact of MOOCs in his career was initially limited but had increased over time (Steven, France). For many participants MOOCs are a new "unequalled learning opportunity" (Alejandra, Canada) or a "pot of gold!" (Nikita, Ireland). They do not replace the classroom or traditional course but offer new possibilities (Phillip, Argentina). Some participants have included their results in their CV (Laura, Romania), while others have not (Raul, Spain). Illustrating the need for increased recognition of MOOC credentials, one focus group participant explained that she had not included the course on her resume "for fear of getting laughed at" (Reyansh, India). To improve the perceived value of MOOCs credentials, participants suggested that universities offering MOOCs should do more in terms of advertising to make more people aware of the courses, and to increase recognition of MOOC credentials generally (Ivan, Russia). There is currently little marketing of MOOCs in developing regions (Asha, Nigeria).

Other scholars have suggested that one of the biggest opportunities for MOOCs to impact international participants and international development is through teacher training. Bali (2013) emphasized that, by taking MOOCs, teachers would learn how

others teach online, be a part of an online community in a topic of their interest, gain personal insight as an online learner, learn something new in a structured manner, and learn more about open education and finding free resources online on a topic (Bali, 2013). Dikke and Faltin (2015) list various platforms that offer MOOCs for teacher professional development including Coursera, FutureLearn, MiriadaX, NovoEd, edX, Open learning, Canvas Network, and others. These MOOCs cover a variety of topics including language teaching, science teaching, teaching skills, soft skills, and utilizing technology in the classroom. Laurillard (2016) has written several articles and reports about the potential of MOOCs as professional development for teachers of disadvantaged students. Laurillard (2016) mentions the potential for MOOCs to help meet "educational for all" goals and raise learning outcomes in the poorest countries. She calculates that 1.6 new million teachers are needed in the poorest countries and argues that this can be achieved by using MOOCs as co-learning for professional development.

According to Laurillard and Kennedy (2017), MOOCs could be used to teach cohorts of teachers who would then be required to teach other instructors in their community. Laurillard and Kennedy (2017) encourage a "cascade model" whereby "10,000 highly qualified professionals are trained on the large scale to each train a class of 25 local adults using blended learning" (Laurillard & Kennedy, 2017, p. 22). They posit that this is the best way to reach the 1.6 million teachers that are needed in developing regions. To Laurillard and Kennedy (2017) MOOCs "provided proof of concept of the possibility of scaling up online learning" and, by emphasizing teacher training, millions more could benefit from MOOCs sooner (Laurillard & Kennedy, 2017,

p. 29). As teachers become more familiar with a technology, they can also share that technology more effectively with students and have a greater network effect than an individual benefiting from MOOCs personally but sharing his or her experience with only a couple of other individuals.

In the survey analyzed in this dissertation, participants were asked about the importance of certain factors in the near future. As with other variables, African participants were more likely to consider higher education or advanced degrees important or very important, followed by other regions with lower HDI levels, and with Europe or Oceania having the lowest values. Almost 3/4ths or 73.5% of participants felt that higher education and advanced degrees would become more important, including 88.4% of African participants.

In addition to more higher education opportunities, participants were also interested in having more “as needed” learning opportunities, with 68.4% considering it important or very important, including 89.3% of African participants. More than an expansion of higher education, MOOCs represent a way by which to learn when needed in a non-formal and informal way. Most participants also considered additional mobile learning opportunities and online learning portfolios would become increasingly important, at 55.3% and 55.8% respectively. In Africa, 74.4% considered it important or very important for there to be more mobile learning opportunities. With mobile devices becoming the primary way in which people in Africa will access the internet, this response seems appropriate (Poushter, 2016). I was surprised by the high number of participants who considered online project portfolios to be important or very important,

including 72.6% of participants from Africa. As participants develop more detailed portfolios, it decreases the need to have a course completion credential, as participants' capstone projects can be shared with potential employers. The two variables that were considered less important by participants were the availability of badges to demonstrate competency (seen as important by 48.0% of participants surveyed overall, including 62.1% of participants in Africa and just 30.1% in Oceania), and MOOC certificates of completion (seen as important by just 41.2% of all participants, including 68.8% of those in Africa and a low of 28.3% in Oceania).

In summary, Table 7.10 compares the responses of international participants by HDI regions. International participants from regions with lower HDI expanded their social network more than those from higher HDI regions from their MOOC participation and had seen more friends become interested in MOOCs after discussing their own MOOC experiences. Partly because some of these participants had to ask for additional support in understanding the assignments and because they had a greater interest in completing the MOOC for their career advancement, these participants expanded their social network more than other participants. Participants sharing their MOOC experience with members of the local community can foster increased MOOC enrollment from that region over time, thereby contributing to increasing levels of MOOC participation from students in lower HDI regions.

Some of these differences between regions were substantial. For example, 27.6% of participants from lower HDI regions claimed to have extended their online social network, compare to only 9.1% of participants from higher HDI regions. Similarly,

20.6% of participants from lower HDI regions claimed to have extended their local social network in contrast to only 4.4% for participants in higher HDI regions. Participants from lower HDI regions were more likely to see their MOOC participation as transformative, including placing more value on the potential to meet others in MOOCs, and sharing their MOOC experience throughout their social network.

Table 7.10
Typology of International Participants (By Region's HDI) - Question #4

International Participant MOOC Survey	Lower HDI	Higher HDI
Q28 to Q31	Percentages	
Q28- Local friends expressed interest	62.3	57.8
Q29- Online friends expressed interest	45.5	34.3
Q30- Extended online social network	27.6	9.1
Q31- Extended local social network	20.6	4.4
Q32 How may these relationships aid in the future? (Affirmative response percentages)		
Q32A- Work collaboratively on projects	33.3	17.4
Q32B- Finding a job	18.4	6.8
Q32C- Learning about new opportunities	41.8	23.6
Q32D- Meet professionals from other countries	41.3	24.3
Q32E- Develop strong personal relationships	22.1	8.3
Q39 How important will the following factors be in the near future? (imp. & very imp. percentages)		
Q39A- "As Needed" learning opportunities	78.0	67.9
Q39B- Online project portfolios	65.7	49.1
Q39C- MOOC certificates of completion	53.2	30.4
Q39D- Higher education and advanced degrees	79.7	64.8
Q39E- Badges to demonstrate competency	55.4	34.0
Q39F- Online learning opportunities	80.7	72.2
Q39G- Mobile learning opportunities	64.3	54.4

** Lower HDI regions include Africa, Asia and America w/o U.S.A.*
Higher HDI regions include Europe and Oceania.

Participants from lower HDI regions were also more enthusiastic about the potential benefits of the new relationships formed in the MOOCs for their careers, believing more strongly that these relationships would help them learn about new opportunities, meet professionals from other countries, work collaboratively on projects, develop strong personal relationships and find a job. The differences between lower HDI

regions and higher HDI regions were, on average, 15.3%. When asked if these relationships would aid them in finding a job, 18.4% of participants from lower HDI regions agreed, compared to only 6.8% from higher HDI regions. When asked about these relationships aiding them in the future to learn about new opportunities, 41.8% of participants from lower HDI regions believed they would, in comparison with only 23.6% of participants from higher HDI regions.

Participants from lower HDI regions had more confidence that online learning opportunities and higher education and advanced degrees would become more relevant in the future. The support for these changes from participants from lower HDI regions was higher than those of higher HDI regions. For example, 55.4% of participants from lower HDI regions felt badges to demonstrate competency would be important or very important in the future, compared to only 34.0% of participants from higher HDI regions.

Participants from lower HDI regions felt that online learning opportunities, higher education and advanced degrees, “as needed” learning opportunities, online project portfolios, and other ways by which to demonstrate competency would become increasingly relevant. These responses were similar to those in the online focus groups where participants from lower HDI regions were very optimistic about the future of MOOCs and hopeful regarding developments such as increasing the value of MOOC certificates.

When looking at responses across all four research questions, it is clear from both the online focus group data and the surveys that international participants from regions with lower HDI had a greater interest in taking MOOCs to improve their job

opportunities and career and were less likely to participate in MOOCs out of curiosity. These participants also experienced greater difficulties such as technological challenges and language barriers. However, this group was also the most hopeful about the future of MOOCs, expressing optimism that in the future there will be more online learning opportunities, and a greater variety and availability of “as needed” learning opportunities. Participants from lower HDI regions were willing to pay more for a MOOC that was helpful for their career development, but they also shared a greater interest in receiving additional support to enable them to successfully complete the courses, and they spoke highly of the support they received from Coursera, MOOC instructors and their peers.

Future Research

Following this dissertation, I hope to further explore the international participant experience including testing the typology developed in this study with other data sets and analyzing the experience of international MOOC participants from developing countries, regions, or who have low socioeconomic status through other lenses. This includes analyzing the implications of MOOCs as a learning platform for international students in relation to distance learning, adult learning, lifelong learning, informal learning, ICT for education and for development, instructional design, and globalization. Some of these implications were discussed briefly in this dissertation but an in-depth analysis and discussion with the literature is warranted.

This dissertation was designed as the precursor to a broader study about the benefits of OER and ICT for individuals living in developing regions. My interests are in improving accessibility for people in developing countries or people who have a low

socioeconomic status. Further research on MOOCs or other developments in learning technologies, distance learning, and ICT for development and education is needed to determine how best to address the needs of these individuals and how these systems can be improved to increase student success, while also addressing problems such as Baumol's disease. I am hopeful that the potential of ICT, MOOCs and OER to address challenges in higher education will continue to increase.

With automation reducing the number of low skilled jobs available, and rapidly growing populations in developing parts of the world, additional alternatives and improvements to current distance learning options are needed to meet the growing demand for formal and informal education. Before studying comparative education and learning technologies, I worked in Latin American development. In the future, I intend to investigate the convergence of these fields by studying the extent to which learning technologies can be used to improve opportunities and quality of life in Latin America.

The surveys, focus groups, and auto-ethnography were developed and analyzed to help answer four broad questions. From this data, a typology emerged that best explained participants responses to the survey and focus group questions, (participants from areas with higher or lower average HDI values). However, further testing of this typology is required. The data analyzed represented only a small number of MOOCs. In addition to further developing the typology and testing it with other data sets, I plan to analyze MOOCs in comparison to other distance learning alternatives for individuals in developing regions by conducting a cost benefit and cost effectiveness analysis of MOOCs in comparison to other educational alternatives. When working with limited

resources, developing countries should emphasis the educational options with the greatest return on investment. While this dissertation focused on participants' perceptions and self-reflection, future projects should also analyze participant outcomes, and whether these differed based on the HDI level of participants' country of residence.

It would also be useful to conduct a similar study with a different level of analysis, as well as a comparative study of two regions. A future study could compare a higher HDI region with a lower HDI region, at both the national and individual level. In addition, future research could analyze differences by sub-regions (rather than the large regions utilized in this dissertation). When looking at differences by sub-region, Africa, for example, is divided by the UN into Eastern Africa, Middle Africa, Northern Africa, Southern Africa, and Western Africa, and Asia is split into Central Asia, Eastern Asia, South-eastern Asia, Southern Asia, and Western Asia.

The data in this study was also coded for sub-regions. Unfortunately, some sub-regions had a small number of participants, making it difficult or inappropriate to use this unit of analysis to compare and contrast participants' experiences. In future projects, if data is gathered for more than five MOOCs with more responses, it may be reasonable to analyze differences in the experience of international participants by sub-regions. It would also be important to look at differences within a nation by socioeconomic status and college-readiness. It would be helpful to conduct other studies at different levels of analysis.

I also plan on studying the experience of individuals that are college-ready in lower HDI countries but are not participating in MOOCs or other distance learning

alternatives. I am interested in learning about their reasons for not participating, whether due to lack of awareness, interest, access, English language skills, preference for face-to-face instruction, accessible alternatives, and other reasons. International participants could have access to alternatives from local universities, correspondence courses, open universities, and other distance learning initiatives. Better understanding potential participants' reasons for not taking part in MOOCs can help providers understand how to modify their offerings to attract a target population. This may already be happening. For example, some MOOC providers such as Udacity have now moved away from MOOC design and offer "nanodegrees" to individuals focused on professional development.

Other areas for future research include utilizing some of the tools developed for this study again but improving the questions that can be used to determine an individuals' socioeconomic status, educational background, and career goals. Technology ownership questions were used as a proxy for socioeconomic status, but changes in technology reduced the usefulness of this information. Various closed questions in the survey would be better answered as open ended, short answer questions, or as part of semi-structured interviews.

I am also considering completing a degree using only OERs and MOOCs and documenting my experience as an auto-ethnography. Having attended three different universities in the United States, Ouachita Baptist University, University of Florida, and the University of Minnesota, as well as planning on taking courses as professional at the University of Michigan where I work as an instructional designer, I believe it will be useful to complete an open degree and document this experience. I am currently working

on the development of various hybrid courses at Michigan utilizing OER to decrease the costs of learning for students. Some of the lessons learned will impact how I develop other courses. MOOC research is not only helpful for understanding MOOCs but online learning and distance learning as a field. Just as Allearn and Fathom preceded Coursera and EdX, improvements in ICT and learning technologies will continue to increase access and more effectively address the needs of non-traditional learners.

Limitations

Electing to use mixed methods and the time that it took to complete this project could be seen as limitations for this dissertation, yet I consider them to be partial strengths of this project. This project took a long time to complete (2013-2018) and the MOOC literature and research has evolved quickly and continues to grow at a rapid pace. When this data was gathered in 2013, MOOCs were in their relative infancy. The first two research questions in this study, “who are the participants?” and “why are they participating?” are questions that have also been addressed in various other studies since I began writing this dissertation.

While this was initially disconcerting, having additional time to complete this project allowed me to discuss the previous findings and analyze aspects of these two questions that have not been explored in-depth in other studies. For example, other studies of MOOC participants have not looked at the differences between participants by geographical region and their implications. Various other typologies were mentioned in the literature review, however the two frames of analysis applied in this dissertation, geographical regions, followed by grouping geographical regions by average HDI level, provide for a unique perspective into “who are the participants?” and “why are they participating?”. Many of the questions in the surveys and in the online focus groups were also unique questions not addressed by other MOOC literature, and which gathered additional data to help answer the research questions. Also, by gathering data during the initial years of MOOC growth, this study functions as a snapshot in time that future studies can use as a foundation. The rigor employed in gathering the data, the extent of

the data, and the uniqueness of some of the questions asked to participants make this study useful to the MOOC literature despite the number of years that have passed since this project started.

Another limitation of the study was conducting my first mixed method research project, having worked primarily with qualitative methods such as grounded theory, focus groups, participant observations, and semi-structured interviews in prior projects. Mixed methods are often advised against for young researchers who have less experience. While I initially considered only using qualitative analysis in this dissertation and focusing primarily on the online focus group data together with my auto-ethnography, the statistical data gathered from the surveys helped to better understand the trends that I observed in the online focus groups. Without using mixed methods and relying only on the online focus group data, I would have likely not been able to develop a typology of learner by geographical region and by regional HDI levels. Comments supporting the quantitative data were mentioned extensively in the focus groups, but I would have felt uncomfortable making broader claims about MOOC participant experiences without substantiating the focus group findings with the quantitative data from the surveys. In conclusion, while greater expertise in the use of mixed methods would have been beneficial, it was helpful to use mixed methods in this project as the methods utilized worked well in conjunction for this project.

This study incorporates methodology that is not utilized frequently in information and communication studies for development and education, comparative and international education, or open and distributed learning. Online focus groups

methodology remains an underused methodology even in studies of online communities and online learning. By including an online auto-ethnography and online focus groups, this dissertation also contributes to the literature of regarding the use of both methodologies and provides a unique analysis of participants' perceptions.

Despite these concerns, having additional time to work on this project and using mixed methods strengthened the study. The quality of the data gathered makes it a valuable data set despite the number of years that have passed since the start of the project and it can serve as a point of comparison for future studies. The anonymized data set is available upon request. Snapshots in time can be very useful in the future for longitudinal studies. More than a limitation, the time invested in improving this data set is one of the strengths of this study.

Another limitation, which was difficult to address, was most effectively asking participants to identify their country of residency without relying on their internet protocol (IP) address as a proxy for this question. However, I had a difficult time determining the best way to phrase this question, and I may not have worded the questions regarding participant's nationality or country of origin as effectively as possible. Some of the problems with utilizing IP addresses are that there are many reasons why an individual may be living in a country temporarily, including short-term travel or a sabbatical year. Determining residency by IP address does not address the difference between individuals temporarily in a particular location and those living there permanently. I considered asking individuals for their nationality instead of country of residency, but this approach suffers from similar limitations. An individual could be born

in one country but live most of their lives in a different country, yet still not have acquired a new nationality. Individuals can also have dual nationalities, and some countries make it very difficult to naturalize despite living in that country for decades. Despite the limitations of asking participants to self-identify their country of residence, overall asking participants to self-identify is more accurate than relying on their IP address as a proxy for place of residency. The biggest concern with asking participants for their country of residence is that individuals may have different ideas of when an individual is a resident of a location instead of a visitor.

Another limitation was completing a different series of MOOCs for the auto-ethnography instead of the University of Minnesota MOOCs that are analyzed in the focus groups and survey data. Completing the same MOOCs as the participants in the surveys and focus groups would have given me a better perspective on these MOOCs but I would have had a very different experience due to having limited or no interest in the subject matter of these MOOCs. By completing MOOCs that I was interested in, rather than the UMN MOOCs, I was able to better understand the experience of other participants, but I was less familiar with the MOOCs that they had completed. Ideally, I would have completed both sets of MOOCs, gaining a better understanding of UMN MOOCs while also completing MOOCs that I am personally interested in. Unfortunately, I only completed one set of MOOCs for my auto-ethnography.

Another limitation of my auto-ethnography was not communicating often with other participants and deciding instead to complete the MOOCs as I would normally complete an online course. I only had a moderate level of participation despite

completing all the activities. I wanted to be authentic in my behavior within these MOOCs and being more communicative with other participants would have resulted in an artificial experience that would not have given me a realistic perspective as a participant. Therefore, I acted as I would have in any other online course. I tend to interact to a moderate extent when I participate in online courses, focusing primary on completing the assignments in a timely fashion. I did not modify my behavior as a participant when completing these MOOCs. To remain aware of other MOOC activities by other participants in these MOOCs, rather than interacting with other participants directly, I browsed through the comment sections regularly reading others' posts.

A limitation of the statistical analysis was likely due to my limited experience in using this method for research. Due to the high number of variables that were analyzed to answer each research question, the focus of the statistical analysis was on the differences between the regions. This data set, however, could have been analyzed in greater depth by focusing on fewer survey questions. By analyzing every survey question, I was not able to scrutinize in greater depth some of the questions that should perhaps be analyzed in detail in future studies. In addition, while I explored correlations and analyzed the strength of relationships between variables, I did not administer the pre-MOOC and post-MOOC surveys directly. I also did not have access to clickstream data and other log data. I did, however, administer the international participant MOOC survey. While I would have preferred to include additional questions in the pre-MOOC and post-MOOC survey, as these were designed by a committee, I was limited to including only a few questions.

Finally, another limitation was some of the choices made in the survey and focus group questions, as well as the research questions. In retrospect, some of the survey questions could have been worded more effectively to draw out more nuanced and complete answers to the research questions. This is also the case with the focus group questions. This was a valuable learning experience, a project from which I grew and learned via trial and error what is effective and not effective when working on a project of this magnitude. It was the most profound learning experience of my life with many long nights and caffeinated evenings. Looking back on this project, there were many details, some small, some larger, that I wish I could change and do over. Every time I read it, there were new sources, new ideas and tangents I wanted to explore, as I updated the dissertation numerous times over the past five years.

I hope the insights in this dissertation are helpful to other scholars exploring MOOCs or its derivatives and their impact on international participants. The disruptive potential of MOOCs has not fully unfolded, and many more changes should take place over the next few years in this space. I hope that international participants, particularly those without the means to attend an expensive traditional academic institution, are able to further their studies through MOOCs and other alternatives. MOOCs will likely not replace traditional universities but will make the higher education landscape more competitive. As for participants, their stories were inspiring. Thank you for sharing your stories with me and helping this project become a reality.

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Annex

Pre-MOOC Survey Text

This survey is part of a research study that examines the relationship among online learning environments, teaching and learning practices, participant engagement, and learning outcomes. You were selected as a possible participant because you have enrolled in a course delivered by the University of Minnesota as a Massive Open Online Course (MOOC). The survey should take only 4 or 5 minutes to complete. This study is being conducted by Drs. J.D. Walker, Paul Baepler, Christopher Brooks, and Kem Saichaie from Educational Technology Services at the University of Minnesota. You may ask any questions you have by email at jdwalker@umn.edu or by phone at 612.624.1097. By completing this survey, you express your consent to participate in the study. Thank you. Please enter the email address that you use to access Coursera.

_____

Q1- Which of the following descriptions best characterizes you?

a) I have a degree in this field or significant work experience
b) I have completed some coursework or have some work experience in this field
c) I like to explore this subject on my own
d) I am mostly new to the subject

Q2- Why did you enroll in this course?

(Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree)

a) This subject is relevant to my academic field of study
b) This class teaches skills that will help my job/career
c) Because this course is offered by a prestigious university
d) I think taking this course will be fun and enjoyable
e) I am not geographically close to educational institutions
f) Traditional courses are too expensive
g) I was interested in taking a course with this professor
h) This course is offered by the University of Minnesota

i) General interest in the topic

j) To help me decide whether to take further college/university classes

k) To make professional connections

l) To obtain a badge or certification that will be useful to me professionally

Q3- How many other courses (either online or at a school) are you actively taking along with this course?

a) 0

b) 1

c) 2

d) 3

e) 4

f) 5

g) 6

h) 7

i) 8

j) 9

k) 10 or more

Q4- How many open online courses (MOOCs) have you taken in total up to now?

a) 0

b) 1

c) 2

d) 3

e) 4

f) 5

g) 6

h) 7

i) 8

j) 9

k) 10 or more

Q5- How many hours per week do you have available in total to dedicate to all online

courses you are taking?

a) 5 or fewer
b) 6-10
c) 11-15
d) 16-20
e) more than 20

Q6- Some participants enroll in Coursera courses planning to complete the entire course, while others plan only to complete certain parts of the course. As of right now, what are your intentions for this MOOC?

a) I plan to complete the entire course, including assignments and assessments
b) I plan to complete the entire course, but not the assignments and assessments
c) I plan to complete only certain parts of the course

Q7- How did you hear about this course?

a) Newspaper
b) TV
c) Radio
d) Email
e) Facebook
f) Twitter
g) Web search
h) Coursera search
i) Other _____

We would like to ask you a few questions about yourself so that we can better understand our audience and develop online courses that better meet your needs. All of your responses are completely confidential

Q8- What is your gender?

a) Female
b) Male
c) Other

Q9- What is your age?

a) under 18
b) 18-25
c) 26-30
d) 31-35
e) 36-40
f) 41-45
g) 46-50
h) 51-55
i) 56-60
j) over 60

Q10- What is your mother tongue/first language?

Q11- Using the categories described at http://ells.wiki.farmington.k12.mi.us/ELL+Proficiency+Levels, what is your English language proficiency?

a) Level 1 - Basic
b) Level 2 - Low Intermediate
c) Level 3 - High Intermediate
d) Level 4 - Proficient
e) Level 5 - Advanced Proficient

Q12- How many people do you know who are also enrolled in this class?

a) 0
b) 1
c) 2
d) 3
e) 4
f) 5
g) 6
h) 7
i) 8
j) 9

k) 10 or more

Q13- What is your country of primary residence?

Q14- Are you a past, current, or prospective participant at the University of Minnesota?

a) a past participant
b) a current participant
c) a prospective participant
d) none of the above

Q15- If you are NOT a current participant at the University of Minnesota, how likely are you to apply for admission at the University of Minnesota in the near future?

a) Very likely
b) Moderately likely
c) Somewhat Likely
d) Not at all likely

Q16- Thinking about the subject matter of this course, are you:

a) A professional currently working in a related field
b) A professional working in a different field
c) A graduate or professional participant studying in a related field
d) A graduate or professional participant studying in a different field
e) An undergraduate participant studying in a related field
f) An undergraduate participant studying in a different field

Q17- Research has shown that different sorts of people respond differently to fully online courses. So that we can understand the audience for this course, to what degree do you consider yourself introverted or extroverted?

a) Highly introverted
b) Moderately introverted
c) Somewhat introverted
d) Neither introverted nor extroverted
e) Somewhat extroverted
f) Moderately extroverted
g) Highly extroverted

Post-MOOC Survey Text

Welcome to the post-MOOC survey! This survey is part of a research study that examines the relationship among online learning environments, teaching and learning practices, participant engagement, and learning outcomes. You were selected as a possible participant because you were enrolled in a (course information) as a Massive Open Online Course (MOOC). The survey should take only 3 or 4 minutes to complete. This study is being conducted by Drs. J.D. Walker, Paul Baepler, and Christopher Brooks from Academic Technology Support Services at the University of Minnesota. You may ask any questions you have by email at jdwalker@umn.edu or by phone at 612.624.1097. By completing this survey, you express your consent to participate in the study. Thank you

Q1- Some participants enroll in Coursera courses planning to complete the entire course, while others plan only to complete certain parts of the course. Thinking back to your plans when you enrolled in this class, which of the following best describes your experience?

a) I completed more of this course than I planned to
b) I completed about as much of this course than I planned to
c) I completed less of this course than I planned to

Q2- Did you find the course useful even though you completed less of it than you planned to?

a) Yes
b) No

Q3- What factors prevented you from completing this course? (Please rate how much you agree or disagree with each statement.) [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

a) Time commitment exceeded my ability
b) Lost interest on account of subject matter
c) Lost interest on account of presentation and assessment style

d) Got behind and could not catch up
e) Began taking another course

Q4- Would the following have made you more likely to complete the class? (Please rate how much you agree or disagree with each statement.) [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

a) Reducing the weekly time commitment needed to take the course
b) Making the course material easier
c) Making the course material more difficult
d) Making the credential more valuable
e) Making course shorter

Q5- Many different factors can affect a participant's level of participation in an online course. To what degree did each of the following negatively impact your participation in this course? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

a) Unfamiliarity with technology used in the course
b) Problems with my internet connection
c) Problems with my computer
d) Time zone issues
e) Lack of time due to family responsibilities
f) Lack of time due to work responsibilities

Q6- To what degree do you agree or disagree with the following statements about this course and instructor? [Strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

a) The instructor presented the subject matter clearly.
b) The instructor(s), course staff, and/or automated course materials provided feedback intended to improve my course performance.
c) I have a deeper understanding of the subject matter as a result of this course.
d) My interest in the subject matter was stimulated by this course.

Q7- Approximately how many hours per week did you spend working on homework, reading, and projects for this course?

a) 0-2 hours per week
b) 3-5 hours per week
c) 6-9 hours per week
d) 10-14 hours per week
e) 15 hours per week or more

Q8- Compared to other MOOCs/online courses I have taken, the amount I learned in this course is:

a) Less
b) About the same
c) More
d) I have not taken other MOOCs/online courses

Q9- Compared to other MOOCs/online courses I have taken, the difficulty of this course is:

a) Less
b) About the same
c) More
d) I have not taken other MOOCs/online courses

Q10- To what degree did each of the following features/components of this course contribute to your learning? [Not at all, small degree, moderate degree, large degree, not included in this course]

Video content (lectures, discussions, etc)

a) Assigned readings
b) Practice assignments/tests
c) Interactions with instructor/TAs
d) Interactions with classmates in the class forum
e) Feedback from classmates through peer grading

Q11- What feature/component of this course do you think would benefit most from improvement and specifically what improvement(s) would you suggest?

International Participant MOOC Survey Text

Thank you for taking the time to share your feedback about your experiences in this MOOC. Your feedback is very valuable in helping us to understand the usefulness of courses delivered as MOOCs to participants around the world. All responses are completely confidential and have no bearing on any Coursera courses you may be enrolled in, present or future. The survey should take you less than 15 minutes to complete. Thank you for your time!

Respondents will be entered in a raffle for prizes, including $20 gift cards redeemable online. Please enter your email to qualify for the raffle. This information will remain private and will not be utilized for any additional purposes. If you choose not to enter the raffle, you may leave this space blank and move on to the survey.

Q1- How important is it for future courses to be available in your native tongue / language?

a) Very Important
b) Important
c) Moderately Important
d) Of Little Importance
e) Unimportant

Q2- How would you grade your English proficiency in the following categories? http://ells.wiki.farmington.k12.mi.us/ELL+Proficiency+Levels [Basic, Low Intermediate, High Intermediate, Proficient, Advanced Proficient]

a) Listening
b) Speaking
c) Reading
d) Writing

Q3- What is your highest degree or level of school attained / completed?

a) Primary school
b) Secondary school

c) High school
d) Associate degree (2-year degree)
e) Bachelor's degree (3-4 year degree)
f) Graduate certificate or graduate coursework
g) Master's degree
h) Doctorate degree (PhD or comparable)
i) Other: _____

Q4- Are you attending school full-time or part-time?

a) I am currently a full-time participant
b) I am currently a part-time participant
c) I am not currently a participant

Q5- What program are you currently completing?

a) Primary school
b) Secondary school
c) High school
d) Associate degree (2-year degree)
e) Bachelor's degree (3-4 year degree)
f) Graduate certificate or some graduate coursework
g) Master's degree
h) Doctorate degree (PhD or comparable)
i) Other: _____

Q6- What are your long term educational goals?

Q7- Which of these reasons most accurately reflects why you are currently participating in this MOOC? (Check All That Apply)

a) Self-Improvement
b) Improved Job Outlook
c) Curiosity
d) Boredom / To Pass Time

Q8- Are you currently employed?

a) Yes, I am full-time employed

b) Yes, I am part-time employed

c) No

Q9- How relevant is the completion of this MOOC to your employer?

a) Very Relevant

b) Relevant

c) Moderately Relevant

d) Of Little Relevance

e) Not Relevant

Q10- How many years of professional experience do you have?

Q11- In which field(s) do you have professional experience?

Q12- How relevant are the contents of this course to your current employment or your current position?

a) Very Relevant

b) Relevant

c) Moderately Relevant

d) Of Little Relevance

e) Not Relevant

Q13- How relevant are the contents of this course to your desired employment? (including both job promotions and career changes)

a) Very Relevant

b) Relevant

c) Moderately Relevant

d) Of Little Relevance

e) Not Relevant

Q14- How important are the following for your professional career? [Very important, important, moderately important, of little importance, not important]

a) Obtaining a Statement of Completion

b) Obtaining a Passing Grade

c) Obtaining Academic Credit

d) Learning New Knowledge

e) Reinforcing Prior Knowledge

Q15- Did you enroll in the Signature Track?

a) Yes

b) No

Q16- How important is the Signature Track program for you?

a) Very Important

b) Important

c) Moderately Important

d) Of Little Importance

e) Unimportant

f) Don't Know

Q17- What are some of the reasons that you decided to use the Signature Track system?

Q18- What were some of the reasons why you decided not to use the Signature Track system?

Q19- What are your previous online learning experiences? (Select all that apply)

a) I have taken other MOOCs before this course

b) I have taken online learning courses for credits

c) I have taken non-credit online learning courses

d) Other, please specify: _____

Q20- In general, how comfortable are you with utilizing online learning environments?

a) Very Comfortable

b) Comfortable

c) Neither Comfortable Nor Uncomfortable

d) Uncomfortable

e) Very Uncomfortable

Q21- Which of the following devices do you currently own? (Select all that apply)

a) Desktop Computer

b) Laptop/Netbook Computer

c) Internet Capable Phone / Handheld Device

d) e-Reader

e) Printer

f) iPad or Other Tablet Computer

Q22- When will most of your study time for this course take place?

a) Weekdays during the daytime

b) Weekdays in the evening

c) Weekends

Q23- How much would you be willing to pay if this course was offered online for credit? (Currency in U.S. $)

_____ Total Cost For an Online Course (1)

Q24- Have you previously completed a college or university-level course?

a) Yes

b) No

Q25- At which institution(s) did you complete this course(s)?

Q26- To what extent do you agree or disagree with the following statements? Compared to college or university-level courses: [Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree]

a) This course is as difficult as a traditional university / college course

b) The quality of this course is comparable to a traditional university / college course

Q27- How many of your local social network, including co-workers and friends, are enrolled in or have taken a MOOC in the past?

a) None

b) A Few (1 to 4)

c) Some (5 to 9)

d) A Lot (More than 10)

Q28- Have local friends and other acquaintances expressed interest in enrolling in a MOOC based on your experience?

a) Yes

b) No

c) Unsure

Q29- Have online friends and other online acquaintances expressed interest in enrolling in a MOOC based on your experience?

a) Yes
b) No
c) Unsure

Q30- Have you extended your online social network by participating in this MOOC?

a) Yes
b) No
c) Unsure

Q31- Have you extended your local social network by participating in this MOOC?

a) Yes
b) No
c) Unsure

Q32- How may these new relationships aid you in the future? (Select all that apply) Work collaboratively on projects

a) Finding a job
b) Learning about new opportunities
c) Meet professionals from other countries
d) Develop strong personal relationships
e) Other _____

Q33- To what extent do you enjoy the following types of courses? [To a great extent, somewhat, very little, not at all]

a) Traditional Course (0% Online)
b) Web Facilitated Course (1 to 29% Online)
c) Blended / Hybrid Course (30 to 79% Online)
d) Online Course (80+% Online)

Q34- Are you able to attend a course with similar content to this course near your current residence?

a) Yes
b) No

Q35- Why are you unable to attend a similar course locally?

Q36- What is your primary gain (or benefit) from participating in this MOOC?

Q37- Are you planning on enrolling in other MOOCs in the future?

a) Yes
b) Maybe
c) No

Q38- In your opinion, how important are these factors to a successful MOOC experience? [A great deal, much, somewhat, a little, not at all]

a) English Proficiency
b) Internet Connection
c) Time Requirements
d) Prior Knowledge
e) Face to Face Interaction
f) Instructional Support

Q39- How important will the following factors be in the near future in your community or place of employment? [Very important, important, moderately important, of little importance, unimportant]

a) "As Needed" Learning Opportunities
b) MOOC Certificates of Completion
c) Mobile Learning Opportunities
d) Higher Education and Advanced Degrees
e) Badges to Demonstrate Competency
f) Online Learning Opportunities
g) Online Project Portfolios

Q40 Are you are interested in participating in an online focus group to further study the international impact of MOOCs? If so, please leave us your email here and we will contact you in the near future. Participants in the online focus groups will get a chance to discuss their MOOC experience with other MOOC participants, and will each receive a $20 gift card for participating.

_____

Thank you for completing this survey.

International Participant MOOC Focus Group Text

Day 1

How is your experience as an international participant different from that of a non-international participant when completing a MOOC? Are there language or cultural differences that emerged during your participation in MOOCs? Please share one or two interesting experiences or situations.

(Note: For this and the following discussions, "international participant" means participants who are not from or have lived most of their lives in the same country [United States] as the MOOC instructor. "Non-international participants" are participants who are from or have lived most of their lives in the same country as the MOOC instructor.)

Day 2

In your opinion, what are the main difficulties for international participants when taking a MOOC? In what ways are MOOCs currently addressing the difficulties faced by international participants? What else could be done to help address difficulties faced by international participants taking MOOCs?

Day 3

In your opinion, what kinds of things do MOOCs need to do to be culturally relevant and helpful in your local context? How could MOOCs be modified, improved, or changed for them to become more appealing to participants in your country? How could MOOCs become more relevant to a broader number of people worldwide?

Day 4

How do MOOCs affect your professional development? How was your local and international professional network impacted by participating in this MOOC? What are ways in which MOOCs could be made more meaningful to professionals?

Day 5

How do you envision MOOCs impacting education in your country? (Please remind us of your country of origin and where you currently reside.) Share your vision for MOOCs and education (formal and informal) over the next 5, 10, and 15 years.

List of Tables (Full Statistical Results - Annex)

RQ1 - Full Statistical Results

P1 - Pre-MOOC Survey

Table A1.001

Responses to the pre-MOOC survey by global region

Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
692	2430	4146	571	2834	9065	19738

* (W/o U.S.A.)

Q13 What is your country of primary residence?

Table A1.002

Participants' frequency by global region

Participants by Global Region	Frequency	Percent
Africa	692	3.5
Asia	2430	12.3
Europe	4146	21.0
Oceania	571	2.9
Americas (W/o U.S.A.)	2834	14.4
United States	9065	45.9
Total	19738	100.0

Table A1.003

Does the participant consider the U.S.A. its primary residence?

Response	Frequency	Percent
No	10673	54.1
Yes	9065	45.9
Total	19738	100.0

Table A1.004

MOOC participants HDI levels (2014) by country and region

Human Development Index		Africa	Asia	Europe	Oceania	Americas*	Total
Low HDI	Count	314	147	0	1	15	477
	%	45.7%	6.2%	0.0%	0.2%	0.5%	4.5%
Medium HDI	Count	344	1235	11	1	75	1666
	%	50.1%	51.8%	0.3%	0.2%	2.7%	15.7%
High HDI	Count	29	534	291	5	1482	2341
	%	4.2%	22.4%	7.0%	0.9%	52.4%	22.1%
Very HDI	Count	0	469	3829	561	1257	6116
	%	0.0%	19.7%	92.7%	98.8%	44.4%	57.7%
Total	Count	687	2385	4131	568	2829	10600
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* (W/o U.S.A.)

Table A1.005

Chi-Square Test - MOOC participants HDI levels (2014) by country and region

Test	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10364.664[a]	12	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.56.

$X^2(12, N=10600) = 10364.66, p = .000$

Q13A – Participants' location by MOOC

Table A1.006

Participants' residency (U.S.A. vs. Non-U.S.A.) by MOOC

MOOCs	Frequency	Not U.S.A.	U.S.A.	Total
Statistical Molecular Thermodynamics	Count	875	396	1271
	%	8.2%	4.4%	6.4%
Social Epidemiology	Count	2975	2158	5133
	%	27.9%	23.8%	26.0%
Sustainability of Food Systems	Count	4345	3324	7669
	%	40.7%	36.7%	38.9%
Interprofessional Healthcare Informatics	Count	1210	1263	2473
	%	11.3%	13.9%	12.5%
Canine Theriogenology for Dog Enthusiasts	Count	1268	1924	3192
	%	11.9%	21.2%	16.2%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

MOOCs	Frequency	Not U.S.A.	U.S.A.	Total
Statistical Molecular Thermodynamics	Count	875	396	1271
	%	68.8%	31.2%	100.0%
Social Epidemiology	Count	2975	2158	5133
	%	58.0%	42.0%	100.0%
Sustainability of Food Systems	Count	4345	3324	7669
	%	56.7%	43.3%	100.0%
Interprofessional Healthcare Informatics	Count	1210	1263	2473
	%	48.9%	51.1%	100.0%
Canine Theriogenology for Dog Enthusiasts	Count	1268	1924	3192
	%	39.7%	60.3%	100.0%
Total	Count	10673	9065	19738
	%	54.1%	45.9%	100.0%

Table A1.007

Participants' Residency (Global Region) by MOOC

MOOC		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Molecular	Count	27	281	328	18	221	396	1271
Thermodynamics	%	3.9%	11.6%	7.9%	3.2%	7.8%	4.4%	6.4%
Social	Count	285	734	1015	161	780	2158	5133
Epidemiology	%	41.2%	30.2%	24.5%	28.2%	27.5%	23.8%	26.0%
Food Systems	Count	180	930	1819	276	1140	3324	7669
	%	26.0%	38.3%	43.9%	48.3%	40.2%	36.7%	38.9%
Interprofessional	Count	167	381	372	56	234	1263	2473
	%	24.1%	15.7%	9.0%	9.8%	8.3%	13.9%	12.5%
Canine	Count	33	104	612	60	459	1924	3192
Theriogenology	%	4.8%	4.3%	14.8%	10.5%	16.2%	21.2%	16.2%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* W/o U.S.A.

Table A1.008

Chi-Square Tests - Participants by MOOC and global region (Collapsed)

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1004.233[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 36.77.

Q1 Which of the following descriptions best characterizes you?

Table A1.009

Crosstabulation of participants' experience by primary residency (Q1 by Q13)

Which of the following descriptions best characterizes you?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Degree in Field / Work Exp.	Count	1708	1154	2862
	%	16.3%	13.0%	14.8%
Some Courses / Some Exp.	Count	2658	2407	5065
	%	25.4%	27.1%	26.2%
Explored Independently	Count	3232	2960	6192
	%	30.9%	33.4%	32.0%
New to the Subject	Count	2856	2347	5203
	%	27.3%	26.5%	26.9%
Total	Count	10454	8868	19322
	%	100.0%	100.0%	100.0%

Table A1.010

Crosstabulation of participants' experience by primary residency (Q1 by Q13)

Which of the following descriptions best characterizes you?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Degree in Field / Work Exp.	Count	1708	1154	2862
	%	59.7%	40.3%	100.0%
Some Courses / Some Exp.	Count	2658	2407	5065
	%	52.5%	47.5%	100.0%
Explored Independently	Count	3232	2960	6192
	%	52.2%	47.8%	100.0%
New to the Subject	Count	2856	2347	5203
	%	54.9%	45.1%	100.0%
Total	Count	10454	8868	19322
	%	54.1%	45.9%	100.0%

Table A1.011

Chi-Square Tests - Crosstabulation of experience by primary residency (Q1 by Q13)

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	51.584[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1313.54.

Table A1.012

Crosstabulation of participants' experience by global region (Q1 by Q13)

Which of the following descriptions best characterizes you?		Participants by primary residence (global region)						
		Africa	Asia	Europe	Oceania	Americas *	U.S.A.	Total
Degree in Field / Work Exp.	Count	130	321	676	85	496	1154	2862
	%	19.1%	13.6%	16.6%	15.2%	17.8%	13.0%	14.8%
Some Courses / Some Exp.	Count	195	530	1033	126	774	2407	5065
	%	28.7%	22.5%	25.3%	22.5%	27.9%	27.1%	26.2%
Explored Independently	Count	163	757	1323	156	833	2960	6192
	%	24.0%	32.2%	32.4%	27.9%	30.0%	33.4%	32.0%
New to the Subject	Count	192	745	1050	193	676	2347	5203
	%	28.2%	31.7%	25.7%	34.5%	24.3%	26.5%	26.9%
Total	Count	680	2353	4082	560	2779	8868	19322
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* W/o U.S.A.

Table A1.013

Chi-Square Tests - Crosstabulation of participants' experience by global region (Q1 by Q13)

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	147.050[a]	15	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 82.95.

Q3 How many other courses (either online or at a school) are you actively taking along with this course?

Table A1.014

Crosstabulation of number of courses taken by participants by global region (Q3 by Q13)

How many other courses (either online or at a school) are you actively taking along with this course?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
0 Courses	Count	3480	4513	7993
	%	34.1%	52.3%	42.4%
1 to 3 Courses	Count	5451	3640	9091
	%	53.4%	42.2%	48.2%
4 to 6 Courses	Count	906	397	1303
	%	8.9%	4.6%	6.9%
7 to 9 Courses	Count	181	30	211
	%	1.8%	0.3%	1.1%
10+ Courses	Count	195	49	244
	%	1.9%	0.6%	1.3%
Total	Count	10213	8629	18842
	%	100.0%	100.0%	100.0%

Table A1.015

Chi-Square Tests - Crosstabulation of number of courses taken by participants by global region

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	760.739[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 96.63.

Table A1.016

Crosstabulation

How many other courses are you actively taking along with this course?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	United States	Total
0 Courses	Count	218	715	1370	211	966	4513	7993
	%	32.4%	30.6%	34.7%	38.1%	35.7%	52.3%	42.4%
1 to 3 Courses	Count	365	1286	2082	296	1422	3640	9091
	%	54.2%	55.1%	52.8%	53.4%	52.6%	42.2%	48.2%
4 to 6 Courses	Count	66	238	343	36	223	397	1303
	%	9.8%	10.2%	8.7%	6.5%	8.2%	4.6%	6.9%
7 to 9 Courses	Count	10	40	71	6	54	30	211
	%	1.5%	1.7%	1.8%	1.1%	2.0%	0.3%	1.1%
10+ Courses	Count	14	57	80	5	39	49	244
	%	2.1%	2.4%	2.0%	0.9%	1.4%	0.6%	1.3%
Total	Count	673	2336	3946	554	2704	8629	18842
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* W/o U.S.A.

Table A1.017

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	805.788[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.20.

Q4 How many open online courses (MOOCs) have you taken in total up to now?

Table A1.018

Crosstabulation

How many open online courses (MOOCs) have you taken in total up to now?		Does the participant consider the U.S. its primary residence? No	Yes	Total
0 Courses	Count	4438	4998	9436
	%	43.6%	58.3%	50.3%
1 to 3 Courses	Count	4181	2710	6891
	%	41.1%	31.6%	36.8%
4 to 6 Courses	Count	1028	583	1611
	%	10.1%	6.8%	8.6%
7 to 9 Courses	Count	204	95	299
	%	2.0%	1.1%	1.6%
10+ Courses	Count	323	189	512
	%	3.2%	2.2%	2.7%
Total	Count	10174	8575	18749
	%	100.0%	100.0%	100.0%

Table A1.019

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	411.595[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 136.75.

Table A1.020

Crosstabulation

How many open online courses (MOOCs) have you taken in total up to now?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
0	Count	272	952	1668	270	1276	4998	9436
Courses	%	40.4%	41.0%	42.2%	49.0%	47.8%	58.3%	50.3%
1 to 3	Count	285	942	1686	222	1046	2710	6891
Courses	%	42.3%	40.6%	42.6%	40.3%	39.2%	31.6%	36.8%
4 to 6	Count	80	274	399	40	235	583	1611
Courses	%	11.9%	11.8%	10.1%	7.3%	8.8%	6.8%	8.6%
7 to 9	Count	20	53	79	6	46	95	299
Courses	%	3.0%	2.3%	2.0%	1.1%	1.7%	1.1%	1.6%
10+	Count	17	101	124	13	68	189	512
Courses	%	2.5%	4.3%	3.1%	2.4%	2.5%	2.2%	2.7%
Total	Count	674	2322	3956	551	2671	8575	18749
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.021

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	483.936[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.79.

Q5 How many hours per week do you have available in total to dedicate to all online courses you are taking?

Table A1.022

Crosstabulation

How many hours per week do you have available in total to dedicate to all online courses you are taking?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
5 or Fewer	Count	4022	2948	6970
	%	40.7%	37.3%	39.2%
6-10	Count	3728	3021	6749
	%	37.7%	38.2%	37.9%
11-15	Count	1120	889	2009
	%	11.3%	11.3%	11.3%
16-20	Count	543	514	1057
	%	5.5%	6.5%	5.9%
More than 20	Count	477	530	1007
	%	4.8%	6.7%	5.7%
Total	Count	9890	7902	17792
	%	100.0%	100.0%	100.0%

Table A1.023

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	48.171[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 447.24.

Table A1.024

Crosstabulation

How many hours per week do you have available in total to dedicate to all online courses you are taking?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
5 or Fewer	Count	275	964	1534	219	1030	2948	6970
	%	41.6%	41.8%	40.0%	40.6%	40.5%	37.3%	39.2%
6-10	Count	251	834	1459	216	968	3021	6749
	%	38.0%	36.2%	38.0%	40.0%	38.1%	38.2%	37.9%
11-15	Count	64	279	438	58	281	889	2009
	%	9.7%	12.1%	11.4%	10.7%	11.0%	11.3%	11.3%
16-20	Count	40	123	208	31	141	514	1057
	%	6.1%	5.3%	5.4%	5.7%	5.5%	6.5%	5.9%
More than 20	Count	31	106	200	16	124	530	1007
	%	4.7%	4.6%	5.2%	3.0%	4.9%	6.7%	5.7%
Total	Count	661	2306	3839	540	2544	7902	17792
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.025

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	60.237[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 30.56.

Q6 Some students enroll in Coursera courses planning to complete the entire course, while others plan only to complete certain parts of the course. As of right now, what are your intentions for this MOOC?

Table A1.026

Crosstabulation

As of right now, what are your intentions for this MOOC?		Does the participant consider the U.S. its primary residence? No	Yes	Total
Only certain parts	Count	495	460	955
	%	4.7%	5.2%	4.9%
Not assignments	Count	1104	860	1964
	%	10.6%	9.7%	10.2%
Whole course	Count	8854	7560	16414
	%	84.7%	85.1%	84.9%
Total	Count	10453	8880	19333
	%	100.0%	100.0%	100.0%

Table A1.027

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.662[a]	2	.059

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 438.65.

Table A1.028

Crosstabulation

How much of this MOOC do you intend to complete?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Only certain parts	Count	10	123	223	24	115	460	955
	%	1.5%	5.2%	5.5%	4.3%	4.1%	5.2%	4.9%
Not assignments	Count	34	238	523	53	256	860	1964
	%	5.0%	10.1%	12.8%	9.5%	9.2%	9.7%	10.2%
Whole course	Count	640	1990	3333	482	2409	7560	16414
	%	93.6%	84.6%	81.7%	86.2%	86.7%	85.1%	84.9%
Total	Count	684	2351	4079	559	2780	8880	19333
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* (W/o U.S.A.)

Table A1.029

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	88.015[a]	10	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.61.

Q8 What is your gender?

Table A1.030

Crosstabulation

What is your gender?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Female	Count	6300	6595	12895
	%	60.3%	74.5%	66.8%
Male	Count	4118	2224	6342
	%	39.4%	25.1%	32.8%
Other	Count	31	38	69
	%	0.3%	0.4%	0.4%
Total	Count	10449	8857	19306
	%	100.0%	100.0%	100.0%

Table A1.031

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	444.837[a]	2	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 31.66.

Table A1.032

Crosstab between gender and global region

What is your gender?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Female	Count	282	1194	2661	408	1755	6595	12895
	%	41.4%	50.7%	65.3%	73.0%	63.1%	74.5%	66.8%
Male	Count	397	1152	1405	149	1015	2224	6342
	%	58.3%	49.0%	34.5%	26.7%	36.5%	25.1%	32.8%
Other	Count	2	7	10	2	10	38	69
	%	0.3%	0.3%	0.2%	0.4%	0.4%	0.4%	0.4%
Total	Count	681	2353	4076	559	2780	8857	19306
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.033

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	750.362[a]	10	.000

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 2.00.

Q9 What is your age?

Table A1.034

Crosstabulations

What is your age?		Does the participant consider the U.S. its primary residence? No	Yes	Total
18-25	Count	3114	1887	5001
	%	29.8%	21.3%	25.9%
26-30	Count	2495	1300	3795
	%	23.9%	14.7%	19.7%
31-35	Count	1619	974	2593
	%	15.5%	11.0%	13.4%
36-40	Count	965	705	1670
	%	9.2%	8.0%	8.6%
41-45	Count	781	777	1558
	%	7.5%	8.8%	8.1%
46-50	Count	560	777	1337
	%	5.4%	8.8%	6.9%
51-55	Count	473	854	1327
	%	4.5%	9.6%	6.9%
56-60	Count	245	747	992
	%	2.3%	8.4%	5.1%
over 60	Count	203	834	1037
	%	1.9%	9.4%	5.4%
Total	Count	10455	8855	19310
	%	100.0%	100.0%	100.0%

Table A1.035

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1538.860[a]	8	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 454.90.

Table A1.036

Crosstabulations

What is your age?		Participants by global region (Collapsed)						Total
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	
18-25	Count	132	891	1125	115	851	1887	5001
	%	19.3%	37.9%	27.6%	20.6%	30.6%	21.3%	25.9%
26-30	Count	190	554	1046	116	589	1300	3795
	%	27.8%	23.5%	25.6%	20.8%	21.2%	14.7%	19.7%
31-35	Count	145	340	646	91	397	974	2593
	%	21.2%	14.4%	15.8%	16.3%	14.3%	11.0%	13.4%
36-40	Count	83	175	400	44	263	705	1670
	%	12.2%	7.4%	9.8%	7.9%	9.5%	8.0%	8.6%
41-45	Count	71	150	320	58	182	777	1558
	%	10.4%	6.4%	7.8%	10.4%	6.6%	8.8%	8.1%
46-50	Count	38	98	208	48	168	777	1337
	%	5.6%	4.2%	5.1%	8.6%	6.0%	8.8%	6.9%
51-55	Count	13	70	189	52	149	854	1327
	%	1.9%	3.0%	4.6%	9.3%	5.4%	9.6%	6.9%
56-60	Count	7	41	82	20	95	747	992
	%	1.0%	1.7%	2.0%	3.6%	3.4%	8.4%	5.1%
over 60	Count	4	35	65	15	84	834	1037
	%	0.6%	1.5%	1.6%	2.7%	3.0%	9.4%	5.4%
Total	Count	683	2354	4081	559	2778	8855	19310
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.037

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1815.159[a]	40	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.72.

Q10 What is your mother tongue/first language?

Table A1.038

Crosstabulation

What is your mother tongue/first language?		Does the participant consider the U.S. its primary residence? No	Yes	Total
Other	Count	7500	1042	8542
	%	72.2%	11.8%	44.5%
English	Count	2893	7775	10668
	%	27.8%	88.2%	55.5%
Total	Count	10393	8817	19210
	%	100.0%	100.0%	100.0%

Table A1.039

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7034.638[a]	1	.000		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 3920.60.

b. Computed only for a 2x2 table

Table A1.040

Crosstabulation

What is your mother tongue/first language?		Participants by global region (Collapsed) Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Other	Count	441	1946	3226	103	1784	1042	8542
	%	65.7%	83.2%	79.6%	18.4%	64.4%	11.8%	44.5%
English	Count	230	394	826	456	987	7775	10668
	%	34.3%	16.8%	20.4%	81.6%	35.6%	88.2%	55.5%
Total	Count	671	2340	4052	559	2771	8817	19210
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.041

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7973.329[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 248.57.

Q11 Using the categories described at http://ells.wiki.farmington.k12.mi.us/ELL+Proficiency+Levels, what is your English language proficiency?

Table A1.042

Crosstabulation

What is your English language proficiency?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Basic	Count	150	25	175
	%	1.4%	0.3%	0.9%
Low	Count	648	47	695
Intermediate	%	6.2%	0.5%	3.6%
High	Count	2179	155	2334
Intermediate	%	21.0%	1.8%	12.2%
Proficient	Count	3623	1164	4787
	%	34.8%	13.3%	25.0%
Advanced	Count	3797	7362	11159
Proficient	%	36.5%	84.1%	58.3%
Total	Count	10397	8753	19150
	%	100.0%	100.0%	100.0%

Table A1.043

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4659.446[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 79.99.

Table A1.044

Crosstabulation

What is your English language proficiency?		Participants by global region (Collapsed)						Total
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	
Basic	Count	2	31	50	0	67	25	175
	%	0.3%	1.3%	1.2%	0.0%	2.4%	0.3%	0.9%
Low	Count	24	157	250	2	215	47	695
Intermediate	%	3.5%	6.7%	6.1%	0.4%	7.8%	0.5%	3.6%
High	Count	97	457	1002	18	605	155	2334
Intermediate	%	14.3%	19.6%	24.6%	3.3%	21.9%	1.8%	12.2%
Proficient	Count	298	1029	1384	114	798	1164	4787
	%	43.8%	44.1%	34.0%	20.6%	28.9%	13.3%	25.0%
Advanced	Count	259	659	1380	419	1080	7362	11159
Proficient	%	38.1%	28.2%	33.9%	75.8%	39.1%	84.1%	58.3%
Total	Count	680	2333	4066	553	2765	8753	19150
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.045

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5386.368[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.05.

Q12 How many people do you know who are also enrolled in this class?

Table A1.046

Crosstabulation

How many people do you know who are also enrolled in this class?		Does the participant consider the U.S. its primary residence? No	Yes	Total
0	Count	8756	7092	15848
	%	84.4%	82.0%	83.3%
1 to 3	Count	1432	1322	2754
	%	13.8%	15.3%	14.5%
4 to 6	Count	97	137	234
	%	0.9%	1.6%	1.2%
7 to 10+	Count	85	100	185
	%	0.8%	1.2%	1.0%
Total	Count	10370	8651	19021
	%	100.0%	100.0%	100.0%

Table A1.047

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	32.073[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 84.14.

Table A1.048

Crosstabulation

How many people do you know who are also enrolled in this class?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
0	Count	545	1993	3470	490	2258	7092	15848
	%	80.3%	85.0%	85.7%	88.4%	82.3%	82.0%	83.3%
1 to 3	Count	118	308	518	57	431	1322	2754
	%	17.4%	13.1%	12.8%	10.3%	15.7%	15.3%	14.5%
4 to 6	Count	11	21	36	3	26	137	234
	%	1.6%	0.9%	0.9%	0.5%	0.9%	1.6%	1.2%
7 to 10+	Count	5	22	26	4	28	100	185
	%	0.7%	0.9%	0.6%	0.7%	1.0%	1.2%	1.0%
Total	Count	679	2344	4050	554	2743	8651	19021
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.049

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	64.385[a]	15	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.39.

Q14 Are you a past, current, or prospective student at the University of Minnesota?

Table A1.050

Crosstabulation

Are you a past, current, or prospective student at the University of Minnesota?		Does the participant consider the U.S. its primary residence? No	Yes	Total
Past student	Count	65	380	445
	%	0.6%	4.3%	2.3%
Current student	Count	129	131	260
	%	1.2%	1.5%	1.3%
Prospective student	Count	293	218	511
	%	2.8%	2.5%	2.6%
None of above	Count	9967	8153	18120
	%	95.3%	91.8%	93.7%
Total	Count	10454	8882	19336
	%	100.0%	100.0%	100.0%

Table A1.051

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	289.714[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 119.43.

Q15 If you are NOT a current student at the University of Minnesota, how likely are you to apply for admission at the University of Minnesota in the near future?

Table A1.052

Crosstabulation

How likely are you to apply for admission at the University of Minnesota in the near future?		Does the participant consider the U.S. its primary residence? No	Yes	Total
Very likely	Count	649	105	754
	%	6.3%	1.2%	4.0%
Moderately likely	Count	629	199	828
	%	6.1%	2.3%	4.4%
somewhat likely	Count	1924	1004	2928
	%	18.8%	11.6%	15.5%
not at all likely	Count	7056	7383	14439
	%	68.8%	84.9%	76.2%
Total	Count	10258	8691	18949
	%	100.0%	100.0%	100.0%

Table A1.053

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	788.079[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 345.82.

Q16 Thinking about the subject matter of this course, are you:

Part 1 - A professional currently working in a related field

Table A1.054

Crosstabulation

Are you a professional currently working in a related field?		Does the participant consider the U.S. its primary residence? No	Yes	Total
No	Count	7895	6399	14294
	%	74.0%	70.6%	72.4%
Yes	Count	2778	2666	5444
	%	26.0%	29.4%	27.6%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

Table A1.055

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	28.061[a]	1	.000		
Fisher's Exact Test				.000	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 2500.25.

b. Computed only for a 2x2 table

Table A1.056

Crosstabulation

Are you a professional currently working in a related field?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
No	Count	399	1835	3167	438	2056	6399	14294
	%	57.7%	75.5%	76.4%	76.7%	72.5%	70.6%	72.4%
Yes	Count	293	595	979	133	778	2666	5444
	%	42.3%	24.5%	23.6%	23.3%	27.5%	29.4%	27.6%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* (W/o U.S.A.)

Table A1.057

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	140.274[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 157.49.

Part 2 - A professional working in a different field

Table A1.058

Crosstabulation

Are you a professional working in a different field?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
No	Count	7549	6020	13569
	%	70.7%	66.4%	68.7%
Yes	Count	3124	3045	6169
	%	29.3%	33.6%	31.3%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

Table A1.059

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	42.588[a]	1	.000		
Fisher's Exact Test				.000	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 2833.21.

b. Computed only for a 2x2 table

Table A1.060

Crosstabulation

Are you a professional working in a different field?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
No	Count	539	1773	2798	355	2084	6020	13569
	%	77.9%	73.0%	67.5%	62.2%	73.5%	66.4%	68.7%
Yes	Count	153	657	1348	216	750	3045	6169
	%	22.1%	27.0%	32.5%	37.8%	26.5%	33.6%	31.3%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.061

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	114.884[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 178.46.

Part 3 – A graduate or professional student studying in a related field

Table A1.062

Crosstabulation

Are you a graduate or professional student studying in a related field?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
No	Count	9090	8318	17408
	%	85.2%	91.8%	88.2%
Yes	Count	1583	747	2330
	%	14.8%	8.2%	11.8%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

Table A1.063

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	204.550[a]	1	.000		
Fisher's Exact Test				.000	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1070.09.

b. Computed only for a 2x2 table

Table A1.064

Crosstabulation

Are you a graduate or professional student studying in a related field?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
No	Count	558	2049	3541	504	2438	8318	17408
	%	80.6%	84.3%	85.4%	88.3%	86.0%	91.8%	88.2%
Yes	Count	134	381	605	67	396	747	2330
	%	19.4%	15.7%	14.6%	11.7%	14.0%	8.2%	11.8%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* (W/o U.S.A.)

Table A1.065

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	227.378[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 67.40.

Part 4 – A graduate or professional student studying in a different field

Table A1.066

Crosstabulation

A graduate or professional student studying in a different field?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
No	Count	9487	8538	18025
	%	88.9%	94.2%	91.3%
Yes	Count	1186	527	1713
	%	11.1%	5.8%	8.7%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

Table A1.067

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	173.638[a]	1	.000		
Fisher's Exact Test				.000	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 786.72.

b. Computed only for a 2x2 table

Table A1.068

Crosstabulation

Are you a graduate or professional student studying in a different field?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
No	Count	638	2141	3599	524	2585	8538	18025
	%	92.2%	88.1%	86.8%	91.8%	91.2%	94.2%	91.3%
Yes	Count	54	289	547	47	249	527	1713
	%	7.8%	11.9%	13.2%	8.2%	8.8%	5.8%	8.7%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.069

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	233.052[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 49.56.

Part 5 - An undergraduate student studying in a related field

Table A1.070

Crosstabulation

Are you an undergraduate student studying in a related field		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
No	Count	9550	8290	17840
	%	89.5%	91.5%	90.4%
Yes	Count	1123	775	1898
	%	10.5%	8.5%	9.6%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

Table A1.071

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	21.943[a]	1	.000		
Fisher's Exact Test				.000	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 871.69.

b. Computed only for a 2x2 table

Table A1.072

Crosstabulation

Are you an undergraduate student studying in a related field?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
No	Count	648	2174	3773	519	2436	8290	17840
	%	93.6%	89.5%	91.0%	90.9%	86.0%	91.5%	90.4%
Yes	Count	44	256	373	52	398	775	1898
	%	6.4%	10.5%	9.0%	9.1%	14.0%	8.5%	9.6%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A1.073

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	88.604[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 54.91.

Part 6 – An undergraduate student studying in a different field

Table A1.074

Crosstabulation

Are you an undergraduate student studying in a different field		Does the participant consider the U.S. its primary residence? No	Yes	Total
No	Count	9784	8394	18178
	%	91.7%	92.6%	92.1%
Yes	Count	889	671	1560
	%	8.3%	7.4%	7.9%
Total	Count	10673	9065	19738
	%	100.0%	100.0%	100.0%

Table A1.075

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.791[a]	1	.016		
Fisher's Exact Test				.017	.009

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 716.46.

b. Computed only for a 2x2 table

Table A1.076

Crosstabulation

Are you an undergraduate student studying in a different field?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
No	Count	655	2180	3832	533	2584	8394	18178
	%	94.7%	89.7%	92.4%	93.3%	91.2%	92.6%	92.1%
Yes	Count	37	250	314	38	250	671	1560
	%	5.3%	10.3%	7.6%	6.7%	8.8%	7.4%	7.9%
Total	Count	692	2430	4146	571	2834	9065	19738
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A1.077

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.452[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 45.13.

Q17 Research has shown that different sorts of people respond differently to fully online courses. So that we can understand the audience for this course, to what degree do you consider yourself introverted or extroverted?

Table A1.078

Crosstabulation

To what degree do you consider yourself introverted or extroverted?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Highly introverted	Count	454	445	899
	%	4.4%	5.0%	4.7%
Moderately introverted	Count	1538	1622	3160
	%	14.8%	18.3%	16.4%
Somewhat introverted	Count	2669	2372	5041
	%	25.7%	26.8%	26.2%
Neither	Count	2053	1397	3450
	%	19.8%	15.8%	17.9%
Somewhat extroverted	Count	1707	1324	3031
	%	16.4%	15.0%	15.8%
Moderately extroverted	Count	1614	1299	2913
	%	15.5%	14.7%	15.1%
Highly extroverted	Count	355	392	747
	%	3.4%	4.4%	3.9%
Total	Count	10390	8851	19241
	%	100.0%	100.0%	100.0%

Table A1.079

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	106.431[a]	6	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 343.63.

Table A1.080

Crosstabulation

To what degree do you consider yourself introverted or extroverted?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Highly Introverted	Count	40	113	172	16	113	445	899
	%	5.9%	4.8%	4.2%	2.9%	4.1%	5.0%	4.7%
Moderately Introverted	Count	111	377	577	97	376	1622	3160
	%	16.5%	16.1%	14.2%	17.4%	13.6%	18.3%	16.4%
Somewhat Introverted	Count	126	612	1080	178	673	2372	5041
	%	18.7%	26.2%	26.6%	32.0%	24.3%	26.8%	26.2%
Neither	Count	134	483	788	97	551	1397	3450
	%	19.9%	20.7%	19.4%	17.4%	19.9%	15.8%	17.9%
Somewhat Extroverted	Count	108	340	689	82	488	1324	3031
	%	16.0%	14.6%	17.0%	14.7%	17.7%	15.0%	15.8%
Moderately Extroverted	Count	112	350	616	77	459	1299	2913
	%	16.6%	15.0%	15.2%	13.8%	16.6%	14.7%	15.1%
Highly Extroverted	Count	42	61	139	9	104	392	747
	%	6.2%	2.6%	3.4%	1.6%	3.8%	4.4%	3.9%
Total	Count	673	2336	4061	556	2764	8851	19241
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A1.081

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	188.566[a]	30	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.59.

Table A1.082

Crosstabulation

To what degree do you consider yourself introverted or extroverted?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Introverted	Count	4661	4439	9100
	%	45.0%	50.2%	47.4%
Neither	Count	2053	1397	3450
	%	19.8%	15.8%	18.0%
Extroverted	Count	3651	3002	6653
	%	35.2%	34.0%	34.6%
Total	Count	10365	8838	19203
	%	100.0%	100.0%	100.0%

Table A1.083

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	72.494[a]	2	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1587.83.

Table A1.084

Crosstabulation

To what degree do you consider yourself introverted or extroverted?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Introverted	Count	277	1102	1829	291	1162	4439	9100
	%	41.2%	47.2%	45.2%	52.3%	42.2%	50.2%	47.4%
Neither	Count	134	483	788	97	551	1397	3450
	%	19.9%	20.7%	19.5%	17.4%	20.0%	15.8%	18.0%
Extroverted	Count	261	749	1430	168	1043	3002	6653
	%	38.8%	32.1%	35.3%	30.2%	37.8%	34.0%	34.6%
Total	Count	672	2334	4047	556	2756	8838	19203
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.085

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	109.679[a]	10	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 99.89.

P2 - Post Survey

Table A1.086

Crosstabulation

Participants by global region (Collapsed)		Did the student respond to the post-MOOC survey? No	Yes	Total
Africa	Count	603	89	692
	%	87.1%	12.9%	100.0%
Asia	Count	2167	263	2430
	%	89.2%	10.8%	100.0%
Europe	Count	3566	580	4146
	%	86.0%	14.0%	100.0%
Oceania	Count	497	74	571
	%	87.0%	13.0%	100.0%
Americas	Count	2442	392	2834
(W/o U.S.A.)	%	86.2%	13.8%	100.0%
United States	Count	7923	1142	9065
	%	87.4%	12.6%	100.0%
Total	Count	17198	2540	19738
	%	87.1%	12.9%	100.0%

Table A1.087

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.656[a]	5	.005

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 73.48.

Q5 - To what degree did each of the following negatively impact your participation in this course?

Part 1 – Unfamiliarity with technology used in the course

Table A1.088

Crosstabulation

Unfamiliarity with technology used in the course		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	1155	948	2103
	%	83.6%	83.9%	83.7%
Small degree	Count	163	136	299
	%	11.8%	12.0%	11.9%
Moderate degree	Count	48	31	79
	%	3.5%	2.7%	3.1%
Large degree	Count	16	15	31
	%	1.2%	1.3%	1.2%
Total	Count	1382	1130	2512
	%	100.0%	100.0%	100.0%

Table A1.089

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.236[a]	3	.744

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.95.

Table A1.090

Crosstabulation

Unfamiliarity with technology used in the course		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
not at all	Count	72	205	489	63	326	948	2103
	%	82.8%	79.8%	84.7%	86.3%	84.0%	83.9%	83.7%
small degree	Count	10	42	63	6	42	136	299
	%	11.5%	16.3%	10.9%	8.2%	10.8%	12.0%	11.9%
moderate degree	Count	5	8	14	3	18	31	79
	%	5.7%	3.1%	2.4%	4.1%	4.6%	2.7%	3.1%
large degree	Count	0	2	11	1	2	15	31
	%	0.0%	0.8%	1.9%	1.4%	0.5%	1.3%	1.2%
Total	Count	87	257	577	73	388	1130	2512
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.091

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.300[a]	15	.247

a. 6 cells (25.0%) have expected count less than 5. The minimum expected count is .90.

Part 2 – Problems with my internet connection

Table A1.092

Crosstabulation

Problems with my internet connection		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	1003	959	1962
	%	72.4%	84.8%	78.0%
Small degree	Count	216	119	335
	%	15.6%	10.5%	13.3%
Moderate degree	Count	110	32	142
	%	7.9%	2.8%	5.6%
Large degree	Count	56	21	77
	%	4.0%	1.9%	3.1%
Total	Count	1385	1131	2516
	%	100.0%	100.0%	100.0%

Table A1.093

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	62.825[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 34.61.

Table A1.094

Crosstabulation

Problems with my internet connection		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	25	157	468	57	296	959	1962
	%	28.4%	60.6%	81.1%	79.2%	76.1%	84.8%	78.0%
Small degree	Count	24	55	74	7	56	119	335
	%	27.3%	21.2%	12.8%	9.7%	14.4%	10.5%	13.3%
Moderate degree	Count	28	28	24	5	25	32	142
	%	31.8%	10.8%	4.2%	6.9%	6.4%	2.8%	5.6%
Large degree	Count	11	19	11	3	12	21	77
	%	12.5%	7.3%	1.9%	4.2%	3.1%	1.9%	3.1%
Total	Count	88	259	577	72	389	1131	2516
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A1.095

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	265.321[a]	15	.000

a. 4 cells (16.7%) have expected count less than 5. The minimum expected count is 2.20.

Part 3 - Problems with my computer

Table A1.096

Crosstabulation

Problems with my computer		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	1131	995	2126
	%	82.3%	88.1%	84.9%
Small degree	Count	171	87	258
	%	12.4%	7.7%	10.3%
Moderate degree	Count	50	30	80
	%	3.6%	2.7%	3.2%
Large degree	Count	23	17	40
	%	1.7%	1.5%	1.6%
Total	Count	1375	1129	2504
	%	100.0%	100.0%	100.0%

Table A1.097

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.954[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.04.

Table A1.098

Crosstabulation

Problems with my computer		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	62	196	489	63	321	995	2126
	%	72.1%	76.6%	85.0%	87.5%	83.2%	88.1%	84.9%
Small degree	Count	19	46	58	7	41	87	258
	%	22.1%	18.0%	10.1%	9.7%	10.6%	7.7%	10.3%
Moderate degree	Count	4	8	15	2	21	30	80
	%	4.7%	3.1%	2.6%	2.8%	5.4%	2.7%	3.2%
Large degree	Count	1	6	13	0	3	17	40
	%	1.2%	2.3%	2.3%	0.0%	0.8%	1.5%	1.6%
	Count	86	256	575	72	386	1129	2504
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.099

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	52.783[a]	15	.000

a. 5 cells (20.8%) have expected count less than 5. The minimum expected count is 1.15.

Part 4 – Time zone issues

Table A1.101

Crosstabulation

Time zone issues		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	1044	1072	2116
	%	76.0%	95.1%	84.6%
Small degree	Count	233	42	275
	%	17.0%	3.7%	11.0%
Moderate degree	Count	76	7	83
	%	5.5%	0.6%	3.3%
Large degree	Count	21	6	27
	%	1.5%	0.5%	1.1%
Total	Count	1374	1127	2501
	%	100.0%	100.0%	100.0%

Table A1.102

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	176.047[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.17.

Table A1.103

Crosstabulation

Time zone issues		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	57	162	450	56	319	1072	2116
	%	67.1%	63.3%	78.4%	77.8%	82.4%	95.1%	84.6%
Small	Count	17	67	90	11	48	42	275
degree	%	20.0%	26.2%	15.7%	15.3%	12.4%	3.7%	11.0%
Moderate	Count	10	18	28	5	15	7	83
degree	%	11.8%	7.0%	4.9%	6.9%	3.9%	0.6%	3.3%
Large	Count	1	9	6	0	5	6	27
degree	%	1.2%	3.5%	1.0%	0.0%	1.3%	0.5%	1.1%
Total	Count	85	256	574	72	387	1127	2501
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.104

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	241.388[a]	15	.000
Likelihood Ratio	241.049	15	.000
Linear-by-Linear Association	169.060	1	.000
N of Valid Cases	2501		

a. 6 cells (25.0%) have expected count less than 5. The minimum expected count is .78.

Part 5 – Lack of time due to family responsibilities

Table A1.105

Crosstabulation

Lack of time due to family responsibilities		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	521	522	1043
	%	37.6%	46.1%	41.4%
Small degree	Count	443	297	740
	%	32.0%	26.2%	29.4%
Moderate degree	Count	279	186	465
	%	20.1%	16.4%	18.5%
Large degree	Count	142	127	269
	%	10.3%	11.2%	10.7%
Total	Count	1385	1132	2517
	%	100.0%	100.0%	100.0%

Table A1.106

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.045[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 120.98.

Table A1.107

Crosstabulation

Lack of time due to family responsibilities		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	34	95	211	32	149	522	1043
	%	39.5%	36.7%	36.5%	43.8%	38.3%	46.1%	41.4%
Small degree	Count	35	88	174	21	125	297	740
	%	40.7%	34.0%	30.1%	28.8%	32.1%	26.2%	29.4%
Moderate degree	Count	12	45	134	11	77	186	465
	%	14.0%	17.4%	23.2%	15.1%	19.8%	16.4%	18.5%
Large degree	Count	5	31	59	9	38	127	269
	%	5.8%	12.0%	10.2%	12.3%	9.8%	11.2%	10.7%
Total	Count	86	259	578	73	389	1132	2517
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.108

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	37.073[a]	15	.001

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.80.

Part 6 – Lack of time due to work responsibilities

Table A1.109

Crosstabulation

Lack of time due to work responsibilities		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	330	444	774
	%	23.7%	39.4%	30.7%
Small degree	Count	393	280	673
	%	28.3%	24.8%	26.7%
Moderate degree	Count	382	222	604
	%	27.5%	19.7%	24.0%
Large degree	Count	286	182	468
	%	20.6%	16.1%	18.6%
Total	Count	1391	1128	2519
	%	100.0%	100.0%	100.0%

Table A1.110

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	74.614[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 209.57.

Table A1.111

Crosstabulation

Lack of time due to work responsibilities		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	19	43	141	26	101	444	774
	%	21.8%	16.3%	24.4%	35.1%	26.0%	39.4%	30.7%
Small degree	Count	23	94	156	25	95	280	673
	%	26.4%	35.7%	27.0%	33.8%	24.4%	24.8%	26.7%
Moderate degree	Count	22	72	170	13	105	222	604
	%	25.3%	27.4%	29.4%	17.6%	27.0%	19.7%	24.0%
Large degree	Count	23	54	111	10	88	182	468
	%	26.4%	20.5%	19.2%	13.5%	22.6%	16.1%	18.6%
Total	Count	87	263	578	74	389	1128	2519
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.112

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	101.385[a]	15	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.75.

Q7 - Approximately how many hours per week did you spend working on homework, reading, and projects for this course?

Table A1.113

Crosstabulation

Approximately how many hours per week did you spend working on homework, reading, and projects for this course?		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
0-2	Count	410	419	829
	%	29.3%	37.0%	32.8%
3-5	Count	709	566	1275
	%	50.8%	50.0%	50.4%
6-9	Count	220	118	338
	%	15.7%	10.4%	13.4%
10-14	Count	47	27	74
	%	3.4%	2.4%	2.9%
More than 15	Count	11	3	14
	%	0.8%	0.3%	0.6%
Total	Count	1397	1133	2530
	%	100.0%	100.0%	100.0%

Table A1.114

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.669[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.27.

Table A1.115

Crosstabulation

Approximately how many hours per week did you spend working on homework, reading, and projects for this course?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
0-2	Count	24	82	156	25	123	419	829
	%	27.0%	30.9%	27.0%	33.8%	31.4%	37.0%	32.8%
3-5	Count	37	132	306	35	199	566	1275
	%	41.6%	49.8%	53.0%	47.3%	50.8%	50.0%	50.4%
6-9	Count	20	38	98	12	52	118	338
	%	22.5%	14.3%	17.0%	16.2%	13.3%	10.4%	13.4%
10-14	Count	7	11	14	0	15	27	74
	%	7.9%	4.2%	2.4%	0.0%	3.8%	2.4%	2.9%
More than 15	Count	1	2	3	2	3	3	14
	%	1.1%	0.8%	0.5%	2.7%	0.8%	0.3%	0.6%
Total	Count	89	265	577	74	392	1133	2530
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A1.116

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	57.551[a]	20	.000

a. 7 cells (23.3%) have expected count less than 5. The minimum expected count is .41.

P3 - International Participant MOOC Survey

Table A1.117

Crosstabulation

Did the student respond to the international participant MOOC survey?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	557	2076	3442	484	2393	8952
	%	80.5%	85.4%	83.0%	84.8%	84.4%	83.9%
Yes	Count	135	354	704	87	441	1721
	%	19.5%	14.6%	17.0%	15.2%	15.6%	16.1%
Total	Count	692	2430	4146	571	2834	10673
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.118

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.456[a]	4	.009

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 92.07.

Q1 - Thinking back to your plans when you enrolled in this class, which of the following best describes your experience?

Table A1.119

Crosstabulation

How important is it for future courses to be available in your native tongue / language?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Important	Count	35	53	121	60	139	408
	%	27.8%	16.3%	18.6%	72.3%	35.0%	25.8%
Important	Count	17	56	84	7	89	253
	%	13.5%	17.2%	12.9%	8.4%	22.4%	16.0%
Moderately Important	Count	11	65	121	5	74	276
	%	8.7%	20.0%	18.6%	6.0%	18.6%	17.5%
Of Little Importance	Count	33	62	146	4	48	293
	%	26.2%	19.1%	22.5%	4.8%	12.1%	18.5%
Unimportant	Count	30	89	177	7	47	350
	%	23.8%	27.4%	27.3%	8.4%	11.8%	22.2%
Total	Count	126	325	649	83	397	1580
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.120

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	203.239[a]	16	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.29.

Q2 - How would you grade your English proficiency in the following categories?

Table A1.121

English Proficiency

	Africa	Asia	Europe	Oceania	Americas*
Listening	3	5	4	1	2
Speaking	2	5	4	1	3
Reading	2	5	4	1	3
Writing	2	5	4	1	3

*(W/o U.S.A.)

Part 1 – Listening

Table A1.122

Crosstabulation

How would you grade your English proficiency in the following categories? Listening		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Basic	Count	1	11	5	0	9	26
	%	0.8%	3.4%	0.8%	0.0%	2.3%	1.6%
Low	Count	2	13	32	0	26	73
Intermediate	%	1.6%	4.0%	4.9%	0.0%	6.5%	4.6%
High	Count	13	56	130	0	58	257
Intermediate	%	10.1%	17.2%	19.9%	0.0%	14.6%	16.2%
Proficient	Count	47	118	200	10	97	472
	%	36.4%	36.2%	30.6%	11.8%	24.4%	29.7%
Advanced	Count	66	128	286	75	208	763
Proficient	%	51.2%	39.3%	43.8%	88.2%	52.3%	48.0%
Total	Count	129	326	653	85	398	1591
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.123

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	103.242[a]	16	.000

a. 3 cells (12.0%) have expected count less than 5. The minimum expected count is 1.39.

Part 2 – Speaking

Table A1.124

Crosstabulation

How would you grade your English proficiency in the following categories? Speaking		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Basic	Count	1	10	12	0	15	38
	%	0.8%	3.1%	1.8%	0.0%	3.8%	2.4%
Low	Count	3	25	83	0	39	150
Intermediate	%	2.3%	7.7%	12.7%	0.0%	9.8%	9.4%
High	Count	16	64	148	1	76	305
Intermediate	%	12.4%	19.7%	22.7%	1.2%	19.1%	19.2%
Proficient	Count	49	125	189	9	94	466
	%	38.0%	38.5%	29.0%	10.6%	23.6%	29.3%
Advanced	Count	60	101	219	75	174	629
Proficient	%	46.5%	31.1%	33.6%	88.2%	43.7%	39.6%
Total	Count	129	325	651	85	398	1588
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* (W/o U.S.A.)

Table A1.125

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	146.357[a]	16	.000

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 2.03.

Part 3 – Reading

Table A1.126

Crosstabulation

How would you grade your English proficiency in the following categories? Reading		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Basic	Count	0	6	2	0	3	11
	%	0.0%	1.9%	0.3%	0.0%	0.8%	0.7%
Low	Count	2	9	13	1	11	36
Intermediate	%	1.6%	2.8%	2.0%	1.2%	2.8%	2.3%
High	Count	10	46	95	0	49	200
Intermediate	%	7.8%	14.2%	14.5%	0.0%	12.4%	12.6%
Proficient	Count	41	122	211	9	117	500
	%	31.8%	37.7%	32.3%	10.6%	29.5%	31.5%
Advanced	Count	76	141	332	75	216	840
Proficient	%	58.9%	43.5%	50.8%	88.2%	54.5%	52.9%
Total	Count	129	324	653	85	396	1587
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.127

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	70.089[a]	16	.000

a. 7 cells (28.0%) have expected count less than 5. The minimum expected count is .59.

Part 4 – Writing

Table A1.128

Crosstabulation

How would you grade your English proficiency in the following categories? Writing		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Basic	Count	1	9	13	0	12	35
	%	0.8%	2.8%	2.0%	0.0%	3.0%	2.2%
Low	Count	2	24	76	0	39	141
Intermediate	%	1.6%	7.4%	11.7%	0.0%	9.8%	8.9%
High	Count	12	57	152	2	84	307
Intermediate	%	9.3%	17.6%	23.3%	2.4%	21.1%	19.3%
Proficient	Count	54	125	187	12	94	472
	%	41.9%	38.7%	28.7%	14.1%	23.6%	29.7%
Advanced	Count	60	108	224	71	170	633
Proficient	%	46.5%	33.4%	34.4%	83.5%	42.6%	39.9%
Total	Count	129	323	652	85	399	1588
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.129

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	131.425[a]	16	.000

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 1.87.

Q3 – What is your highest degree or level of school attained / completed?

Table A1.130

Crosstabulation

What is your highest degree or level of school attained / completed?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Primary school	Count	0	1	0	2	0	3
	%	0.0%	0.3%	0.0%	2.4%	0.0%	0.2%
Secondary school	Count	1	0	7	0	2	10
	%	0.8%	0.0%	1.1%	0.0%	0.5%	0.6%
High school	Count	6	22	58	5	43	134
	%	4.7%	6.8%	8.9%	5.9%	10.8%	8.4%
Associate degree	Count	6	7	41	7	21	82
	%	4.7%	2.2%	6.3%	8.2%	5.3%	5.2%
Bachelor's degree	Count	44	114	137	31	103	429
	%	34.4%	35.2%	21.0%	36.5%	25.9%	27.0%
Graduate coursework	Count	20	25	45	11	77	178
	%	15.6%	7.7%	6.9%	12.9%	19.3%	11.2%
Master's degree	Count	35	111	274	18	111	549
	%	27.3%	34.3%	42.0%	21.2%	27.9%	34.6%
Doctorate degree	Count	7	33	76	9	27	152
	%	5.5%	10.2%	11.6%	10.6%	6.8%	9.6%
Other:	Count	9	11	15	2	14	51
	%	7.0%	3.4%	2.3%	2.4%	3.5%	3.2%
Total	Count	128	324	653	85	398	1588
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.131

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	144.791[a]	32	.000

a. 13 cells (28.9%) have expected count less than 5. The minimum expected count is .16.

Q4 – Are you attending school full-time or part-time?

Table A1.132

Crosstabulation

Are you attending school full-time or part-time?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
I am currently a full-time student	Count	13	64	86	5	71	239
	%	10.2%	19.8%	13.2%	5.9%	17.9%	15.1%
I am currently a part-time student	Count	22	18	67	9	53	169
	%	17.2%	5.6%	10.3%	10.6%	13.4%	10.6%
I am not currently a student	Count	93	242	500	71	273	1179
	%	72.7%	74.7%	76.6%	83.5%	68.8%	74.3%
Total	Count	128	324	653	85	397	1587
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.133

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.150[a]	8	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.05.

Q5 – What program are you currently completing?

Table A1.134

Crosstabulation

What program are you currently completing?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Secondary school	Count	0	0	1	0	0	1
	%	0.0%	0.0%	0.7%	0.0%	0.0%	0.2%
High school	Count	0	6	5	0	1	12
	%	0.0%	7.6%	3.3%	0.0%	0.8%	3.0%
Associate degree	Count	2	1	4	1	2	10
	%	6.1%	1.3%	2.6%	7.1%	1.6%	2.5%
Bachelor's degree	Count	4	23	39	5	39	110
	%	12.1%	29.1%	25.8%	35.7%	31.5%	27.4%
Graduate certificate	Count	3	6	12	1	19	41
	%	9.1%	7.6%	7.9%	7.1%	15.3%	10.2%
Master's degree	Count	15	22	46	2	31	116
	%	45.5%	27.8%	30.5%	14.3%	25.0%	28.9%
Doctorate degree	Count	5	14	30	3	17	69
	%	15.2%	17.7%	19.9%	21.4%	13.7%	17.2%
Other:	Count	4	7	14	2	15	42
	%	12.1%	8.9%	9.3%	14.3%	12.1%	10.5%
Total	Count	33	79	151	14	124	401
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.135

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	30.915[a]	28	.321

a. 22 cells (55.0%) have expected count less than 5. The minimum expected count is .03.

Q8 – Are you currently employed?

Table A1.136

Crosstabulation

Are you currently employed?		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
Yes, I am full-time employed	Count	81	163	338	37	186	805
	%	64.8%	51.1%	52.2%	43.5%	47.3%	51.3%
Yes, I am part-time employed	Count	22	55	130	21	90	318
	%	17.6%	17.2%	20.1%	24.7%	22.9%	20.3%
No	Count	22	101	179	27	117	446
	%	17.6%	31.7%	27.7%	31.8%	29.8%	28.4%
Total	Count	125	319	647	85	393	1569
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.137

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.867[a]	8	.022

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.23.

Q10 - How many years of professional experience do you have?

Table A1.138

Crosstabulation

How many years of professional experience do you have?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
0	Count	2	35	48	4	33	122
	%	1.8%	12.3%	8.1%	5.5%	9.2%	8.6%
1 to 5	Count	42	100	150	11	105	408
	%	38.2%	35.2%	25.3%	15.1%	29.3%	28.8%
6 to 10	Count	25	43	122	12	72	274
	%	22.7%	15.1%	20.6%	16.4%	20.1%	19.3%
11 to 15	Count	14	34	99	12	26	185
	%	12.7%	12.0%	16.7%	16.4%	7.3%	13.0%
16 to 20	Count	14	24	62	6	35	141
	%	12.7%	8.5%	10.5%	8.2%	9.8%	9.9%
21 to 25	Count	7	15	36	8	22	88
	%	6.4%	5.3%	6.1%	11.0%	6.1%	6.2%
26 to 30	Count	4	13	27	8	40	92
	%	3.6%	4.6%	4.6%	11.0%	11.2%	6.5%
31 to 35	Count	1	10	21	7	15	54
	%	0.9%	3.5%	3.5%	9.6%	4.2%	3.8%
36 to 40	Count	1	5	22	2	8	38
	%	0.9%	1.8%	3.7%	2.7%	2.2%	2.7%
41 to 45	Count	0	4	5	3	0	12
	%	0.0%	1.4%	0.8%	4.1%	0.0%	0.8%
46 to 50	Count	0	1	1	0	2	4
	%	0.0%	0.4%	0.2%	0.0%	0.6%	0.3%
Total	Count	110	284	593	73	358	1418
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.139

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	102.329[a]	40	.000

a. 15 cells (27.3%) have expected count less than 5. The minimum expected count is .21.

Q10B – Further Compressed

Table A1.140

Crosstabulations

How many years of professional experience do you have?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
0	Count	2	35	48	4	33	122
	%	1.8%	12.3%	8.1%	5.5%	9.2%	8.6%
1 to 10	Count	67	143	272	23	177	682
	%	60.9%	50.4%	45.9%	31.5%	49.4%	48.1%
11 to 20	Count	28	58	161	18	61	326
	%	25.5%	20.4%	27.2%	24.7%	17.0%	23.0%
21 to 30	Count	11	28	63	16	62	180
	%	10.0%	9.9%	10.6%	21.9%	17.3%	12.7%
31 to 40	Count	2	15	43	9	23	92
	%	1.8%	5.3%	7.3%	12.3%	6.4%	6.5%
41 to 50	Count	0	5	6	3	2	16
	%	0.0%	1.8%	1.0%	4.1%	0.6%	1.1%
Total	Count	110	284	593	73	358	1418
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.141

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	64.928[a]	20	.000

a. 5 cells (16.7%) have expected count less than 5. The minimum expected count is .82.

Q15 - Did you enroll in the Signature Track?

Table A1.142

Crosstabulation

Did you enroll in the Signature Track?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	25	27	61	3	53	169
	%	20.2%	8.7%	9.6%	3.6%	13.8%	11.0%
No	Count	99	284	575	81	331	1370
	%	79.8%	91.3%	90.4%	96.4%	86.2%	89.0%
Total	Count	124	311	636	84	384	1539
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.143

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.473[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.22.

Q19 – What are your previous online learning experiences? (select all that apply)

Part 1 - I have taken other MOOCs before this course

Table A1.144

Crosstabulation

I have taken other MOOCs before this course		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas	Total
No	Count	70	181	338	39	251	879
	%	51.9%	51.1%	48.0%	44.8%	56.9%	51.1%
Yes	Count	65	173	366	48	190	842
	%	48.1%	48.9%	52.0%	55.2%	43.1%	48.9%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.145

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.057[a]	4	.039

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 42.56.

Part 2 - I have taken online learning courses for credits

Table A1.146

Crosstabulation

I have taken online learning courses for credits		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	107	310	610	75	366	1468
	%	79.3%	87.6%	86.6%	86.2%	83.0%	85.3%
Yes	Count	28	44	94	12	75	253
	%	20.7%	12.4%	13.4%	13.8%	17.0%	14.7%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.147

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.332[a]	4	.080

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.79.

Part 3 - I have taken non-credit online learning courses

Table A1.148

Crosstabulation

I have taken non-credit online learning courses		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	89	236	500	69	311	1205
	%	65.9%	66.7%	71.0%	79.3%	70.5%	70.0%
Yes	Count	46	118	204	18	130	516
	%	34.1%	33.3%	29.0%	20.7%	29.5%	30.0%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.149

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.941[a]	4	.139

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.08.

Part 4 - Other, please specify:

Table A1.150

Crosstabulation

Other, please specify:		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	113	305	601	75	381	1475
	%	83.7%	86.2%	85.4%	86.2%	86.4%	85.7%
Yes	Count	22	49	103	12	60	246
	%	16.3%	13.8%	14.6%	13.8%	13.6%	14.3%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.151

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	.755[a]	4	.944

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.44.

Q20 – In general, how comfortable are you with utilizing online learning environments?

Table A1.152

Crosstabulation

In general, how comfortable are you with utilizing online learning environments?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Comfortable	Count	78	147	343	51	209	828
	%	63.4%	47.0%	54.1%	60.7%	55.0%	54.0%
Comfortable	Count	38	147	255	29	147	616
	%	30.9%	47.0%	40.2%	34.5%	38.7%	40.2%
Neither	Count	6	18	32	3	22	81
	%	4.9%	5.8%	5.0%	3.6%	5.8%	5.3%
Uncomfortable	Count	1	1	3	1	1	7
	%	0.8%	0.3%	0.5%	1.2%	0.3%	0.5%
Very Uncomfortable	Count	0	0	1	0	1	2
	%	0.0%	0.0%	0.2%	0.0%	0.3%	0.1%
Total	Count	123	313	634	84	380	1534
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.153

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.665[a]	16	.408

a. 11 cells (44.0%) have expected count less than 5. The minimum expected count is .11.

Table A1.154

Crosstabulation

In general, how comfortable are you with utilizing online learning environments?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Comfortable	Count	78	147	343	51	209	828
	%	67.2%	50.0%	57.4%	63.7%	58.7%	57.3%
Comfortable	Count	38	147	255	29	147	616
	%	32.8%	50.0%	42.6%	36.3%	41.3%	42.7%
Total	Count	116	294	598	80	356	1444
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.155

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.741[a]	4	.013

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 34.13.

Q21 – Which of the following devices do you currently own? (Select all that apply)

Table A1.156

Technology Ownership

	Africa	Asia	Europe	Oceania	Americas*
Desktop	5	4	2	1	3
Netbook	2	4	3	1	5
Handheld	2	5	3	1	4
e-Reader	5	4	2	1	3
Printer	4	5	3	1	2
Tablet	5	4	3	1	2

*(W/o U.S.A.)

Part 1 - Desktop Computer

Table A1.157

Crosstabulation

Desktop Computer		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	100	203	367	44	237	951
	%	74.1%	57.3%	52.1%	50.6%	53.7%	55.3%
Yes	Count	35	151	337	43	204	770
	%	25.9%	42.7%	47.9%	49.4%	46.3%	44.7%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.158

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.923[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.93.

Part 2 - Laptop/Netbook Computer

Table A1.159

Crosstabulation

Laptop/Netbook Computer		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	23	88	151	14	111	387
	%	17.0%	24.9%	21.4%	16.1%	25.2%	22.5%
Yes	Count	112	266	553	73	330	1334
	%	83.0%	75.1%	78.6%	83.9%	74.8%	77.5%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.160

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.741[a]	4	.102

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.56.

Part 3 - Internet Capable Phone / Handheld Device

Table A1.161

Crosstabulation

Internet Capable Phone / Handheld Device		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	67	197	385	34	244	927
	%	49.6%	55.6%	54.7%	39.1%	55.3%	53.9%
Yes	Count	68	157	319	53	197	794
	%	50.4%	44.4%	45.3%	60.9%	44.7%	46.1%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.162

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.652[a]	4	.047

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 40.14.

Part 4 - e-Reader

Table A1.163

Crosstabulation

e-Reader		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	120	312	552	55	371	1410
	%	88.9%	88.1%	78.4%	63.2%	84.1%	81.9%
Yes	Count	15	42	152	32	70	311
	%	11.1%	11.9%	21.6%	36.8%	15.9%	18.1%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.164

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	41.530[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.72.

Part 5 - Printer

Table A1.165

Crosstabulation

Printer		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	91	241	365	35	226	958
	%	67.4%	68.1%	51.8%	40.2%	51.2%	55.7%
Yes	Count	44	113	339	52	215	763
	%	32.6%	31.9%	48.2%	59.8%	48.8%	44.3%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.166

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	45.694[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.57.

Part 6 - iPad or Other Tablet Computer

Table A1.167

Crosstabulation

iPad or Other Tablet Computer		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	105	255	479	51	298	1188
	%	77.8%	72.0%	68.0%	58.6%	67.6%	69.0%
Yes	Count	30	99	225	36	143	533
	%	22.2%	28.0%	32.0%	41.4%	32.4%	31.0%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.168

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.496[a]	4	.022

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.94.

Q22 – When will most of your study time for this course take place?

Part 1 - Weekdays during the daytime

Table A1.169

Crosstabulation

Weekdays during the daytime		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	104	271	493	56	315	1239
	%	77.0%	76.6%	70.0%	64.4%	71.4%	72.0%
Yes	Count	31	83	211	31	126	482
	%	23.0%	23.4%	30.0%	35.6%	28.6%	28.0%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.170

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.281[a]	4	.054

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.37.

Part 2 - Weekdays in the evening

Table A1.171

Crosstabulation

Weekdays in the evening		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	53	169	284	36	224	766
	%	39.3%	47.7%	40.3%	41.4%	50.8%	44.5%
Yes	Count	82	185	420	51	217	955
	%	60.7%	52.3%	59.7%	58.6%	49.2%	55.5%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.172

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.352[a]	4	.004

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.72.

Part 3 – Weekends

Table A1.171

Crosstabulation

		Participants by global region (Collapsed)					
Weekends		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	76	192	396	43	257	964
	%	56.3%	54.2%	56.3%	49.4%	58.3%	56.0%
Yes	Count	59	162	308	44	184	757
	%	43.7%	45.8%	43.8%	50.6%	41.7%	44.0%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.172

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.923[a]	4	.571

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.27.

Q23 – How much would you be willing to pay if this course was offered online for credit?

Table A1.173

Willingness to Pay

How much would you be willing to pay if this course was offered online for credit? (Currency in U.S. $. Total Cost for an Online Course)							
Participants by global region (Collapsed)	Mean	N	Std. Deviation	Variance	Range	Skew-ness	Std. Error of Skewness
Africa	289.891	101	432.4558	187017.98	2000.00	2.436	.240
Asia	174.165	254	325.1638	105731.48	2512.00	3.602	.153
Europe	134.499	485	245.2953	60169.76	2961.00	5.273	.111
Oceania	246.875	64	441.9025	195277.83	2023.00	3.230	.299
Americas*	218.691	304	328.570	107962.83	2506.00	3.721	.140
Total	182.973	1208	318.6451	101534.67	2961.00	3.890	.070

*(W/o U.S.A.)

Table A1.174

Willingness to Pay by Region - Range

Participants by global region	Minimum	Maximum	Range
Africa	.00	2000.00	2000.00
Asia	.00	2512.00	2512.00
Europe	.00	2961.00	2961.00
Oceania	.00	2023.00	2023.00
Americas (W/o U.S.A.)	.00	2506.00	2506.00
Total	.00	2961.00	2961.00

Table A1.175

ANOVA Table

How much would you be willing to pay if this course was offered online for credit?		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	2963076.06	4	740769.014	7.452	.000
	Linearity	21875.40	1	21875.396	.220	.639
	Deviation from Linearity	2941200.66	3	980400.220	9.862	.000
Within Groups		119589266.04	1203	99409.199		
Total		122552342.10	1207			

Table A1.176

Measures of Association

	R	R Squared	Eta	Eta Squared
How much would you be willing to pay if this course was offered online for credit?	.013	.000	.155	.024

Q24 - Have you previously completed a college or university-level course?

Table A1.177

Crosstabulation

Have you previously completed a college or university-level course?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	110	263	533	76	326	1308
	%	90.2%	84.6%	84.5%	90.5%	85.8%	85.6%
No	Count	12	48	98	8	54	220
	%	9.8%	15.4%	15.5%	9.5%	14.2%	14.4%
Total	Count	122	311	631	84	380	1528
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.178

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.618[a]	4	.329

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.09.

Q27 – How many of your local social network, including co-workers and friends, are enrolled in or have taken a MOOC

Table A1.179

Crosstabulation

How many of your local social network, including co-workers and friends, are enrolled in or have taken MOOCs		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
None	Count	39	117	253	29	140	578
	%	32.8%	38.9%	40.8%	34.9%	37.6%	38.7%
A Few (1 to 4)	Count	67	158	325	47	199	796
	%	56.3%	52.5%	52.4%	56.6%	53.5%	53.2%
Some (5 to 9)	Count	12	20	30	3	25	90
	%	10.1%	6.6%	4.8%	3.6%	6.7%	6.0%
A Lot (More than 10)	Count	1	6	12	4	8	31
	%	0.8%	2.0%	1.9%	4.8%	2.2%	2.1%
Total	Count	119	301	620	83	372	1495
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.180

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	12.676[a]	12	.393

a. 3 cells (15.0%) have expected count less than 5. The minimum expected count is 1.72.

Q33 - To what extent do you enjoy the following types of courses?

Part 1 - (0% Online)

Table A1.181

Crosstabulation

Traditional Course (0% Online)		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
To a Great Extent	Count	39	90	217	26	145	517
	%	34.5%	31.5%	36.5%	32.5%	41.2%	36.3%
Somewhat	Count	48	129	229	36	148	590
	%	42.5%	45.1%	38.5%	45.0%	42.0%	41.4%
Very Little	Count	16	46	107	8	41	218
	%	14.2%	16.1%	18.0%	10.0%	11.6%	15.3%
Not at All	Count	10	21	42	10	18	101
	%	8.8%	7.3%	7.1%	12.5%	5.1%	7.1%
Total	Count	113	286	595	80	352	1426
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.182

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.396[a]	12	.060

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.67.

Part 2 – Web Facilitated Course (1 to 29% Online)

Table A1.183

Crosstabulation

Web Facilitated Course (1 to 29% Online)		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
To a Great Extent	Count	32	72	152	18	110	384
	%	29.9%	25.4%	26.6%	22.8%	31.6%	27.7%
Somewhat	Count	54	155	277	41	186	713
	%	50.5%	54.8%	48.5%	51.9%	53.4%	51.4%
Very Little	Count	17	44	102	12	39	214
	%	15.9%	15.5%	17.9%	15.2%	11.2%	15.4%
Not at All	Count	4	12	40	8	13	77
	%	3.7%	4.2%	7.0%	10.1%	3.7%	5.5%
Total	Count	107	283	571	79	348	1388
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.184

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.396[a]	12	.060

a. 1 cells (5.0%) have expected count less than 5. The minimum expected count is 4.38.

Part 3 - Blended / Hybrid Course (30 to 79% Online)

Table A1.185

Crosstabulation

Blended / Hybrid Course (30 to 79% Online)		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
To a Great Extent	Count	38	98	188	24	138	486
	%	35.5%	34.6%	33.0%	30.4%	39.7%	35.0%
Somewhat	Count	55	143	280	42	160	680
	%	51.4%	50.5%	49.1%	53.2%	46.0%	49.0%
Very Little	Count	8	28	67	6	34	143
	%	7.5%	9.9%	11.8%	7.6%	9.8%	10.3%
Not at All	Count	6	14	35	7	16	78
	%	5.6%	4.9%	6.1%	8.9%	4.6%	5.6%
Total	Count	107	283	570	79	348	1387
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.186

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.827[a]	12	.631

a. 1 cells (5.0%) have expected count less than 5. The minimum expected count is 4.44.

Part 4 - Online Course (80+% Online)

Table A1.187

Crosstabulation

Online Course (80+% Online)		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
To a Great Extent	Count	81	190	419	52	231	973
	%	70.4%	64.6%	69.5%	63.4%	63.6%	66.8%
Somewhat	Count	28	94	169	29	124	444
	%	24.3%	32.0%	28.0%	35.4%	34.2%	30.5%
Very Little	Count	5	9	13	1	7	35
	%	4.3%	3.1%	2.2%	1.2%	1.9%	2.4%
Not at All	Count	1	1	2	0	1	5
	%	0.9%	0.3%	0.3%	0.0%	0.3%	0.3%
Total	Count	115	294	603	82	363	1457
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A1.188

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.426[a]	12	.493

a. 7 cells (35.0%) have expected count less than 5. The minimum expected count is .28.

RQ2 - Full Statistical Results

P1 - Pre-MOOC Survey

Q2 - Why did you enroll in this course?

Part 1 – This subject is relevant to my academic field of study

Table A2.001

Crosstabulation

This subject is relevant to my academic field of study		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	1428	1284	2712
	%	13.8%	14.6%	14.2%
Disagree	Count	1534	1616	3150
	%	14.8%	18.3%	16.4%
Neither	Count	1892	2138	4030
	%	18.3%	24.3%	21.0%
Agree	Count	3133	2256	5389
	%	30.3%	25.6%	28.1%
Strongly Agree	Count	2365	1517	3882
	%	22.8%	17.2%	20.3%
Total	Count	10352	8811	19163
	%	100.0%	100.0%	100.0%

Table A2.002

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	230.329[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1246.96.

Table A2.003

Crosstabulation

This subject is relevant to my academic field of study		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	57	318	670	103	280	1284	2712
	%	8.6%	13.6%	16.6%	18.5%	10.2%	14.6%	14.2%
Disagree	Count	61	397	675	95	306	1616	3150
	%	9.2%	17.0%	16.7%	17.1%	11.1%	18.3%	16.4%
Neither	Count	101	390	752	118	531	2138	4030
	%	15.3%	16.7%	18.6%	21.2%	19.3%	24.3%	21.0%
Agree	Count	225	712	1203	157	836	2256	5389
	%	34.0%	30.5%	29.8%	28.2%	30.3%	25.6%	28.1%
Strongly Agree	Count	218	517	743	84	803	1517	3882
	%	32.9%	22.2%	18.4%	15.1%	29.1%	17.2%	20.3%
Total	Count	662	2334	4043	557	2756	8811	19163
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.004

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	510.290[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 78.83.

Part 2 – This class teaches skills that will help my job/career

Table A2.005

Crosstabulation

This class teaches skills that will help my job/career		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	894	934	1828
	%	8.6%	10.6%	9.5%
Disagree	Count	1062	1168	2230
	%	10.2%	13.2%	11.6%
Neither	Count	1981	1848	3829
	%	19.1%	20.9%	19.9%
Agree	Count	4000	2990	6990
	%	38.6%	33.9%	36.4%
Strongly Agree	Count	2438	1893	4331
	%	23.5%	21.4%	22.5%
Total	Count	10375	8833	19208
	%	100.0%	100.0%	100.0%

Table A2.006

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	101.918[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 840.62.

Table A2.007

Crosstabulation

This class teaches skills that will help my job/career		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	38	199	388	63	206	934	1828
	%	5.7%	8.5%	9.6%	11.3%	7.5%	10.6%	9.5%
Disagree	Count	23	262	483	76	218	1168	2230
	%	3.4%	11.2%	11.9%	13.6%	7.9%	13.2%	11.6%
Neither	Count	68	459	844	136	474	1848	3829
	%	10.1%	19.7%	20.8%	24.4%	17.2%	20.9%	19.9%
Agree	Count	275	906	1558	188	1073	2990	6990
	%	41.0%	38.9%	38.4%	33.7%	38.9%	33.9%	36.4%
Strongly Agree	Count	267	506	781	95	789	1893	4331
	%	39.8%	21.7%	19.3%	17.0%	28.6%	21.4%	22.5%
Total	Count	671	2332	4054	558	2760	8833	19208
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.008

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	385.019[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 53.10.

Part 3 – Because this course is offered by a prestigious university

Table A2.009

Crosstabulation

Because this course is offered by a prestigious university		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	1051	1066	2117
	%	10.2%	12.1%	11.1%
Disagree	Count	1490	1602	3092
	%	14.4%	18.2%	16.2%
Neither	Count	3954	3941	7895
	%	38.3%	44.7%	41.3%
Agree	Count	2801	1736	4537
	%	27.1%	19.7%	23.7%
Strongly Agree	Count	1025	466	1491
	%	9.9%	5.3%	7.8%
Total	Count	10321	8811	19132
	%	100.0%	100.0%	100.0%

Table A2.010

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	346.740[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 686.66.

Table A2.011

Crosstabulation

Because this course is offered by a prestigious university		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	54	203	464	91	239	1066	2117
	%	8.2%	8.8%	11.5%	16.5%	8.7%	12.1%	11.1%
Disagree	Count	74	327	668	114	307	1602	3092
	%	11.3%	14.1%	16.5%	20.7%	11.2%	18.2%	16.2%
Neither	Count	228	760	1700	243	1023	3941	7895
	%	34.8%	32.8%	42.0%	44.0%	37.2%	44.7%	41.3%
Agree	Count	200	742	982	93	784	1736	4537
	%	30.5%	32.0%	24.3%	16.8%	28.5%	19.7%	23.7%
Strongly Agree	Count	100	284	230	11	400	466	1491
	%	15.2%	12.3%	5.7%	2.0%	14.5%	5.3%	7.8%
Total	Count	656	2316	4044	552	2753	8811	19132
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A2.012

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	789.031[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 43.02.

Part 4 – I think taking this course will be fun and enjoyable

Table A2.013

Crosstabulation

I think taking this course will be fun and enjoyable		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	114	56	170
	%	1.1%	0.6%	0.9%
Disagree	Count	160	78	238
	%	1.5%	0.9%	1.2%
Neither	Count	1317	784	2101
	%	12.7%	8.9%	10.9%
Agree	Count	5988	5028	11016
	%	57.8%	56.8%	57.4%
Strongly Agree	Count	2775	2899	5674
	%	26.8%	32.8%	29.6%
Total	Count	10354	8845	19199
	%	100.0%	100.0%	100.0%

Table A2.014

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	151.961[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 78.32.

Table A2.015

Crosstabulation

I think taking this course will be fun and enjoyable		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	19	33	36	6	20	56	170
	%	2.9%	1.4%	0.9%	1.1%	0.7%	0.6%	0.9%
Disagree	Count	21	51	50	3	35	78	238
	%	3.2%	2.2%	1.2%	0.5%	1.3%	0.9%	1.2%
Neither	Count	113	300	522	64	318	784	2101
	%	17.3%	12.9%	12.9%	11.6%	11.5%	8.9%	10.9%
Agree	Count	348	1333	2373	352	1582	5028	11016
	%	53.3%	57.2%	58.5%	63.5%	57.2%	56.8%	57.4%
Strongly Agree	Count	152	613	1072	129	809	2899	5674
	%	23.3%	26.3%	26.4%	23.3%	29.3%	32.8%	29.6%
Total	Count	653	2330	4053	554	2764	8845	19199
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A2.016

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	251.527[a]	20	.000

a. 1 cells (3.3%) have expected count less than 5. The minimum expected count is 4.91.

Part 5 – I am not geographically close to educational institutions

Table A2.017

Crosstabulation

I am not geographically close to educational institutions		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	2662	3323	5985
	%	25.8%	37.7%	31.3%
Disagree	Count	2450	2398	4848
	%	23.8%	27.2%	25.4%
Neither	Count	1973	1651	3624
	%	19.1%	18.7%	19.0%
Agree	Count	1710	930	2640
	%	16.6%	10.6%	13.8%
Strongly Agree	Count	1516	505	2021
	%	14.7%	5.7%	10.6%
Total	Count	10311	8807	19118
	%	100.0%	100.0%	100.0%

Table A2.018

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	724.541[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 931.00.

Table A2.019

Crosstabulation

I am not geographically close to educational institutions		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	125	411	1199	164	763	3323	5985
	%	19.3%	17.7%	29.7%	29.5%	27.7%	37.7%	31.3%
Disagree	Count	136	525	967	156	666	2398	4848
	%	21.0%	22.7%	24.0%	28.1%	24.1%	27.2%	25.4%
Neither	Count	115	432	781	108	537	1651	3624
	%	17.7%	18.6%	19.4%	19.5%	19.5%	18.7%	19.0%
Agree	Count	134	482	582	78	434	930	2640
	%	20.7%	20.8%	14.4%	14.1%	15.7%	10.6%	13.8%
Strongly Agree	Count	138	467	504	49	358	505	2021
	%	21.3%	20.2%	12.5%	8.8%	13.0%	5.7%	10.6%
Total	Count	648	2317	4033	555	2758	8807	19118
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A2.020

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1007.082[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 58.67.

Part 6 – Traditional Courses Are Too Expensive

Table A2.021

Crosstabulation

Traditional courses are too expensive		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	732	569	1301
	%	7.1%	6.5%	6.8%
Disagree	Count	1161	882	2043
	%	11.3%	10.0%	10.7%
Neither	Count	2804	2217	5021
	%	27.2%	25.2%	26.3%
Agree	Count	3493	2977	6470
	%	33.8%	33.8%	33.8%
Strongly Agree	Count	2123	2168	4291
	%	20.6%	24.6%	22.4%
Total	Count	10313	8813	19126
	%	100.0%	100.0%	100.0%

Table A2.022

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	51.449[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 599.48.

Table A2.023

Crosstabulation

Traditional courses are too expensive		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	54	154	328	29	167	569	1301
	%	8.3%	6.7%	8.1%	5.2%	6.1%	6.5%	6.8%
Disagree	Count	66	249	513	55	278	882	2043
	%	10.1%	10.8%	12.7%	9.9%	10.1%	10.0%	10.7%
Neither	Count	159	612	1133	145	755	2217	5021
	%	24.4%	26.5%	28.0%	26.1%	27.4%	25.2%	26.3%
Agree	Count	199	784	1365	216	929	2977	6470
	%	30.6%	33.9%	33.8%	38.8%	33.8%	33.8%	33.8%
Strongly Agree	Count	173	512	704	111	623	2168	4291
	%	26.6%	22.2%	17.4%	20.0%	22.6%	24.6%	22.4%
Total	Count	651	2311	4043	556	2752	8813	19126
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.024

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	126.477[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 37.82.

Part 7 - I am interested in taking a course with this professor

Table A2.025

Crosstabulation

I was interested in taking a course with this professor		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	1188	912	2100
	%	11.6%	10.4%	11.0%
Disagree	Count	1697	1399	3096
	%	16.5%	15.9%	16.2%
Neither	Count	5634	5311	10945
	%	54.8%	60.4%	57.4%
Agree	Count	1392	869	2261
	%	13.5%	9.9%	11.9%
Strongly Agree	Count	374	301	675
	%	3.6%	3.4%	3.5%
Total	Count	10285	8792	19077
	%	100.0%	100.0%	100.0%

Table A2.026

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	87.050[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 311.09.

Table A2.027

Crosstabulation

I was interested in taking a course with this professor		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	76	177	557	84	294	912	2100
	%	11.8%	7.7%	13.8%	15.2%	10.7%	10.4%	11.0%
Disagree	Count	113	312	754	95	423	1399	3096
	%	17.5%	13.5%	18.7%	17.2%	15.4%	15.9%	16.2%
Neither	Count	308	1187	2199	329	1611	5311	10945
	%	47.8%	51.5%	54.6%	59.5%	58.6%	60.4%	57.4%
Agree	Count	109	483	437	40	323	869	2261
	%	16.9%	20.9%	10.8%	7.2%	11.7%	9.9%	11.9%
Strongly Agree	Count	39	147	84	5	99	301	675
	%	6.0%	6.4%	2.1%	0.9%	3.6%	3.4%	3.5%
Total	Count	645	2306	4031	553	2750	8792	19077
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.028

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	454.453[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.57.

Part 8 – This course is offered by the University of Minnesota

Table A2.029

Crosstabulation

This course is offered by the University of Minnesota		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Strongly Disagree	Count	1162	968	2130
	%	11.3%	11.0%	11.2%
Disagree	Count	1432	1315	2747
	%	13.9%	14.9%	14.4%
Neither	Count	4866	4876	9742
	%	47.3%	55.4%	51.0%
Agree	Count	1946	1154	3100
	%	18.9%	13.1%	16.2%
Strongly Agree	Count	890	485	1375
	%	8.6%	5.5%	7.2%
Total	Count	10296	8798	19094
	%	100.0%	100.0%	100.0%

Table A2.030

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	228.178[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 633.56.

Table A2.031

Crosstabulation

This course is offered by the University of Minnesota		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	64	166	579	86	267	968	2130
	%	9.9%	7.2%	14.4%	15.5%	9.7%	11.0%	11.2%
Disagree	Count	81	282	631	109	329	1315	2747
	%	12.5%	12.2%	15.7%	19.6%	12.0%	14.9%	14.4%
Neither	Count	262	988	2001	296	1319	4876	9742
	%	40.4%	42.8%	49.7%	53.3%	47.9%	55.4%	51.0%
Agree	Count	157	596	586	49	558	1154	3100
	%	24.2%	25.8%	14.5%	8.8%	20.3%	13.1%	16.2%
Strongly Agree	Count	85	279	233	15	278	485	1375
	%	13.1%	12.1%	5.8%	2.7%	10.1%	5.5%	7.2%
Total	Count	649	2311	4030	555	2751	8798	19094
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.032

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	672.293[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 39.97.

Part 9 – General interest in the topic

Table A2.033

Crosstabulation

Why did you enroll in this course? General interest in the topic		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Strongly Disagree	Count	81	52	133
	%	0.8%	0.6%	0.7%
Disagree	Count	54	31	85
	%	0.5%	0.4%	0.4%
Neither	Count	274	168	442
	%	2.6%	1.9%	2.3%
Agree	Count	4466	3547	8013
	%	43.0%	40.1%	41.7%
Strongly Agree	Count	5513	5039	10552
	%	53.1%	57.0%	54.9%
Total	Count	10388	8837	19225
	%	100.0%	100.0%	100.0%

Table A2.034

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	39.789[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 39.07.

Table A2.035

Crosstabulation

General interest in the topic		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	15	25	21	6	14	52	133
	%	2.3%	1.1%	0.5%	1.1%	0.5%	0.6%	0.7%
Disagree	Count	3	19	19	1	12	31	85
	%	0.5%	0.8%	0.5%	0.2%	0.4%	0.4%	0.4%
Neither	Count	21	95	85	4	69	168	442
	%	3.2%	4.1%	2.1%	0.7%	2.5%	1.9%	2.3%
Agree	Count	278	1120	1685	250	1133	3547	8013
	%	42.2%	47.9%	41.5%	45.0%	40.8%	40.1%	41.7%
Strongly Agree	Count	341	1077	2254	294	1547	5039	10552
	%	51.8%	46.1%	55.5%	53.0%	55.7%	57.0%	54.9%
Total	Count	658	2336	4064	555	2775	8837	19225
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.036

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	163.205[a]	20	.000

a. 4 cells (13.3%) have expected count less than 5. The minimum expected count is 2.45.

Part 10 – To help me decide whether to take further college/university classes

Table A2.037

Crosstabulation

To help me decide whether to take further college/university classes		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	1707	1432	3139
	%	16.6%	16.3%	16.5%
Disagree	Count	2285	1915	4200
	%	22.2%	21.8%	22.0%
Neither	Count	3383	2964	6347
	%	32.9%	33.7%	33.3%
Agree	Count	2043	1675	3718
	%	19.9%	19.0%	19.5%
Strongly Agree	Count	868	808	1676
	%	8.4%	9.2%	8.8%
Total	Count	10286	8794	19080
	%	100.0%	100.0%	100.0%

Table A2.038

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.288[a]	4	.179

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 772.47.

Table A2.039

Crosstabulation

To help me decide whether to take further college/university classes		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	79	286	792	78	472	1432	3139
	%	12.2%	12.4%	19.7%	14.1%	17.2%	16.3%	16.5%
Disagree	Count	109	474	1010	120	572	1915	4200
	%	16.8%	20.5%	25.1%	21.7%	20.8%	21.8%	22.0%
Neither	Count	201	780	1295	178	929	2964	6347
	%	31.1%	33.8%	32.1%	32.2%	33.8%	33.7%	33.3%
Agree	Count	170	554	680	133	506	1675	3718
	%	26.3%	24.0%	16.9%	24.1%	18.4%	19.0%	19.5%
Strongly Agree	Count	88	217	252	44	267	808	1676
	%	13.6%	9.4%	6.3%	8.0%	9.7%	9.2%	8.8%
Total	Count	647	2311	4029	553	2746	8794	19080
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.040

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	205.213[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 48.58.

Part 11 – To make professional connections

Table A2.041

Crosstabulation

To make professional connections		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	1281	1261	2542
	%	12.5%	14.3%	13.3%
Disagree	Count	1896	1899	3795
	%	18.4%	21.6%	19.9%
Neither	Count	3786	3630	7416
	%	36.8%	41.3%	38.9%
Agree	Count	2499	1573	4072
	%	24.3%	17.9%	21.3%
Strongly Agree	Count	818	437	1255
	%	8.0%	5.0%	6.6%
Total	Count	10280	8800	19080
	%	100.0%	100.0%	100.0%

Table A2.042

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	216.186[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 578.83.

Table A2.043

Crosstabulation

To make professional connections		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A	Total
Strongly Disagree	Count	41	230	594	87	329	1261	2542
	%	6.3%	10.0%	14.7%	15.7%	12.0%	14.3%	13.3%
Disagree	Count	63	341	918	133	441	1899	3795
	%	9.7%	14.8%	22.8%	24.0%	16.1%	21.6%	19.9%
Neither	Count	185	800	1502	241	1058	3630	7416
	%	28.5%	34.7%	37.3%	43.4%	38.6%	41.3%	38.9%
Agree	Count	222	686	830	79	682	1573	4072
	%	34.2%	29.8%	20.6%	14.2%	24.9%	17.9%	21.3%
Strongly Agree	Count	139	246	186	15	232	437	1255
	%	21.4%	10.7%	4.6%	2.7%	8.5%	5.0%	6.6%
Total	Count	650	2303	4030	555	2742	8800	19080
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.044

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	794.873[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 36.51.

Part 12 – To obtain a badge or certification that will be useful to me professionally

Table A2.045

Crosstabulation

To obtain a badge or certification that will be useful to me professionally		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	1086	1336	2422
	%	10.5%	15.2%	12.7%
Disagree	Count	1362	1705	3067
	%	13.2%	19.4%	16.0%
Neither	Count	2942	3089	6031
	%	28.5%	35.1%	31.5%
Agree	Count	3345	1935	5280
	%	32.4%	22.0%	27.6%
Strongly Agree	Count	1587	744	2331
	%	15.4%	8.4%	12.2%
Total	Count	10322	8809	19131
	%	100.0%	100.0%	100.0%

Table A2.046

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	633.455[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 1073.32.

Table A2.047

Crosstabulations

To obtain a badge or certification that will be useful to me professionally		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	41	181	497	77	290	1336	2422
	%	6.2%	7.8%	12.3%	13.9%	10.5%	15.2%	12.7%
Disagree	Count	36	272	623	111	320	1705	3067
	%	5.5%	11.7%	15.4%	20.0%	11.6%	19.4%	16.0%
Neither	Count	126	620	1193	193	810	3089	6031
	%	19.1%	26.7%	29.5%	34.8%	29.5%	35.1%	31.5%
Agree	Count	254	793	1291	138	869	1935	5280
	%	38.6%	34.2%	32.0%	24.9%	31.6%	22.0%	27.6%
Strongly Agree	Count	201	456	435	35	460	744	2331
	%	30.5%	19.6%	10.8%	6.3%	16.7%	8.4%	12.2%
Total	Count	658	2322	4039	554	2749	8809	19131
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.048

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1056.804[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 67.50.

P2 - Post-MOOC Survey

Q1 - Thinking back to your plans when you enrolled in this class, which of the following best describes your experience?

Table A2.049

Crosstabutation

Thinking back to your plans when you enrolled in this class, which of the following best describes your experience?		Does the participant consider the U.S. its primary residence?		Total
		No	Yes	
Less than planned	Count	352	350	702
	%	25.7%	31.2%	28.1%
As much as planned	Count	776	661	1437
	%	56.6%	58.9%	57.6%
More than planned	Count	244	111	355
	%	17.8%	9.9%	14.2%
Total	Count	1372	1122	2494
	%	100.0%	100.0%	100.0%

Table A2.050

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.322[a]	2	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 159.71.

Table A2.051

Crosstabulation

Thinking back to your plans when you enrolled in this class, which of the following best describes your experience?		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Less than planned	Count	22	64	139	21	106	350	702
	%	25.3%	25.0%	24.3%	28.8%	27.7%	31.2%	28.1%
As much as planned	Count	38	123	365	39	211	661	1437
	%	43.7%	48.0%	63.7%	53.4%	55.1%	58.9%	57.6%
More than planned	Count	27	69	69	13	66	111	355
	%	31.0%	27.0%	12.0%	17.8%	17.2%	9.9%	14.2%
Total	Count	87	256	573	73	383	1122	2494
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.052

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	85.839[a]	10	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.39.

P3 - International Participant MOOC Survey

Q7 - Which of these reasons most accurately reflects why you are currently participating in this MOOC?

Part 1 – Self-Improvement

Table A2.053

Crosstabulation

Self-Improvement		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No Response	Count	22	63	126	11	85	307
	%	16.3%	17.8%	17.9%	12.6%	19.3%	17.8%
Yes	Count	113	291	578	76	356	1414
	%	83.7%	82.2%	82.1%	87.4%	80.7%	82.2%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.054

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.443[a]	4	.655

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.52.

Part 2 – Improved Job Outlook

Table A2.055

Crosstabulation

Improved Job Outlook		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No Response	Count	76	255	499	64	318	1212
	%	56.3%	72.0%	70.9%	73.6%	72.1%	70.4%
Yes	Count	59	99	205	23	123	509
	%	43.7%	28.0%	29.1%	26.4%	27.9%	29.6%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.056

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.460[a]	4	.006

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.73.

Part 3 – Curiosity

Table A2.057

Crosstabulation

Curiosity		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas	Total
No Response	Count	101	177	313	40	259	890
	%	74.8%	50.0%	44.5%	46.0%	58.7%	51.7%
Yes	Count	34	177	391	47	182	831
	%	25.2%	50.0%	55.5%	54.0%	41.3%	48.3%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.058

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	53.942[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 42.01.

Part 4 – To Pass Time

Table A2.059

Crosstabulation

Boredom / To Pass Time		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No Response	Count	129	326	655	80	417	1607
	%	95.6%	92.1%	93.0%	92.0%	94.6%	93.4%
Yes	Count	6	28	49	7	24	114
	%	4.4%	7.9%	7.0%	8.0%	5.4%	6.6%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.060

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.392[a]	4	.495

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.76.

Q9 - How relevant is the completion of this MOOC to your employer?

Table A2.061

Completing the MOOC for the Employer

How relevant is the completion of this MOOC to your employer?					
Participants by global region (Collapsed)	Mean	N	Std. Deviation	Variance	Median
Africa	3.04	102	1.421	2.018	3.00
Asia	3.73	217	1.282	1.643	4.00
Europe	4.17	466	1.037	1.074	5.00
Oceania	4.16	58	1.197	1.432	5.00
Americas (W/o U.S.A.)	3.71	275	1.425	2.030	4.00
Total	3.87	1118	1.278	1.633	4.00

Table A2.062

ANOVA Table

How relevant is the completion of this MOOC to your employer?		Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)	128.090	4	32.023	21.011	.000
	Linearity	9.760	1	9.760	6.404	.012
	Deviation from Linearity	118.330	3	39.443	25.880	.000
Within Groups		1696.318	1113	1.524		
Total		1824.408	1117			

Table A2.063

Measures of Association

	R	R Squared	Eta	Eta Squared
How relevant is the completion of this MOOC to your employer? * Participants by global region (Collapsed)	.073	.005	.265	.070

Table A2.064

Crosstabulation

How relevant is the completion of this MOOC to your employer?		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
Very Relevant	Count	20	14	9	1	27	71
	%	19.6%	6.5%	1.9%	1.7%	9.8%	6.4%
Relevant	Count	17	31	30	9	42	129
	%	16.7%	14.3%	6.4%	15.5%	15.3%	11.5%
Moderately Relevant	Count	27	38	73	4	41	183
	%	26.5%	17.5%	15.7%	6.9%	14.9%	16.4%
Of Little Relevance	Count	15	51	115	10	38	229
	%	14.7%	23.5%	24.7%	17.2%	13.8%	20.5%
Not Relevant	Count	23	83	239	34	127	506
	%	22.5%	38.2%	51.3%	58.6%	46.2%	45.3%
Total	Count	102	217	466	58	275	1118
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.065

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	111.260[a]	16	.000

a. 1 cells (4.0%) have expected count less than 5. The minimum expected count is 3.68.

Q12 - How relevant are the contents of this course to your current employment or your current position?

Table A2.066

Crosstabulation

How relevant are the contents of this course to your current employment or your current position?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Relevant	Count	37	24	31	6	56	154
	%	36.3%	11.4%	6.7%	10.3%	20.9%	14.0%
Relevant	Count	24	44	65	10	55	198
	%	23.5%	20.9%	14.0%	17.2%	20.5%	18.0%
Moderately Relevant	Count	26	53	93	10	45	227
	%	25.5%	25.1%	20.1%	17.2%	16.8%	20.6%
Of Little Relevance	Count	7	42	119	10	39	217
	%	6.9%	19.9%	25.7%	17.2%	14.6%	19.7%
Not Relevant	Count	8	48	155	22	73	306
	%	7.8%	22.7%	33.5%	37.9%	27.2%	27.8%
Total	Count	102	211	463	58	268	1102
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.067

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	122.760[a]	16	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.11.

Q13 – How relevant are the contents of this course to your desired employment?

Table A2.068

Crosstabulation

How relevant are the contents of this course to your desired employment?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Relevant	Count	58	46	84	15	85	288
	%	46.8%	14.7%	13.3%	17.9%	22.1%	18.8%
Relevant	Count	34	85	145	19	98	381
	%	27.4%	27.2%	22.9%	22.6%	25.5%	24.8%
Moderately Relevant	Count	19	84	153	15	74	345
	%	15.3%	26.9%	24.2%	17.9%	19.3%	22.5%
Of Little Relevance	Count	8	51	113	10	57	239
	%	6.5%	16.3%	17.9%	11.9%	14.8%	15.6%
Not Relevant	Count	5	46	137	25	70	283
	%	4.0%	14.7%	21.7%	29.8%	18.2%	18.4%
Total	Count	124	312	632	84	384	1536
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.069

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	113.723[a]	16	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.07.

Q14 – How important are the following for your professional career?

Part 1 - Obtaining a Statement of Completion

Table A2.070

Crosstabulation

Obtaining a Statement of Completion		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Important	Count	50	68	70	14	87	289
	%	40.7%	22.0%	11.2%	16.7%	22.8%	19.0%
Important	Count	24	75	127	11	105	342
	%	19.5%	24.3%	20.3%	13.1%	27.6%	22.5%
Moderately Important	Count	26	62	134	12	56	290
	%	21.1%	20.1%	21.4%	14.3%	14.7%	19.0%
Of Little Importance	Count	12	44	121	25	51	253
	%	9.8%	14.2%	19.3%	29.8%	13.4%	16.6%
Not Important	Count	11	60	174	22	82	349
	%	8.9%	19.4%	27.8%	26.2%	21.5%	22.9%
Total	Count	123	309	626	84	381	1523
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.071

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	110.002[a]	16	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.95.

Part 2 - Obtaining a Passing Grade

Table A2.072

Crosstabulation

Obtaining a Passing Grade		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
Very	Count	42	62	67	16	85	272
Important	%	35.0%	20.3%	10.8%	19.0%	22.4%	18.0%
Important	Count	32	83	116	15	93	339
	%	26.7%	27.1%	18.6%	17.9%	24.5%	22.4%
Moderately	Count	24	58	119	10	63	274
Important	%	20.0%	19.0%	19.1%	11.9%	16.6%	18.1%
Of Little	Count	13	39	125	19	54	250
Importance	%	10.8%	12.7%	20.1%	22.6%	14.2%	16.5%
Not	Count	9	64	196	24	84	377
Important	%	7.5%	20.9%	31.5%	28.6%	22.2%	24.9%
Total	Count	120	306	623	84	379	1512
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* (W/o U.S.A.)

Table A2.073

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	96.645[a]	16	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.89.

Part 3 - Obtaining Academic Credit

Table A2.074

Crosstabulation

Obtaining Academic Credit		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
Very	Count	51	60	53	9	60	233
Important	%	42.1%	19.9%	8.5%	11.0%	16.0%	15.5%
Important	Count	27	57	89	9	71	253
	%	22.3%	18.9%	14.3%	11.0%	18.9%	16.8%
Moderately	Count	20	63	124	14	68	289
Important	%	16.5%	20.9%	19.9%	17.1%	18.1%	19.2%
Of Little	Count	9	44	129	24	70	276
Importance	%	7.4%	14.6%	20.7%	29.3%	18.7%	18.4%
Not	Count	14	77	228	26	106	451
Important	%	11.6%	25.6%	36.6%	31.7%	28.3%	30.0%
Total	Count	121	301	623	82	375	1502
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.075

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	131.952[a]	16	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.72.

Part 4 - Learning New Knowledge

Table A2.076

Crosstabulation

Learning New Knowledge		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
Very Important	Count	84	179	329	50	263	905
	%	68.9%	57.7%	52.1%	59.5%	68.7%	59.1%
Important	Count	29	79	150	15	62	335
	%	23.8%	25.5%	23.7%	17.9%	16.2%	21.9%
Moderately	Count	6	18	63	5	21	113
Important	%	4.9%	5.8%	10.0%	6.0%	5.5%	7.4%
Of Little	Count	2	11	24	3	10	50
Importance	%	1.6%	3.5%	3.8%	3.6%	2.6%	3.3%
Not Important	Count	1	23	66	11	27	128
	%	0.8%	7.4%	10.4%	13.1%	7.0%	8.4%
Total	Count	122	310	632	84	383	1531
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.077

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	49.582[a]	16	.000

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 2.74.

Part 5 - Reinforcing Prior Knowledge

Table A2.078

Crosstabulation

Reinforcing Prior Knowledge		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
Very	Count	70	128	229	36	193	656
Important	%	57.4%	41.8%	36.5%	42.9%	50.7%	43.2%
Important	Count	33	92	197	19	113	454
	%	27.0%	30.1%	31.4%	22.6%	29.7%	29.9%
Moderately	Count	13	40	87	11	32	183
Important	%	10.7%	13.1%	13.9%	13.1%	8.4%	12.0%
Of Little	Count	4	18	34	4	9	69
Importance	%	3.3%	5.9%	5.4%	4.8%	2.4%	4.5%
Not	Count	2	28	80	14	34	158
Important	%	1.6%	9.2%	12.8%	16.7%	8.9%	10.4%
Total	Count	122	306	627	84	381	1520
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.079

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	49.516[a]	16	.000

a. 1 cells (4.0%) have expected count less than 5. The minimum expected count is 3.81.

Q16 – How important is the Signature Track program for you?

Table A2.080

Crosstabulation

How important is the Signature Track program for you?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Very Important	Count	29	24	29	1	31	114
	%	23.8%	7.7%	4.6%	1.2%	8.1%	7.4%
Important	Count	25	23	51	5	45	149
	%	20.5%	7.4%	8.1%	6.0%	11.7%	9.7%
Moderately	Count	16	53	76	8	68	221
Important	%	13.1%	17.1%	12.0%	9.6%	17.8%	14.4%
Of Little	Count	11	68	124	14	58	275
Importance	%	9.0%	21.9%	19.6%	16.9%	15.1%	18.0%
Unimportant	Count	10	62	205	29	82	388
	%	8.2%	20.0%	32.4%	34.9%	21.4%	25.3%
Don't Know	Count	31	80	148	26	99	384
	%	25.4%	25.8%	23.4%	31.3%	25.8%	25.1%
Total	Count	122	310	633	83	383	1531
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.081

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	132.960[a]	20	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.18.

Q34 – Are you able to attend a course with similar content to this course near your current residence?

Table A2.082

Crosstabulation

Are you able to attend a course with similar content to this course near your current residence?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	38	88	163	20	149	458
	%	31.9%	29.5%	26.5%	24.1%	40.1%	30.8%
No	Count	81	210	451	63	223	1028
	%	68.1%	70.5%	73.5%	75.9%	59.9%	69.2%
Total	Count	119	298	614	83	372	1486
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A2.083

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.195[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.58.

RQ3 - Full Statistical Results

P1 - Post Survey

Q2 Did you find the course useful even though you completed less of it than you planned to?

Table A3.001

Crosstabulation

Did you find the course useful even though you completed less of it than you planned to?	Does the participant consider the U.S. its primary residence?		
	No	Yes	Total
Yes	299	291	590
	87.2%	86.1%	86.6%
No	44	47	91
	12.8%	13.9%	13.4%
Total	343	338	681

Table A3.002

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.171[a]	1	.680		
Fisher's Exact Test				.736	.382

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 45.17.

b. Computed only for a 2x2 table

Q3 what factors prevented you from completing this course? (Please rate how much you agree or disagree with each statement.)

Part 1 - Time commitment exceeded my ability

Table A3.003

Crosstabulation

Time commitment exceeded my ability		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	32	40	72
	%	9.3%	11.8%	10.5%
Disagree	Count	52	57	109
	%	15.1%	16.8%	16.0%
Neutral	Count	40	36	76
	%	11.6%	10.6%	11.1%
Agree	Count	132	119	251
	%	38.4%	35.1%	36.7%
Strongly Agree	Count	88	87	175
	%	25.6%	25.7%	25.6%
Total	Count	344	339	683
	%	100.0%	100.0%	100.0%

Table A3.004

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.971[a]	4	.741

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 35.74.

Table A3.005

Crosstabulation

Time commitment exceeded my ability		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	0	2	18	1	11	40	72
	%	0.0%	3.2%	13.1%	5.0%	10.7%	11.8%	10.5%
Disagree	Count	3	8	20	6	15	57	109
	%	13.6%	12.9%	14.6%	30.0%	14.6%	16.8%	16.0%
Neutral	Count	2	9	17	2	10	36	76
	%	9.1%	14.5%	12.4%	10.0%	9.7%	10.6%	11.1%
Agree	Count	12	28	42	10	40	119	251
	%	54.5%	45.2%	30.7%	50.0%	38.8%	35.1%	36.7%
Strongly Agree	Count	5	15	40	1	27	87	175
	%	22.7%	24.2%	29.2%	5.0%	26.2%	25.7%	25.6%
Total	Count	22	62	137	20	103	339	683
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.006

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.936[a]	20	.344

a. 6 cells (20.0%) have expected count less than 5. The minimum expected count is 2.11.

Table A3.007

Crosstabulation

Time commitment exceeded my ability		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	3	10	38	7	26	97	181
	%	13.6%	16.1%	27.7%	35.0%	25.2%	28.6%	26.5%
Neutral	Count	2	9	17	2	10	36	76
	%	9.1%	14.5%	12.4%	10.0%	9.7%	10.6%	11.1%
Agree	Count	17	43	82	11	67	206	426
	%	77.3%	69.4%	59.9%	55.0%	65.0%	60.8%	62.4%
Total	Count	22	62	137	20	103	339	683
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.008

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.199[a]	10	.609

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 2.23.

Part 2 - Lost interest on account of subject matter

Table A3.009

Crosstabulation

Lost interest on account of subject matter		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	166	181	347
	%	49.1%	53.7%	51.4%
Disagree	Count	104	93	197
	%	30.8%	27.6%	29.2%
Neutral	Count	30	23	53
	%	8.9%	6.8%	7.9%
Agree	Count	24	30	54
	%	7.1%	8.9%	8.0%
Strongly Agree	Count	14	10	24
	%	4.1%	3.0%	3.6%
Total	Count	338	337	675
	%	100.0%	100.0%	100.0%

Table A3.010

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.519[a]	4	.475

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.98.

Table A3.011

Crosstabulation

Lost interest on account of subject matter		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	12	24	69	6	55	181	347
	%	54.5%	40.0%	50.0%	30.0%	56.1%	53.7%	51.4%
Disagree	Count	7	25	36	9	27	93	197
	%	31.8%	41.7%	26.1%	45.0%	27.6%	27.6%	29.2%
Neutral	Count	2	5	12	2	9	23	53
	%	9.1%	8.3%	8.7%	10.0%	9.2%	6.8%	7.9%
Agree	Count	1	5	14	2	2	30	54
	%	4.5%	8.3%	10.1%	10.0%	2.0%	8.9%	8.0%
Strongly Agree	Count	0	1	7	1	5	10	24
	%	0.0%	1.7%	5.1%	5.0%	5.1%	3.0%	3.6%
Total	Count	22	60	138	20	98	337	675
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.012

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.255[a]	20	.442

a. 11 cells (36.7%) have expected count less than 5. The minimum expected count is .71.

Table A3.013

Crosstabulation

Lost interest on account of subject matter		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	19	49	105	15	82	274	544
	%	86.4%	81.7%	76.1%	75.0%	83.7%	81.3%	80.6%
Neutral	Count	2	5	12	2	9	23	53
	%	9.1%	8.3%	8.7%	10.0%	9.2%	6.8%	7.9%
Agree	Count	1	6	21	3	7	40	78
	%	4.5%	10.0%	15.2%	15.0%	7.1%	11.9%	11.6%
Total	Count	22	60	138	20	98	337	675
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.014

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.187[a]	10	.799

a. 5 cells (27.8%) have expected count less than 5. The minimum expected count is 1.57.

Part 3 - Lost interest on account of presentation and assessment style

Table A3.015

Crosstabulation

Lost interest on account of presentation and assessment style		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	166	156	322
	%	49.1%	46.3%	47.7%
Disagree	Count	85	87	172
	%	25.1%	25.8%	25.5%
Neutral	Count	37	23	60
	%	10.9%	6.8%	8.9%
Agree	Count	28	40	68
	%	8.3%	11.9%	10.1%
Strongly Agree	Count	22	31	53
	%	6.5%	9.2%	7.9%
Total	Count	338	337	675
	%	100.0%	100.0%	100.0%

Table A3.016

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.245[a]	4	.123

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 26.46.

Table A3.017

Crosstabulation

Lost interest on account of presentation and assessment style		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	11	19	78	4	54	156	322
	%	50.0%	31.7%	56.5%	20.0%	55.1%	46.3%	47.7%
Disagree	Count	7	25	25	9	19	87	172
	%	31.8%	41.7%	18.1%	45.0%	19.4%	25.8%	25.5%
Neutral	Count	4	7	8	3	15	23	60
	%	18.2%	11.7%	5.8%	15.0%	15.3%	6.8%	8.9%
Agree	Count	0	6	15	2	5	40	68
	%	0.0%	10.0%	10.9%	10.0%	5.1%	11.9%	10.1%
Strongly Agree	Count	0	3	12	2	5	31	53
	%	0.0%	5.0%	8.7%	10.0%	5.1%	9.2%	7.9%
Total	Count	22	60	138	20	98	337	675
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.018

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	45.116[a]	20	.001

a. 7 cells (23.3%) have expected count less than 5. The minimum expected count is 1.57.

Table A3.019

Crosstabulation

Lost interest on account of presentation and assessment style		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	18	44	103	13	73	243	494
	%	81.8%	73.3%	74.6%	65.0%	74.5%	72.1%	73.2%
Neutral	Count	4	7	8	3	15	23	60
	%	18.2%	11.7%	5.8%	15.0%	15.3%	6.8%	8.9%
Agree	Count	0	9	27	4	10	71	121
	%	0.0%	15.0%	19.6%	20.0%	10.2%	21.1%	17.9%
Total	Count	22	60	138	20	98	337	675
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.020

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.262[a]	10	.019

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is 1.78.

Part 4 - Got behind and could not catch up

Table A3.021

Crosstabulation

Got behind and could not catch up		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	51	65	116
	%	15.0%	19.3%	17.2%
Disagree	Count	46	43	89
	%	13.5%	12.8%	13.2%
Neutral	Count	46	43	89
	%	13.5%	12.8%	13.2%
Agree	Count	135	125	260
	%	39.7%	37.2%	38.5%
Strongly Agree	Count	62	60	122
	%	18.2%	17.9%	18.0%
Total	Count	340	336	676
	%	100.0%	100.0%	100.0%

Table A3.022

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.286[a]	4	.683

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 44.24.

Table A3.023

Crosstabulation

Got behind and could not catch up		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	2	5	31	3	10	65	116
	%	9.1%	8.2%	22.5%	15.0%	10.1%	19.3%	17.2%
Disagree	Count	0	8	18	3	17	43	89
	%	0.0%	13.1%	13.0%	15.0%	17.2%	12.8%	13.2%
Neutral	Count	5	11	15	3	12	43	89
	%	22.7%	18.0%	10.9%	15.0%	12.1%	12.8%	13.2%
Agree	Count	13	24	53	5	40	125	260
	%	59.1%	39.3%	38.4%	25.0%	40.4%	37.2%	38.5%
Strongly Agree	Count	2	13	21	6	20	60	122
	%	9.1%	21.3%	15.2%	30.0%	20.2%	17.9%	18.0%
Total	Count	22	61	138	20	99	336	676
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.024

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.773[a]	20	.210

a. 8 cells (26.7%) have expected count less than 5. The minimum expected count is 2.63.

Table A3.025

Crosstabulation

Got behind and could not catch up		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	2	13	49	6	27	108	205
	%	9.1%	21.3%	35.5%	30.0%	27.3%	32.1%	30.3%
Neutral	Count	5	11	15	3	12	43	89
	%	22.7%	18.0%	10.9%	15.0%	12.1%	12.8%	13.2%
Agree	Count	15	37	74	11	60	185	382
	%	68.2%	60.7%	53.6%	55.0%	60.6%	55.1%	56.5%
Total	Count	22	61	138	20	99	336	676
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.026

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.490[a]	10	.321

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 2.63.

Part 5 - Began taking another course

Table A3.027

Crosstabulation

Began taking another course		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	139	190	329
	%	41.4%	56.5%	49.0%
Disagree	Count	49	60	109
	%	14.6%	17.9%	16.2%
Neutral	Count	48	34	82
	%	14.3%	10.1%	12.2%
Agree	Count	75	35	110
	%	22.3%	10.4%	16.4%
Strongly Agree	Count	25	17	42
	%	7.4%	5.1%	6.3%
Total	Count	336	336	672
	%	100.0%	100.0%	100.0%

Table A3.028

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	27.475[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.00.

Table A3.029

Crosstabulation

Began taking another course		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	8	16	61	8	46	190	329
	%	36.4%	26.7%	44.9%	40.0%	46.9%	56.5%	49.0%
Disagree	Count	4	10	17	5	13	60	109
	%	18.2%	16.7%	12.5%	25.0%	13.3%	17.9%	16.2%
Neutral	Count	3	9	23	4	9	34	82
	%	13.6%	15.0%	16.9%	20.0%	9.2%	10.1%	12.2%
Agree	Count	4	20	28	3	20	35	110
	%	18.2%	33.3%	20.6%	15.0%	20.4%	10.4%	16.4%
Strongly Agree	Count	3	5	7	0	10	17	42
	%	13.6%	8.3%	5.1%	0.0%	10.2%	5.1%	6.3%
Total	Count	22	60	136	20	98	336	672
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.030

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	48.113[a]	20	.000

a. 9 cells (30.0%) have expected count less than 5. The minimum expected count is 1.25.

Table A3.031

Crosstabulation

Began taking another course		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	12	26	78	13	59	250	438
	%	54.5%	43.3%	57.4%	65.0%	60.2%	74.4%	65.2%
Neutral	Count	3	9	23	4	9	34	82
	%	13.6%	15.0%	16.9%	20.0%	9.2%	10.1%	12.2%
Agree	Count	7	25	35	3	30	52	152
	%	31.8%	41.7%	25.7%	15.0%	30.6%	15.5%	22.6%
Total	Count	22	60	136	20	98	336	672
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.032

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	38.521[a]	10	.000

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is 2.44.

Q4 - Would the following have made you more likely to complete the class? (Please rate how much you agree or disagree with each statement.)

Part 1 - Reducing the weekly time commitment needed to take the course

Table A3.033

Crosstabulation

Reducing the weekly time commitment needed to take the course		Does the participant consider the U.S. its primary residence?		
		No	Yes	Total
Strongly Disagree	Count	47	70	117
	%	13.7%	20.5%	17.1%
Disagree	Count	82	101	183
	%	24.0%	29.6%	26.8%
Neutral	Count	65	72	137
	%	19.0%	21.1%	20.1%
Agree	Count	117	84	201
	%	34.2%	24.6%	29.4%
Strongly Agree	Count	31	14	45
	%	9.1%	4.1%	6.6%
Total	Count	342	341	683
	%	100.0%	100.0%	100.0%

Table A3.034

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.690[a]	4	.001

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.47.

Table A3.035

Crosstabulation

Reducing the weekly time commitment needed to take the course		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	3	3	25	3	13	70	117
	%	13.6%	4.8%	18.2%	15.0%	12.9%	20.5%	17.1%
Disagree	Count	7	11	30	6	28	101	183
	%	31.8%	17.7%	21.9%	30.0%	27.7%	29.6%	26.8%
Neutral	Count	6	15	24	4	16	72	137
	%	27.3%	24.2%	17.5%	20.0%	15.8%	21.1%	20.1%
Agree	Count	5	22	48	5	37	84	201
	%	22.7%	35.5%	35.0%	25.0%	36.6%	24.6%	29.4%
Strongly Agree	Count	1	11	10	2	7	14	45
	%	4.5%	17.7%	7.3%	10.0%	6.9%	4.1%	6.6%
Total	Count	22	62	137	20	101	341	683
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.036

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	38.888[a]	20	.007

a. 7 cells (23.3%) have expected count less than 5. The minimum expected count is 1.32.

Table A3.037

Crosstabulation

Reducing the weekly time commitment needed to take the course		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	10	14	55	9	41	171	300
	%	45.5%	22.6%	40.1%	45.0%	40.6%	50.1%	43.9%
Neutral	Count	6	15	24	4	16	72	137
	%	27.3%	24.2%	17.5%	20.0%	15.8%	21.1%	20.1%
Agree	Count	6	33	58	7	44	98	246
	%	27.3%	53.2%	42.3%	35.0%	43.6%	28.7%	36.0%
	Count	22	62	137	20	101	341	683
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.038

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26.480[a]	10	.003

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 4.01.

Part 2 - Making the course material easier

Table A3.039

Crosstabulation

Making the course material easier		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	105	134	239
	%	31.2%	39.4%	35.3%
Disagree	Count	123	141	264
	%	36.5%	41.5%	39.0%
Neutral	Count	62	44	106
	%	18.4%	12.9%	15.7%
Agree	Count	34	17	51
	%	10.1%	5.0%	7.5%
Strongly Agree	Count	13	4	17
	%	3.9%	1.2%	2.5%
Total	Count	337	340	677
	%	100.0%	100.0%	100.0%

Table A3.040

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.221[a]	4	.001

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.46.

Table A3.041

Crosstabulation

Making the course material easier		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	4	10	52	6	33	134	239
	%	19.0%	16.1%	38.2%	30.0%	33.7%	39.4%	35.3%
Disagree	Count	11	21	46	8	37	141	264
	%	52.4%	33.9%	33.8%	40.0%	37.8%	41.5%	39.0%
Neutral	Count	5	13	25	3	16	44	106
	%	23.8%	21.0%	18.4%	15.0%	16.3%	12.9%	15.7%
Agree	Count	1	10	10	3	10	17	51
	%	4.8%	16.1%	7.4%	15.0%	10.2%	5.0%	7.5%
Strongly Agree	Count	0	8	3	0	2	4	17
	%	0.0%	12.9%	2.2%	0.0%	2.0%	1.2%	2.5%
Total	Count	21	62	136	20	98	340	677
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.042

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	59.249[a]	20	.000

a. 10 cells (33.3%) have expected count less than 5. The minimum expected count is .50.

Table A3.043

Crosstabulation

Making the course material easier		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	15	31	98	14	70	275	503
	%	71.4%	50.0%	72.1%	70.0%	71.4%	80.9%	74.3%
Neutral	Count	5	13	25	3	16	44	106
	%	23.8%	21.0%	18.4%	15.0%	16.3%	12.9%	15.7%
Agree	Count	1	18	13	3	12	21	68
	%	4.8%	29.0%	9.6%	15.0%	12.2%	6.2%	10.0%
Total	Count	21	62	136	20	98	340	677
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.044

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	40.368[a]	10	.000

a. 4 cells (22.2%) have expected count less than 5. The minimum expected count is 2.01.

Part 3 – Making the course material more difficult

Table A3.045

Crosstabulation

Making the course material more difficult		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	78	90	168
	%	23.3%	26.4%	24.9%
Disagree	Count	128	121	249
	%	38.2%	35.5%	36.8%
Neutral	Count	96	84	180
	%	28.7%	24.6%	26.6%
Agree	Count	25	38	63
	%	7.5%	11.1%	9.3%
Strongly Agree	Count	8	8	16
	%	2.4%	2.3%	2.4%
Total	Count	335	341	676
	%	100.0%	100.0%	100.0%

Table A3.046

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.484[a]	4	.345

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.93.

Table A3.047

Crosstabulation

Making the course material more difficult		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	3	12	40	1	22	90	168
	%	14.3%	19.7%	29.4%	5.0%	22.7%	26.4%	24.9%
Disagree	Count	8	23	47	11	39	121	249
	%	38.1%	37.7%	34.6%	55.0%	40.2%	35.5%	36.8%
Neutral	Count	9	23	33	3	28	84	180
	%	42.9%	37.7%	24.3%	15.0%	28.9%	24.6%	26.6%
Agree	Count	1	2	11	4	7	38	63
	%	4.8%	3.3%	8.1%	20.0%	7.2%	11.1%	9.3%
Strongly Agree	Count	0	1	5	1	1	8	16
	%	0.0%	1.6%	3.7%	5.0%	1.0%	2.3%	2.4%
Total	Count	21	61	136	20	97	341	676
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.048

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.916[a]	20	.169

a. 8 cells (26.7%) have expected count less than 5. The minimum expected count is .47.

Table A3.049

Crosstabulation

Making the course material more difficult		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	11	35	87	12	61	211	417
	%	52.4%	57.4%	64.0%	60.0%	62.9%	61.9%	61.7%
Neutral	Count	9	23	33	3	28	84	180
	%	42.9%	37.7%	24.3%	15.0%	28.9%	24.6%	26.6%
Agree	Count	1	3	16	5	8	46	79
	%	4.8%	4.9%	11.8%	25.0%	8.2%	13.5%	11.7%
Total	Count	21	61	136	20	97	341	676
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.050

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.726[a]	10	.108

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 2.34.

Part 4 – Making the credential more valuable

Table A3.051

Crosstabulation

Making the credential more valuable		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	69	93	162
	%	20.5%	27.4%	24.0%
Disagree	Count	85	85	170
	%	25.3%	25.0%	25.1%
Neutral	Count	104	91	195
	%	31.0%	26.8%	28.8%
Agree	Count	60	61	121
	%	17.9%	17.9%	17.9%
Strongly Agree	Count	18	10	28
	%	5.4%	2.9%	4.1%
Total	Count	336	340	676
	%	100.0%	100.0%	100.0%

Table A3.052

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.693[a]	4	.153

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.92.

Table A3.053

Crosstabulation

Making the credential more valuable		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	0	3	40	5	21	93	162
	%	0.0%	4.9%	29.4%	25.0%	21.4%	27.4%	24.0%
Disagree	Count	9	13	31	6	26	85	170
	%	42.9%	21.3%	22.8%	30.0%	26.5%	25.0%	25.1%
Neutral	Count	7	21	45	3	28	91	195
	%	33.3%	34.4%	33.1%	15.0%	28.6%	26.8%	28.8%
Agree	Count	5	20	17	4	14	61	121
	%	23.8%	32.8%	12.5%	20.0%	14.3%	17.9%	17.9%
Strongly Agree	Count	0	4	3	2	9	10	28
	%	0.0%	6.6%	2.2%	10.0%	9.2%	2.9%	4.1%
Total	Count	21	61	136	20	98	340	676
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.054

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	47.645[a]	20	.000

a. 7 cells (23.3%) have expected count less than 5. The minimum expected count is .83.

Table A3.055

Crosstabulation

Making the credential more valuable		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	9	16	71	11	47	178	332
	%	42.9%	26.2%	52.2%	55.0%	48.0%	52.4%	49.1%
Neutral	Count	7	21	45	3	28	91	195
	%	33.3%	34.4%	33.1%	15.0%	28.6%	26.8%	28.8%
Agree	Count	5	24	20	6	23	71	149
	%	23.8%	39.3%	14.7%	30.0%	23.5%	20.9%	22.0%
Total	Count	21	61	136	20	98	340	676
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.056

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	23.835[a]	10	.008

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 4.41.

Part 5 - Making course shorter

Table A3.057

Crosstabulation

Making course shorter		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	79	98	177
	%	23.4%	28.8%	26.1%
Disagree	Count	108	123	231
	%	32.0%	36.2%	34.1%
Neutral	Count	96	82	178
	%	28.5%	24.1%	26.3%
Agree	Count	46	29	75
	%	13.6%	8.5%	11.1%
Strongly Agree	Count	8	8	16
	%	2.4%	2.4%	2.4%
Total	Count	337	340	677
	%	100.0%	100.0%	100.0%

Table A3.058

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.955[a]	4	.093

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.96.

Table A3.059

Crosstabulation

Making course shorter		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	2	6	40	7	24	98	177
	%	9.5%	9.7%	29.4%	35.0%	24.5%	28.8%	26.1%
Disagree	Count	12	18	37	7	34	123	231
	%	57.1%	29.0%	27.2%	35.0%	34.7%	36.2%	34.1%
Neutral	Count	5	18	46	5	22	82	178
	%	23.8%	29.0%	33.8%	25.0%	22.4%	24.1%	26.3%
Agree	Count	1	17	12	1	15	29	75
	%	4.8%	27.4%	8.8%	5.0%	15.3%	8.5%	11.1%
Strongly Agree	Count	1	3	1	0	3	8	16
	%	4.8%	4.8%	0.7%	0.0%	3.1%	2.4%	2.4%
Total	Count	21	62	136	20	98	340	677
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.060

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	46.134[a]	20	.001

a. 7 cells (23.3%) have expected count less than 5. The minimum expected count is .47.

Table A3.061

Crosstabulation

Making course shorter		Participants by global region (Collapsed)						Total
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	
Disagree	Count	14	24	77	14	58	221	408
	%	66.7%	38.7%	56.6%	70.0%	59.2%	65.0%	60.3%
Neutral	Count	5	18	46	5	22	82	178
	%	23.8%	29.0%	33.8%	25.0%	22.4%	24.1%	26.3%
Agree	Count	2	20	13	1	18	37	91
	%	9.5%	32.3%	9.6%	5.0%	18.4%	10.9%	13.4%
Total	Count	21	62	136	20	98	340	677
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.062

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.739[a]	10	.000

a. 2 cells (11.1%) have expected count less than 5. The minimum expected count is 2.69.

Q6 - To what degree do you agree or disagree with the following statements about this course and instructor?

Part 1 - The instructor presented the subject matter clearly.

Table A3.063

Crosstabulation

The instructor presented the subject matter clearly.		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	13	8	21
	%	0.9%	0.7%	0.8%
Disagree	Count	10	8	18
	%	0.7%	0.7%	0.7%
Somewhat Disagree	Count	33	21	54
	%	2.4%	1.9%	2.1%
Somewhat Agree	Count	69	59	128
	%	4.9%	5.2%	5.1%
Agree	Count	494	372	866
	%	35.4%	33.1%	34.4%
Strongly Agree	Count	777	657	1434
	%	55.7%	58.4%	56.9%
Total	Count	1396	1125	2521
	%	100.0%	100.0%	100.0%

Table A3.064

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.992[a]	5	.701

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.03.

Table A3.065

Crosstabulation

The instructor presented the subject matter clearly.		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	0	3	5	0	5	8	21
	%	0.0%	1.1%	0.9%	0.0%	1.3%	0.7%	0.8%
Disagree	Count	0	2	7	1	0	8	18
	%	0.0%	0.8%	1.2%	1.4%	0.0%	0.7%	0.7%
Somewhat Disagree	Count	1	9	13	2	8	21	54
	%	1.1%	3.4%	2.2%	2.7%	2.0%	1.9%	2.1%
Somewhat Agree	Count	1	28	25	4	11	59	128
	%	1.1%	10.6%	4.3%	5.4%	2.8%	5.2%	5.1%
Agree	Count	36	106	205	24	123	372	866
	%	40.4%	40.3%	35.4%	32.4%	31.5%	33.1%	34.4%
Strongly Agree	Count	51	115	324	43	244	657	1434
	%	57.3%	43.7%	56.0%	58.1%	62.4%	58.4%	56.9%
Total	Count	89	263	579	74	391	1125	2521
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.066

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	51.223[a]	25	.002

a. 14 cells (38.9%) have expected count less than 5. The minimum expected count is .53.

Table A3.067

Crosstabulation

The instructor presented the subject matter clearly		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	1	14	25	3	13	37	93
	%	1.1%	5.3%	4.3%	4.1%	3.3%	3.3%	3.7%
Agree	Count	88	249	554	71	378	1088	2428
	%	98.9%	94.7%	95.7%	95.9%	96.7%	96.7%	96.3%
Total	Count	89	263	579	74	391	1125	2521
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.068

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.950[a]	5	.422

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.73.

Part 2 - The instructor(s), course staff, and/or automated course materials provided feedback intended to improve my course performance.

Table A3.069

Crosstabulation

The instructor provided feedback intended to improve my course performance.		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	20	28	48
	%	1.4%	2.5%	1.9%
Disagree	Count	36	38	74
	%	2.6%	3.4%	3.0%
Somewhat Disagree	Count	78	74	152
	%	5.6%	6.7%	6.1%
Somewhat Agree	Count	249	203	452
	%	18.0%	18.3%	18.1%
Agree	Count	541	386	927
	%	39.1%	34.8%	37.2%
Strongly Agree	Count	460	381	841
	%	33.2%	34.3%	33.7%
Total	Count	1384	1110	2494
	%	100.0%	100.0%	100.0%

Table A3.070

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.524[a]	5	.090

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.36.

Table A3.071

Crosstabulation

The instructor provided feedback intended to improve my course performance.		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	1	3	9	0	7	28	48
	%	1.1%	1.1%	1.6%	0.0%	1.8%	2.5%	1.9%
Disagree	Count	0	8	18	4	6	38	74
	%	0.0%	3.0%	3.1%	5.6%	1.5%	3.4%	3.0%
Somewhat Disagree	Count	0	19	37	4	18	74	152
	%	0.0%	7.2%	6.5%	5.6%	4.6%	6.7%	6.1%
Somewhat Agree	Count	9	67	98	18	57	203	452
	%	10.1%	25.5%	17.1%	25.0%	14.7%	18.3%	18.1%
Agree	Count	48	93	221	27	152	386	927
	%	53.9%	35.4%	38.6%	37.5%	39.2%	34.8%	37.2%
Strongly Agree	Count	31	73	189	19	148	381	841
	%	34.8%	27.8%	33.0%	26.4%	38.1%	34.3%	33.7%
Total	Count	89	263	572	72	388	1110	2494
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.072

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	52.370[a]	25	.001

a. 5 cells (13.9%) have expected count less than 5. The minimum expected count is 1.39.

Table A3.073

Crosstabulation

The instructor provided feedback intended to improve my course performance		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	1	30	64	8	31	140	274
	%	1.1%	11.4%	11.2%	11.1%	8.0%	12.6%	11.0%
Agree	Count	88	233	508	64	357	970	2220
	%	98.9%	88.6%	88.8%	88.9%	92.0%	87.4%	89.0%
Total	Count	89	263	572	72	388	1110	2494
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.074

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.490[a]	5	.008

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.91.

Part 3 - I have a deeper understanding of the subject matter as a result of this course.

Table A3.075

Crosstabulation

I have a deeper understanding of the subject matter as a result of this course.		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	25	17	42
	%	1.8%	1.5%	1.7%
Disagree	Count	27	29	56
	%	1.9%	2.6%	2.2%
Somewhat Disagree	Count	42	33	75
	%	3.0%	2.9%	3.0%
Somewhat Agree	Count	192	136	328
	%	13.8%	12.1%	13.0%
Agree	Count	497	316	813
	%	35.7%	28.1%	32.3%
Strongly Agree	Count	610	593	1203
	%	43.8%	52.8%	47.8%
Total	Count	1393	1124	2517
	%	100.0%	100.0%	100.0%

Table A3.076

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.302[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 18.76.

Table A3.077

Crosstabulation

I have a deeper understanding of the subject matter as a result of this course.		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	0	5	11	1	8	17	42
	%	0.0%	1.9%	1.9%	1.4%	2.0%	1.5%	1.7%
Disagree	Count	0	6	16	1	4	29	56
	%	0.0%	2.3%	2.8%	1.4%	1.0%	2.6%	2.2%
Somewhat Disagree	Count	4	9	15	3	11	33	75
	%	4.5%	3.4%	2.6%	4.1%	2.8%	2.9%	3.0%
Somewhat Agree	Count	11	48	70	10	53	136	328
	%	12.4%	18.2%	12.2%	13.5%	13.6%	12.1%	13.0%
Agree	Count	36	101	204	24	132	316	813
	%	40.4%	38.3%	35.5%	32.4%	33.8%	28.1%	32.3%
Strongly Agree	Count	38	95	259	35	183	593	1203
	%	42.7%	36.0%	45.0%	47.3%	46.8%	52.8%	47.8%
Total	Count	89	264	575	74	391	1124	2517
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.078

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	44.410[a]	25	.010

a. 7 cells (19.4%) have expected count less than 5. The minimum expected count is 1.23.

Table A3.079

Crosstabulation

I have a deeper understanding of the subject matter as a result of this course.		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	4	20	42	5	23	79	173
	%	4.5%	7.6%	7.3%	6.8%	5.9%	7.0%	6.9%
Agree	Count	85	244	533	69	368	1045	2344
	%	95.5%	92.4%	92.7%	93.2%	94.1%	93.0%	93.1%
Total	Count	89	264	575	74	391	1124	2517
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A3.080

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.801[a]	5	.876

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.09.

Part 4 - My interest in the subject matter was stimulated by this course.

Table A3.081

Crosstabulation

My interest in the subject matter was stimulated by this course.		Does the participant consider the U.S. its primary residence? No	Yes	Total
Strongly Disagree	Count	35	26	61
	%	2.5%	2.3%	2.4%
Disagree	Count	44	38	82
	%	3.2%	3.4%	3.3%
Somewhat Disagree	Count	45	35	80
	%	3.2%	3.1%	3.2%
Somewhat Agree	Count	195	151	346
	%	14.0%	13.4%	13.8%
Agree	Count	467	333	800
	%	33.5%	29.7%	31.8%
Strongly Agree	Count	606	540	1146
	%	43.5%	48.1%	45.6%
Total	Count	1392	1123	2515
	%	100.0%	100.0%	100.0%

Table A3.082

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.157[a]	5	.291

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 27.24.

Table A3.083

Crosstabulation

My interest in the subject matter was stimulated by this course.		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Strongly Disagree	Count	0	6	18	3	8	26	61
	%	0.0%	2.3%	3.1%	4.1%	2.0%	2.3%	2.4%
Disagree	Count	2	10	18	3	11	38	82
	%	2.3%	3.8%	3.1%	4.1%	2.8%	3.4%	3.3%
Somewhat Disagree	Count	0	5	24	4	12	35	80
	%	0.0%	1.9%	4.2%	5.4%	3.1%	3.1%	3.2%
Somewhat Agree	Count	14	44	79	11	47	151	346
	%	15.9%	16.7%	13.7%	14.9%	12.0%	13.4%	13.8%
Agree	Count	29	97	203	19	119	333	800
	%	33.0%	36.9%	35.2%	25.7%	30.4%	29.7%	31.8%
Strongly Agree	Count	43	101	234	34	194	540	1146
	%	48.9%	38.4%	40.6%	45.9%	49.6%	48.1%	45.6%
Total	Count	88	263	576	74	391	1123	2515
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.084

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.747[a]	25	.165

a. 6 cells (16.7%) have expected count less than 5. The minimum expected count is 1.79.

Table A3.085

Crosstabulation

My interest in the subject matter was stimulated by this course.		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Disagree	Count	2	21	60	10	31	99	223
	%	2.3%	8.0%	10.4%	13.5%	7.9%	8.8%	8.9%
Agree	Count	86	242	516	64	360	1024	2292
	%	97.7%	92.0%	89.6%	86.5%	92.1%	91.2%	91.1%
Total	Count	88	263	576	74	391	1123	2515
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A3.086

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.108[a]	5	.105

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.56.

Q8 – Compared to other MOOCs/online courses I have taken, the amount I learned in this course is:

Table A3.087

Crosstabulation

Compared to other MOOCs/online courses I have taken, the amount I learned in this course is:		Does the participant consider the U.S. its primary residence? No	Yes	Total
Less	Count	193	125	318
	%	20.7%	20.2%	20.5%
Same	Count	440	279	719
	%	47.3%	45.1%	46.4%
More	Count	298	214	512
	%	32.0%	34.6%	33.1%
Total	Count	931	618	1549
	%	100.0%	100.0%	100.0%

Table A3.088

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.175[a]	2	.556

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 126.87.

Table A3.089

Crosstabulation

Compared to other MOOCs/online courses I have taken, the amount I learned in this course is:		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Less	Count	6	43	89	14	41	125	318
	%	9.2%	22.2%	22.6%	29.2%	17.7%	20.2%	20.5%
Same	Count	30	95	183	21	111	279	719
	%	46.2%	49.0%	46.6%	43.8%	48.1%	45.1%	46.4%
More	Count	29	56	121	13	79	214	512
	%	44.6%	28.9%	30.8%	27.1%	34.2%	34.6%	33.1%
Total	Count	65	194	393	48	231	618	1549
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A3.090

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.832[a]	10	.181

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.85.

Q9 – Compared to other MOOCs/online courses I have taken, the difficulty of this course is:

Table A3.091

Crosstabulation

Compared to other MOOCs/online courses I have taken, the difficulty of this course is:		Does the participant consider the U.S. its primary residence? No	Yes	Total
Less	Count	336	194	530
	%	35.9%	31.5%	34.1%
Same	Count	439	329	768
	%	46.9%	53.4%	49.5%
More	Count	161	93	254
	%	17.2%	15.1%	16.4%
Total	Count	936	616	1552
	%	100.0%	100.0%	100.0%

Table A3.092

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.293[a]	2	.043

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 100.81.

Table A3.093

Crosstabulation

Compared to other MOOCs/online courses I have taken, the difficulty of this course is:		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Less	Count	26	87	134	15	74	194	530
	%	39.4%	44.4%	33.8%	31.3%	32.2%	31.5%	34.1%
Same	Count	30	85	186	23	115	329	768
	%	45.5%	43.4%	47.0%	47.9%	50.0%	53.4%	49.5%
More	Count	10	24	76	10	41	93	254
	%	15.2%	12.2%	19.2%	20.8%	17.8%	15.1%	16.4%
Total	Count	66	196	396	48	230	616	1552
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.094

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.887[a]	10	.057

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.86.

Q10 – To what degree did each of the following features/components of this course contribute to your learning?

Part 1 - Video content (lectures, discussions, etc.)

Table A3.095

Crosstabulation

Video content (lectures, discussions, etc)		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	12	18	30
	%	0.9%	1.6%	1.2%
Small degree	Count	64	49	113
	%	4.7%	4.4%	4.5%
Moderate degree	Count	209	174	383
	%	15.2%	15.6%	15.4%
Large degree	Count	1087	873	1960
	%	79.2%	78.4%	78.8%
Total	Count	1372	1114	2486
	%	100.0%	100.0%	100.0%

Table A3.096

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	3.012[a]	3	.390

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.44.

Table A3.097

Crosstabulation

Video content (lectures, discussions, etc)		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	1	3	4	2	2	18	30
	%	1.1%	1.2%	0.7%	2.8%	0.5%	1.6%	1.2%
Small degree	Count	5	14	26	3	16	49	113
	%	5.7%	5.4%	4.6%	4.2%	4.2%	4.4%	4.5%
Moderate degree	Count	7	52	89	9	52	174	383
	%	8.0%	20.2%	15.6%	12.5%	13.5%	15.6%	15.4%
Large degree	Count	74	189	452	58	314	873	1960
	%	85.1%	73.3%	79.2%	80.6%	81.8%	78.4%	78.8%
Total	Count	87	258	571	72	384	1114	2486
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.098

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.720[a]	15	.336

a. 6 cells (25.0%) have expected count less than 5. The minimum expected count is .87.

Table A3.099

Crosstabulation

Video content (lectures, discussions, etc)		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
None to Low	Count	6	17	30	5	18	67	143
	%	6.9%	6.6%	5.3%	6.9%	4.7%	6.0%	5.8%
Moderate to High	Count	81	241	541	67	366	1047	2343
	%	93.1%	93.4%	94.7%	93.1%	95.3%	94.0%	94.2%
	Count	87	258	571	72	384	1114	2486
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.100

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.938[a]	5	.858

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 4.14.

Part 2 - Assigned readings

Table A3.101

Crosstabulation

Assigned readings		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	46	58	104
	%	3.6%	5.8%	4.6%
Small degree	Count	139	117	256
	%	10.9%	11.7%	11.3%
Moderate degree	Count	324	284	608
	%	25.4%	28.5%	26.7%
Large degree	Count	768	539	1307
	%	60.1%	54.0%	57.5%
Total	Count	1277	998	2275
	%	100.0%	100.0%	100.0%

Table A3.102

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.995[a]	3	.007

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 45.62.

Table A3.103

Crosstabulation

Assigned readings		Participants by global region (Collapsed)						Total
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	
Not at all	Count	3	9	26	3	5	58	104
	%	3.7%	3.6%	5.0%	4.5%	1.4%	5.8%	4.6%
Small degree	Count	9	26	63	4	37	117	256
	%	11.0%	10.5%	12.2%	6.1%	10.2%	11.7%	11.3%
Moderate degree	Count	18	71	138	21	76	284	608
	%	22.0%	28.6%	26.7%	31.8%	20.9%	28.5%	26.7%
Large degree	Count	52	142	290	38	246	539	1307
	%	63.4%	57.3%	56.1%	57.6%	67.6%	54.0%	57.5%
Total	Count	82	248	517	66	364	998	2275
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.104

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.754[a]	15	.007

a. 2 cells (8.3%) have expected count less than 5. The minimum expected count is 3.02.

Table A3.105

Crosstabulation

Assigned readings		Participants by global region (Collapsed)						Total
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	
None to Low	Count	12	35	89	7	42	175	360
	%	14.6%	14.1%	17.2%	10.6%	11.5%	17.5%	15.8%
Moderate to High	Count	70	213	428	59	322	823	1915
	%	85.4%	85.9%	82.8%	89.4%	88.5%	82.5%	84.2%
Total	Count	82	248	517	66	364	998	2275
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.106

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.944[a]	5	.077

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.44.

Part 3 – Practice assignments/tests

Table A3.107

Crosstabulation

Practice assignments / tests		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	68	75	143
	%	5.2%	7.2%	6.1%
Small degree	Count	167	200	367
	%	12.7%	19.2%	15.6%
Moderate degree	Count	440	370	810
	%	33.5%	35.5%	34.4%
Large degree	Count	638	398	1036
	%	48.6%	38.2%	44.0%
Total	Count	1313	1043	2356
	%	100.0%	100.0%	100.0%

Table A3.108

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.468[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 63.31.

Table A3.109

Crosstabulation

Practice assignments/tests		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	1	9	31	5	22	75	143
	%	1.2%	3.5%	5.7%	7.2%	6.1%	7.2%	6.1%
Small degree	Count	11	37	68	9	42	200	367
	%	13.1%	14.6%	12.5%	13.0%	11.6%	19.2%	15.6%
Moderate degree	Count	20	81	194	26	119	370	810
	%	23.8%	31.9%	35.7%	37.7%	32.8%	35.5%	34.4%
Large degree	Count	52	127	250	29	180	398	1036
	%	61.9%	50.0%	46.0%	42.0%	49.6%	38.2%	44.0%
Total	Count	84	254	543	69	363	1043	2356
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.110

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	48.618[a]	15	.000

a. 1 cells (4.2%) have expected count less than 5. The minimum expected count is 4.19.

Practice assignments/tests		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
None to Low	Count	12	46	99	14	64	275	510
	%	14.3%	18.1%	18.2%	20.3%	17.6%	26.4%	21.6%
Moderate to High	Count	72	208	444	55	299	768	1846
	%	85.7%	81.9%	81.8%	79.7%	82.4%	73.6%	78.4%
Total	Count	84	254	543	69	363	1043	2356
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.111

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	25.513[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.94.

Part 4 – Interactions with instructor/TAs

Table A3.112

Crosstabulation

Interactions with instructor/TAs		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	370	422	792
	%	29.8%	42.5%	35.4%
Small degree	Count	371	285	656
	%	29.9%	28.7%	29.3%
Moderate degree	Count	308	184	492
	%	24.8%	18.5%	22.0%
Large degree	Count	193	103	296
	%	15.5%	10.4%	13.2%
Total	Count	1242	994	2236
	%	100.0%	100.0%	100.0%

Table A3.113

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	46.370[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 131.58.

Table A3.114

Crosstabulation

Interactions with instructor/TAs		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	18	66	161	32	93	422	792
	%	21.7%	28.1%	31.8%	47.8%	26.6%	42.5%	35.4%
Small degree	Count	23	66	173	14	95	285	656
	%	27.7%	28.1%	34.1%	20.9%	27.1%	28.7%	29.3%
Moderate degree	Count	24	61	121	14	88	184	492
	%	28.9%	26.0%	23.9%	20.9%	25.1%	18.5%	22.0%
Large degree	Count	18	42	52	7	74	103	296
	%	21.7%	17.9%	10.3%	10.4%	21.1%	10.4%	13.2%
Total	Count	83	235	507	67	350	994	2236
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.115

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	87.130[a]	15	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.87.

Table A3.116

Crosstabulation

Interactions with instructor/TAs		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
None to Low	Count	41	132	334	46	188	707	1448
	%	49.4%	56.2%	65.9%	68.7%	53.7%	71.1%	64.8%
Moderate to High	Count	42	103	173	21	162	287	788
	%	50.6%	43.8%	34.1%	31.3%	46.3%	28.9%	35.2%
Total	Count	83	235	507	67	350	994	2236
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.117

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	53.271[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 23.61.

Part 5 – Interactions with classmates in the class forum

Table A3.118

Crosstabulation

Interactions with classmates in the class forum		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	364	370	734
	%	27.2%	34.5%	30.4%
Small degree	Count	385	299	684
	%	28.8%	27.8%	28.4%
Moderate degree	Count	344	246	590
	%	25.7%	22.9%	24.5%
Large degree	Count	244	159	403
	%	18.2%	14.8%	16.7%
Total	Count	1337	1074	2411
	%	100.0%	100.0%	100.0%

Table A3.119

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	16.576[a]	3	.001

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 179.52.

Table A3.120

Crosstabulation

Interactions with classmates in the class forum		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	25	64	155	25	95	370	734
	%	29.8%	25.3%	28.1%	34.7%	25.2%	34.5%	30.4%
Small degree	Count	18	63	174	24	106	299	684
	%	21.4%	24.9%	31.6%	33.3%	28.1%	27.8%	28.4%
Moderate degree	Count	23	73	128	15	105	246	590
	%	27.4%	28.9%	23.2%	20.8%	27.9%	22.9%	24.5%
Large degree	Count	18	53	94	8	71	159	403
	%	21.4%	20.9%	17.1%	11.1%	18.8%	14.8%	16.7%
Total	Count	84	253	551	72	377	1074	2411
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.121

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	32.354[a]	15	.006

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.03.

Table A3.122

Crosstabulation

Interactions with classmates in the class forum		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
None to Low	Count	43	127	329	49	201	669	1418
	%	51.2%	50.2%	59.7%	68.1%	53.3%	62.3%	58.8%
Moderate to High	Count	41	126	222	23	176	405	993
	%	48.8%	49.8%	40.3%	31.9%	46.7%	37.7%	41.2%
Total	Count	84	253	551	72	377	1074	2411
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.123

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.555[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 29.65.

Part 6 - Feedback from classmates through peer grading

Table A3.124

Crosstabulation

Feedback from classmates through peer grading		Does the participant consider the U.S. its primary residence? No	Yes	Total
Not at all	Count	387	437	824
	%	38.0%	54.0%	45.1%
Small degree	Count	239	169	408
	%	23.5%	20.9%	22.3%
Moderate degree	Count	250	138	388
	%	24.5%	17.1%	21.2%
Large degree	Count	143	65	208
	%	14.0%	8.0%	11.4%
Total	Count	1019	809	1828
	%	100.0%	100.0%	100.0%

Table A3.125

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	53.201[a]	3	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 92.05.

Table A3.126

Crosstabulation

Feedback from classmates through peer grading		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
Not at all	Count	23	70	168	27	99	437	824
	%	31.9%	36.3%	41.0%	54.0%	33.7%	54.0%	45.1%
Small degree	Count	15	44	96	11	73	169	408
	%	20.8%	22.8%	23.4%	22.0%	24.8%	20.9%	22.3%
Moderate degree	Count	16	47	94	9	84	138	388
	%	22.2%	24.4%	22.9%	18.0%	28.6%	17.1%	21.2%
Large degree	Count	18	32	52	3	38	65	208
	%	25.0%	16.6%	12.7%	6.0%	12.9%	8.0%	11.4%
Total	Count	72	193	410	50	294	809	1828
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.127

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	75.804[a]	15	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.69.

Table A3.128

Crosstabulation

Feedback from classmates through peer grading		Participants by global region (Collapsed)						
		Africa	Asia	Europe	Oceania	Americas*	U.S.A.	Total
None to Low	Count	38	114	264	38	172	606	1232
	%	52.8%	59.1%	64.4%	76.0%	58.5%	74.9%	67.4%
Moderate to High	Count	34	79	146	12	122	203	596
	%	47.2%	40.9%	35.6%	24.0%	41.5%	25.1%	32.6%
Total	Count	72	193	410	50	294	809	1828
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.129

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	47.817[a]	5	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.30.

P2 - International Participant MOOC Survey

Q26 - To what extent do you agree or disagree with the following statements?

Part 1 - Is this course is as difficult as a traditional university / college course

Table A3.130

Crosstabulation

Is this course as difficult as a traditional university / college course		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Strongly Agree	Count	8	20	32	7	24	91
	%	6.7%	6.7%	5.2%	8.3%	6.5%	6.1%
Agree	Count	34	83	140	20	101	378
	%	28.6%	27.7%	22.9%	23.8%	27.4%	25.5%
Neither	Count	32	91	166	18	104	411
	%	26.9%	30.3%	27.1%	21.4%	28.3%	27.7%
Disagree	Count	39	81	217	26	113	476
	%	32.8%	27.0%	35.5%	31.0%	30.7%	32.1%
Strongly Disagree	Count	6	25	57	13	26	127
	%	5.0%	8.3%	9.3%	15.5%	7.1%	8.6%
Total	Count	119	300	612	84	368	1483
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A3.131

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.799[a]	16	.229

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.15.

Part 2 - The quality of this course is comparable to a traditional university / college course

Table A3.132

Crosstabulation

The quality of this course is comparable to a traditional university / college course		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Strongly Agree	Count	27	61	101	12	75	276
	%	22.3%	20.1%	16.6%	14.3%	20.2%	18.5%
Agree	Count	59	130	273	40	177	679
	%	48.8%	42.9%	44.8%	47.6%	47.7%	45.6%
Neither	Count	21	73	156	14	82	346
	%	17.4%	24.1%	25.6%	16.7%	22.1%	23.2%
Disagree	Count	13	34	63	14	33	157
	%	10.7%	11.2%	10.3%	16.7%	8.9%	10.5%
Strongly Disagree	Count	1	5	17	4	4	31
	%	0.8%	1.7%	2.8%	4.8%	1.1%	2.1%
Total	Count	121	303	610	84	371	1489
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.133

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.840[a]	16	.148

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 1.75.

Q38 - In your opinion, how important are these factors to a successful MOOC experience?

Part 1 - English Proficiency

Table A3.134

Crosstabulation

English Proficiency		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
A Great Deal	Count	73	165	299	53	204	794
	%	62.9%	57.5%	49.5%	64.6%	55.4%	54.5%
Much	Count	30	93	258	23	126	530
	%	25.9%	32.4%	42.7%	28.0%	34.2%	36.4%
Somewhat	Count	13	28	41	6	30	118
	%	11.2%	9.8%	6.8%	7.3%	8.2%	8.1%
A Little	Count	0	0	5	0	4	9
	%	0.0%	0.0%	0.8%	0.0%	1.1%	0.6%
Not at All	Count	0	1	1	0	4	6
	%	0.0%	0.3%	0.2%	0.0%	1.1%	0.4%
Total	Count	116	287	604	82	368	1457
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.135

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	34.070[a]	16	.005

a. 10 cells (40.0%) have expected count less than 5. The minimum expected count is .34.

Part 2 – Internet Connection

Table A3.136

Crosstabulation

Internet Connection		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
A Great Deal	Count	97	210	408	73	255	1043
	%	84.3%	72.9%	67.7%	88.0%	69.3%	71.6%
Much	Count	14	61	146	10	88	319
	%	12.2%	21.2%	24.2%	12.0%	23.9%	21.9%
Somewhat	Count	2	15	40	0	19	76
	%	1.7%	5.2%	6.6%	0.0%	5.2%	5.2%
A Little	Count	2	1	7	0	5	15
	%	1.7%	0.3%	1.2%	0.0%	1.4%	1.0%
Not at All	Count	0	1	2	0	1	4
	%	0.0%	0.3%	0.3%	0.0%	0.3%	0.3%
Total	Count	115	288	603	83	368	1457
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.137

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	31.428[a]	16	.012

a. 10 cells (40.0%) have expected count less than 5. The minimum expected count is .23.

Part 3 – Time Requirements

Table A3.138

Crosstabulation

Time Requirements		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
A Great Deal	Count	72	152	260	42	184	710
	%	62.1%	53.0%	43.1%	50.6%	50.8%	48.9%
Much	Count	34	113	269	31	129	576
	%	29.3%	39.4%	44.6%	37.3%	35.6%	39.7%
Somewhat	Count	10	22	69	10	46	157
	%	8.6%	7.7%	11.4%	12.0%	12.7%	10.8%
A Little	Count	0	0	5	0	3	8
	%	0.0%	0.0%	0.8%	0.0%	0.8%	0.6%
Total	Count	116	287	603	83	362	1451
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.139

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26.680[a]	12	.009

a. 5 cells (25.0%) have expected count less than 5. The minimum expected count is .46.

Part 4 - Prior Knowledge

Table A3.140

Crosstabulation

Prior Knowledge		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
A Great Deal	Count	18	33	33	2	31	117
	%	15.5%	11.4%	5.5%	2.4%	8.5%	8.1%
Much	Count	32	62	97	6	64	261
	%	27.6%	21.5%	16.1%	7.3%	17.5%	18.0%
Somewhat	Count	46	136	297	47	183	709
	%	39.7%	47.1%	49.4%	57.3%	50.1%	48.8%
A Little	Count	14	45	135	20	68	282
	%	12.1%	15.6%	22.5%	24.4%	18.6%	19.4%
Not at All	Count	6	13	39	7	19	84
	%	5.2%	4.5%	6.5%	8.5%	5.2%	5.8%
Total	Count	116	289	601	82	365	1453
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.141

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	50.287[a]	16	.000

a. 1 cells (4.0%) have expected count less than 5. The minimum expected count is 4.74.

Part 5 – Face to Face Interaction

Table A3.142

Crosstabulation

Face to Face Interaction		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
A Great Deal	Count	6	17	16	1	18	58
	%	5.2%	5.9%	2.7%	1.2%	4.9%	4.0%
Much	Count	20	45	52	3	20	140
	%	17.4%	15.6%	8.7%	3.7%	5.5%	9.7%
Somewhat	Count	39	83	116	15	104	357
	%	33.9%	28.8%	19.3%	18.3%	28.6%	24.6%
A Little	Count	20	82	201	21	112	436
	%	17.4%	28.5%	33.5%	25.6%	30.8%	30.1%
Not at All	Count	30	61	215	42	110	458
	%	26.1%	21.2%	35.8%	51.2%	30.2%	31.6%
Total	Count	115	288	600	82	364	1449
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.143

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	86.497[a]	16	.000

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 3.28.

Part 6 – Instruction Support

Table A3.144

Crosstabulation

Instructional Support		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
A Great Deal	Count	39	75	88	10	65	277
	%	33.6%	26.0%	14.6%	12.0%	17.8%	19.1%
Much	Count	41	102	185	26	136	490
	%	35.3%	35.4%	30.8%	31.3%	37.3%	33.7%
Somewhat	Count	28	75	211	24	104	442
	%	24.1%	26.0%	35.1%	28.9%	28.5%	30.4%
A Little	Count	5	26	96	19	51	197
	%	4.3%	9.0%	16.0%	22.9%	14.0%	13.6%
Not at All	Count	3	10	21	4	9	47
	%	2.6%	3.5%	3.5%	4.8%	2.5%	3.2%
Total	Count	116	288	601	83	365	1453
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A3.145

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	61.679[a]	16	.000

a. 2 cells (8.0%) have expected count less than 5. The minimum expected count is 2.68.

RQ4 - Full Statistical Results

P1- International Participant MOOC Survey

Q28 - Have local friends and other acquaintances expressed interest in enrolling in a MOOC based on your experience

Table A4.001

Crosstabulation

Have local friends and other acquaintances expressed interest in enrolling in a MOOC based on your experience		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	84	171	350	49	216	870
	%	71.8%	57.0%	56.5%	59.0%	58.2%	58.4%
No	Count	10	40	130	14	61	255
	%	8.5%	13.3%	21.0%	16.9%	16.4%	17.1%
Unsure	Count	23	89	140	20	94	366
	%	19.7%	29.7%	22.6%	24.1%	25.3%	24.5%
Total	Count	117	300	620	83	371	1491
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table A4.002

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	22.542[a]	8	.004

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.20.

Q29 - Have online friends and other online acquaintances expressed interest in enrolling in a MOOC based on your experience

Table A4.003

Crosstabulation

Have online friends and other online acquaintances expressed interest in enrolling in a MOOC based on your experience		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	69	121	201	30	141	562
	%	58.5%	40.2%	32.5%	36.1%	37.9%	37.7%
No	Count	19	72	221	37	106	455
	%	16.1%	23.9%	35.8%	44.6%	28.5%	30.5%
Unsure	Count	30	108	196	16	125	475
	%	25.4%	35.9%	31.7%	19.3%	33.6%	31.8%
Total	Count	118	301	618	83	372	1492
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.004

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	49.809[a]	8	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.31.

Q30 - Have you extended your online social network by participating in this MOOC?

Table A4.005

Crosstabulation

Have you extended your online social network by participating in this MOOC?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	43	81	89	3	72	288
	%	36.4%	27.0%	14.5%	3.6%	19.5%	19.4%
No	Count	59	176	479	72	263	1049
	%	50.0%	58.7%	77.9%	86.7%	71.1%	70.6%
Unsure	Count	16	43	47	8	35	149
	%	13.6%	14.3%	7.6%	9.6%	9.5%	10.0%
Total	Count	118	300	615	83	370	1486
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.006

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	76.485[a]	8	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.32.

Q31 - Have you extended your local social network by participating in this MOOC?

Table A4.007

Crosstabulation

Have you extended your local social network by participating in this MOOC?		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
Yes	Count	31	69	47	1	45	193
	%	26.7%	22.9%	7.6%	1.2%	12.2%	13.0%
No	Count	66	202	540	80	301	1189
	%	56.9%	67.1%	87.2%	96.4%	81.6%	79.9%
Unsure	Count	19	30	32	2	23	106
	%	16.4%	10.0%	5.2%	2.4%	6.2%	7.1%
Total	Count	116	301	619	83	369	1488
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.008

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	107.388[a]	8	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.91.

Q32 - How may these new relationships aid you in the future? (Select all that apply)

Part 1- Work collaboratively on projects

Table A4.009

Crosstabulation

Work collaboratively on projects		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	78	248	573	73	318	1290
	%	57.8%	70.1%	81.4%	83.9%	72.1%	75.0%
Yes	Count	57	106	131	14	123	431
	%	42.2%	29.9%	18.6%	16.1%	27.9%	25.0%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.010

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	46.902[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 21.79.

Part 2 - Finding a job

Table A4.011

Crosstabulation

Finding a job		Participants by global region (Collapsed)					Total
		Africa	Asia	Europe	Oceania	Americas*	
No	Count	102	292	633	84	382	1493
	%	75.6%	82.5%	89.9%	96.6%	86.6%	86.8%
Yes	Count	33	62	71	3	59	228
	%	24.4%	17.5%	10.1%	3.4%	13.4%	13.2%
Total	Count	135	354	704	87	441	1721

%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.012

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	33.735[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.53.

Part 3 - Learning about new opportunities

Table A4.013

Crosstabulation

Learning about new opportunities		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	67	194	509	70	309	1149
	%	49.6%	54.8%	72.3%	80.5%	70.1%	66.8%
Yes	Count	68	160	195	17	132	572
	%	50.4%	45.2%	27.7%	19.5%	29.9%	33.2%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.014

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	59.939[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.92.

Part 4 - Meet professionals from other countries

Table A4.015

Crosstabulation

Meet professionals from other countries		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	67	217	508	69	287	1148
	%	49.6%	61.3%	72.2%	79.3%	65.1%	66.7%
Yes	Count	68	137	196	18	154	573
	%	50.4%	38.7%	27.8%	20.7%	34.9%	33.3%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.016

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	38.559[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.97.

Part 5 - Develop strong personal relationships

Table A4.017

Crosstabulation

Develop strong personal relationships		Participants by global region (Collapsed)					
		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	99	273	627	82	367	1448
	%	73.3%	77.1%	89.1%	94.3%	83.2%	84.1%
Yes	Count	36	81	77	5	74	273
	%	26.7%	22.9%	10.9%	5.7%	16.8%	15.9%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.018

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	44.616[a]	4	.000

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.80.

Part 6 - Other

Table A4.019

Crosstabulation

		Participants by global region (Collapsed)					
Other		Africa	Asia	Europe	Oceania	Americas*	Total
No	Count	123	321	619	72	388	1523
	%	91.1%	90.7%	87.9%	82.8%	88.0%	88.5%
Yes	Count	12	33	85	15	53	198
	%	8.9%	9.3%	12.1%	17.2%	12.0%	11.5%
Total	Count	135	354	704	87	441	1721
	%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.020

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.714[a]	4	.222

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.01.

Q39 How important will the following factors be in the near future in your community or place of employment?

Part 1 - “As Needed" Learning Opportunities

Table A4.021

Crosstabulation

“As Needed" Learning Opportunities		Africa	Asia	Europe	Oceania	Americas*	Total
Very Important	Count	52	103	153	28	112	448
	% of Total	46.4%	36.5%	26.1%	34.6%	31.4%	31.6%
Important	Count	48	112	223	30	132	545
	% of Total	42.9%	39.7%	38.1%	37.0%	37.0%	38.4%
Moderately Important	Count	12	43	130	11	76	272
	% of Total	10.7%	15.2%	22.2%	13.6%	21.3%	19.2%
Of Little Importance	Count	0	15	47	5	21	88
	% of Total	0.0%	5.3%	8.0%	6.2%	5.9%	6.2%
Unimportant	Count	0	9	33	7	16	65
	% of Total	0.0%	3.2%	5.6%	8.6%	4.5%	4.6%
Total	Count	112	282	586	81	357	1418
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.022

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	49.226[a]	16	.000
N of Valid Cases	1418		

a. 6 cells (20.0%) have expected count less than 5. The minimum expected count is .27.

Part 2 - Online Project Portfolios

Table A4.023

Crosstabulation

Online Project Portfolios		Africa	Asia	Europe	Oceania	Americas*	Total
Very	Count	48	88	107	15	78	336
Important	% of Total	42.5%	31.7%	18.4%	19.0%	22.3%	24.0%
Important	Count	34	103	170	25	117	449
	% of Total	30.1%	37.1%	29.2%	31.6%	33.5%	32.0%
Moderately	Count	21	60	160	18	86	345
Important	% of Total	18.6%	21.6%	27.5%	22.8%	24.6%	24.6%
Of Little	Count	9	17	86	10	43	165
Importance	% of Total	8.0%	6.1%	14.8%	12.7%	12.3%	11.8%
Unimportant	Count	1	10	59	11	25	106
	% of Total	0.9%	3.6%	10.1%	13.9%	7.2%	7.6%
Total	Count	113	278	582	79	349	1401
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.024

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	75.919[a]	16	.000
N of Valid Cases	1401		

a. 5 cells (16.7%) have expected count less than 5. The minimum expected count is .45.

Part 3 – MOOC Certificates of Completion

Table A4.025

Crosstabulation

MOOC Certificates of Completion		Africa	Asia	Europe	Oceania	Americas*	Total
Very Important	Count	46	60	67	10	66	249
	% of Total	41.1%	21.2%	11.5%	12.3%	18.6%	17.6%
Important	Count	31	80	122	13	80	326
	% of Total	27.7%	28.3%	20.9%	16.0%	22.6%	23.1%
Moderately Important	Count	21	72	165	21	82	361
	% of Total	18.8%	25.4%	28.3%	25.9%	23.2%	25.5%
Of Little Importance	Count	12	43	143	17	79	294
	% of Total	10.7%	15.2%	24.5%	21.0%	22.3%	20.8%
Unimportant	Count	2	28	87	20	47	184
	% of Total	1.8%	9.9%	14.9%	24.7%	13.3%	13.0%
Total	Count	112	283	584	81	354	1414
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.026

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	99.909[a]	16	.000
N of Valid Cases	1414		

a. 5 cells (16.7%) have expected count less than 5. The minimum expected count is .65.

Part 4 – Higher Education and Advanced Degrees

Table A4.027

Crosstabulation

Higher Education and Advanced Degrees		Africa	Asia	Europe	Oceania	Americas*	Total
Very	Count	66	132	202	24	137	561
Important	% of Total	58.9%	46.6%	34.2%	29.6%	38.3%	39.4%
Important	Count	33	87	199	26	126	471
	% of Total	29.5%	30.7%	33.7%	32.1%	35.2%	33.1%
Moderately	Count	10	44	108	15	50	227
Important	% of Total	8.9%	15.5%	18.3%	18.5%	14.0%	15.9%
Of Little	Count	3	12	49	8	26	98
Importance	% of Total	2.7%	4.2%	8.3%	9.9%	7.3%	6.9%
Unimportant	Count	0	8	32	8	19	67
	% of Total	0.0%	2.8%	5.4%	9.9%	5.3%	4.7%
Total	Count	112	283	590	81	358	1424
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.028

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	50.470[a]	16	.000
N of Valid Cases	1424		

a. 6 cells (20.0%) have expected count less than 5. The minimum expected count is .28.

Part 5 – Badges to Demonstrate Competency

Table A4.029

Crosstabulation

Badges to Demonstrate Competency		Africa	Asia	Europe	Oceania	Americas*	Total
Very	Count	30	65	67	7	71	240
Important	% of Total	27.0%	23.0%	11.5%	8.8%	20.2%	17.0%
Important	Count	39	94	154	17	98	402
	% of Total	35.1%	33.2%	26.4%	21.3%	27.8%	28.5%
Moderately	Count	30	68	162	23	82	365
Important	% of Total	27.0%	24.0%	27.8%	28.7%	23.3%	25.9%
Of Little	Count	8	35	118	17	58	236
Importance	% of Total	7.2%	12.4%	20.2%	21.3%	16.5%	16.7%
Unimportant	Count	4	21	82	16	43	166
	% of Total	3.6%	7.4%	14.1%	20.0%	12.2%	11.8%
Total	Count	111	283	583	80	352	1409
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.030

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	69.466[a]	16	.000
N of Valid Cases	1409		

Part 6 – Online Learning Opportunities

Table A4.031

Crosstabulation

Online Learning Opportunities		Africa	Asia	Europe	Oceania	Americas*	Total
Very	Count	60	124	180	32	130	526
Important	% of Total	53.6%	43.8%	30.6%	39.5%	36.5%	37.0%
Important	Count	40	101	205	32	131	509
	% of Total	35.7%	35.7%	34.8%	39.5%	36.8%	35.8%
Moderately	Count	11	39	129	6	59	244
Important	% of Total	9.8%	13.8%	21.9%	7.4%	16.6%	17.2%
Of Little	Count	1	12	47	4	21	85
Importance	% of Total	0.9%	4.2%	8.0%	4.9%	5.9%	6.0%
Unimportant	Count	0	7	28	7	15	57
	% of Total	0.0%	2.5%	4.8%	8.6%	4.2%	4.0%
Total	Count	112	283	589	81	356	1421
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.032

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	58.560[a]	16	.000
N of Valid Cases	1421		

a. 3 cells (12.0%) have expected count less than 5. The minimum expected count is 3.25.

Part 7 – Mobile Learning Opportunities

Table A4.033

Crosstabulation

Mobile Learning Opportunities		Africa	Asia	Europe	Oceania	Americas*	Total
Very	Count	41	67	88	12	73	281
Important	% of Total	36.3%	23.8%	14.9%	14.8%	20.7%	19.8%
Important	Count	43	111	197	37	122	510
	% of Total	38.1%	39.4%	33.4%	45.7%	34.6%	36.0%
Moderately	Count	22	61	167	11	79	340
Important	% of Total	19.5%	21.6%	28.4%	13.6%	22.4%	24.0%
Of Little	Count	6	29	89	9	53	186
Importance	% of Total	5.3%	10.3%	15.1%	11.1%	15.0%	13.1%
Unimportant	Count	1	14	48	12	26	101
	% of Total	0.9%	5.0%	8.1%	14.8%	7.4%	7.1%
Total	Count	113	282	589	81	353	1418
	% of Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

*(W/o U.S.A.)

Table A4.034

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	66.255[a]	16	.000
N of Valid Cases	1418		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.77.