# Preferences, Pedagogical Strategies, and Challenges of Instructors Teaching in Multiple Delivery Formats within A 2-Year College Context

A DISSERTATION

SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL

OF THE UNIVERSITY OF MINNESOTA

BY

Li-chin Huang

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

Aaron H. Doering – Adviser

May 2015

**Acknowledgements**

I wish to thank my adviser, Dr. Aaron Doering, and faculty members Dr. Angelica Pazurek, Dr. Charles Millers, and Dr. Cassie Scharber for their advice in the process of completing this dissertation. I am sincerely grateful to Dr. Susan Walker for providing me with a great collaborative learning opportunity. I appreciate all of their help and concern during my learning at the University of Minnesota - Twin Cities.

I express my warm thanks to the input and support of Dr. Deckelman, Dr. Smith, Dr. Parenti, Dr. Bonk and the generous sharing of my colleagues during the dissertation writing.

A special thanks to my siblings. Their encouragement made this learning journey meaningful.

## Dedication

If "illiteracy" has any useful function at all, I would say that it served as a motivation for me to complete a terminal degree. The connection between illiteracy and the pursuit of knowledge in my life is my mother - Yu-bay Tsai-Huang. Like the women among her contemporaries and generations and generations before her, she never got a chance to go to school for even a day.

My mother was a typical woman of her generation, part of a gender lifting half of the sky when Taiwan endured waves of geo-political imperialism and socio-economic impoverishments induced first by Japanese colonialism, and then by the chaos and tragedies prompted by the civil war between the Nationalists and Communists in China. Due to socio-economic deprivation, my mother – a beautiful, noble, and wise woman, struggled to keep her 10 children alive and meet their basic survival needs.

A couple of episodes illustrate how her life served as a motivation for me. I vividly remember that one day, when I was a teen, my mother asked me to write a letter to one of my brothers, who was far away, but I was busy with my own activities and did not pay attention to write the address carefully, and the letter was returned. She had been so anxious to know about my brother's conditions, yet I had not gotten the job done properly. Sobbing and in a wrathful tone, she told me, "If I knew how to read and write, why would I need to bother you? If I could read the sign at the bus station for directions,

why would I have to walk miles and miles to deliver food for folk every day?" Those words weighed heavily in my guilty and apologetic heart.

Later, like my other brothers and sisters, I also showed interests in studying and grew into an adult with a career in the military, politics, and journalism. I had no clue what triggered my mother's mood when one day, she jokingly said to me, "How wonderful if I could have a daughter who has a doctorate". I was shocked to hear that statement from an old lady who knew nothing about academic affairs, or the intellectual life, and lightheartedly answered her, "Oh, well, I might be able to get one for you!" And then, through winning a national competition for a 2-year scholarship to study in the United States, I got an opportunity to make those words a reality.

So during this long journey of academic pursuit and more than a decade of engaging in teaching at a couple of universities and a 2-year college, I have always reminded myself that my search for knowledge with a passion for being an educator was motivated by a lady who could not read nor write, who wanted me to be good enough to serve humanity.

I therefore dedicate this research project to my mother, who passed away in 2005, and hope she does see me growing into a better person day by day.

## Abstract

This case study examines general education instructors' preferences, pedagogical strategies, and challenges in delivering face-to-face (f2f), hybrid, and online multiple delivery formats (MDF) at a 2-year technical college.

Its purpose is three-fold: to produce a detailed description of instructors' MDF experiences, provide recommendations for improving MDF teaching, and better inform relevant stakeholders about the cultural contexts and practices that affect MDF implementation.

In this case study, four selected faculty members participated in a two-hour face-to-face interview with the researcher following a semi-structured, open-ended questionnaire. They also completed the Conti teaching style inventory to examine their pedagogical adjustments and for data triangulation purposes. A follow-up collection of relevant data in the form of syllabi, learning plans, and assessments was conducted after the interviews were transcribed. The researcher also collected data from documents generated within college and departmental meetings and from informal conversations with her colleagues regarding MDF issues and experiences.

Six main themes emerged from this research: (a) learner characteristics were the major pedagogical concern of participants across all different delivery formats; (b) the f2f mode was the most effective and favorite format, and the hybrid mode was the least; (c)

the hybrid format was time-consuming and entailed a clear teaching-learning framework; (d) learners' personal life circumstances involved in learning; (e) MDF faculty needed to be competent at integrating technology, pedagogy, and content knowledge; and (f) faculty members' time was spread too thin over multiple MDF delivery preps.

The two most recurring themes in the individual cases were that the participants' experiences were determined primarily by learners' characteristics and that they worked within in an unclear hybrid framework. The suggestions for improving MDF practices were provided.

## Table of Contents

**List of Tables**

## List of Figures

# CHAPTER 1

# INTRODUCTION

Emerging technologies have revolutionized how learners and educators think, work, and construct knowledge (Anderson & Elloumi, 2004; McConnell, 2002; Salmon, 2000). The continuous innovation in information technologies has provided technological support that allows learners and educators to expand their possible interactions beyond the boundaries of traditional instructional systems.

According to recent data, the number of students registering for at least one web-based course increased from 3.94 million in 2008 to 5.6 million in the fall of 2009 (Allen & Seaman, 2010). In January 2014, research has shown, more than 7.1 million students, comprising 32% of the learner population in higher education, were taking at least one course online, a 24% increase over the number reported the previous year (Faculty Focus, January, 2014).

Two-year colleges in particular have embraced online education as a mechanism to meet the needs of a large number of diverse students, many of who must juggle multiple roles and responsibilities (Bear, 2013; Jaggers, 2014). Between 1997 and 1998, public 2- and 4-year institutions enrolled approximately 710,000 students in distance education (DE) courses (Choy, 2002). Between 2006 and 2007, in contrast, distance education enrollments at public 2-year institutions rose to nearly 5 million, approximately

twice that at public 4-year institutions (Parsad & Lewis, 2008). Overall, one out of three students in higher education has experienced an online learning format. Many supporters and stakeholders argue that distance education will become the mainstream form of academic opportunity in postsecondary institutions (McKee, 2010).

Although the facilitation of online classes is different from face-to-face (f2f) instruction in terms of pedagogical approaches and application of learning technologies (Zhao, 2003), research has shown that online instructors tend to carry their f2f pedagogies into the online environment (Connolly, Jones, & Jones, 2007). Two decades ago, Parisot (1997) found that little had been done to understand the changing role of faculty in adapting to technology and the changes in the psychological and physical environment promised by distance learning, which perhaps helps explain Barrett, Bower, and Donovan's later observation that each new technological advancement engenders great expectations regarding its impact on instruction. Regardless of the changes in technology, teaching style has not changed and remains teacher-centered (2007). To implement high-quality online courses, Kochtanek and Hein (2000) have argued, transforming the instructor's role from instructor to facilitator is an important initial step in creating a successful student-centered learning environment.

The current literature includes numerous studies of instructors' role in facilitating f2f and/or online formats, yet little research has examined the multiple delivery format

(MDF), which refers to instructors' teaching or facilitating more than two delivery modes in a single course, or multiple modes for multiple courses. In one study that has looked at MDFs, Lowes (2008) pointed out that "trans-classroom teachers" experience different cultures and social practices within online and f2f delivery environments that can transform teachers' f2f classroom practices in subtle and important ways. Zirkle and Ourand (1999) also observed that the transition to instruction through multiple delivery systems has given rise to issues and concerns. They argued that assessment of students at various "distances" could be problematic, and teaching courses through multiple delivery formats required high levels of expertise on the part of faculty (Zirkle et al., 1999). For the latter, a pastudy resonated the observation that teaching courses through MDF required experience in integrating technology, pedagogy, and content knowledge (TPACK) [1] on the part of faculty (Huang, 2009).

Despite the rapid growth in distance education, insufficient research exists to inform stakeholders about the effectiveness of online learning in 2-year colleges (Jaggers, 2013). Our current knowledge regarding MDF practices is particularly inadequate.

**Purpose of Research**

According to the available data, in the 2012-2013 academic year, 2-year colleges enrolled close to 50%, or approximately 7.7 million, of all undergraduate students

[1] The TPACK integrated model will be explained in details in chapter 4.

enrolled in U.S. higher educational institutions. Among these, about 3.1 million students were enrolled full time, and approximately 4.6 million part-time (American Association of Community Colleges, 2014; Community College Research Center, 2014). Increasingly, stakeholders have been concerned about the budgetary issues as well as the educational accountability. There are different perspectives on the structures and functions of 2-year colleges. The functional perspective sees 2-year colleges taking on roles to meet the needs of a specific segment of students and parents. From this perspective, when the researchers included in one of Cohen and Brawer's studies regarding 2-year colleges' educational effectiveness, they tended to focus primarily on teaching outcomes, such as retention rate and job replacement (Cohen et al., 2002). Marx's instrumental perspective is based on social conflict theory perceiving 2-year technical colleges as agents of capitalism, training workers to fit the needs of business and industry and designed to keep the disadvantaged population in their place (Dougherty, 1994). Hanson raised questions regarding public 2-year institutions becoming preoccupied with economic goals. He described that the learning college movement was an ideological framework justifying the current emphasis on vocational training (Hanson, 2010). The institutional perspective suggests that elite colleges maintain academic quality and social exclusivity, thus supporting the alternative colleges for the general population (Doughterty, 1994).

Relating to the above contextual understanding of roles and functions of 2-year colleges, this research will focus on the educational phenomena relating to MDFs from the participants' perspective. The purpose of this study is three-fold: (a) to produce a detailed description of the four participating instructors' MDF experiences, (b) to provide recommendations for improving MDF teaching at the 2-year college setting, and (c) to better inform relevant stakeholders about the cultural contexts and practices affecting MDF implementation.

**Research Questions**

Mindful of the contexts of faculty using MDF in 2-year colleges, the purpose of this research is to explore a step further than the conventional methods of gathering quantitative data, such as student enrollment counts, retention rate, and job replacement practical concerns to explore an insider perspective on MDF. The study is designed to disclose the interconnected complexity in the general education field within a 2-year technical college so as to answer the following research questions:

**Research Question 1:** What are instructors' MDF preferences within the context of a 2-year college?

**Research Question 2:** What are the pedagogical strategies adopted by instructors teaching MDF within the context of a 2-year college?

**Research Question 3:** What are challenges experienced by instructors teaching

MDF within the context of a 2-year college.

## Definition of Terms

This section defines several of the key terms used in this dissertation.

**Distance education (DE):** Distance education is a field of education that creates and provides access to learning when the source of information and the learners are separated by time and distance or both (Honeyman & Miller, 1993).

**Challenge:** In this research, a challenge refers to a task or situation that tests one's time, skills, resources, or determination while delivering MDF.

**Constructivism and instructionism:** Constructivism, in this paper, refers to pedagogy/andragogy of educational practices that are student-centered, problem-based, process-oriented, interactive, and responsive to student interest. Instructionism refers to educational practices that are teacher-centered, knowledge-transmitted, product-oriented, and highly prescribed.

**Differentiated instruction and assessment:** Differentiated instruction and assessment is also known as differentiated learning or, in education, simply, differentiation, which is a framework or philosophy for effective teaching that involves providing different students with different avenues to learning (often in the same classroom) in terms of: acquiring content; processing, constructing, or making sense of ideas; and developing teaching materials and assessment measures so that all students

within a classroom can learn effectively, regardless of differences in ability (Tomlinson, 2001).

**Face-to-face (f2f) learning**: Face-to-face instruction is the traditional learning format in courses that are taught only on-campus in face-to-face meetings. Online technology is not typically required to complete the course.

**Flipped classroom strategy:** A flipped classroom strategy refers to making the instructor-created videos, interactive lessons, and instruction that used to occur in class to students online or at home and instead using the classroom meeting as a place to practice or work through problems, advance concepts, and engage in collaborative learning. It is an attempt to re-conceptualize and re-create instruction to best maximize the scarcest learning resource: time (Tucker, 2012).

**Hybrid or blended learning:** This learning mode blends traditional face-to-face (same time, same place) classroom experiences with synchronous (same time, different place) and/or asynchronous (different time, different place) online learning experiences (Simonson, Smaldino, Albright, & Zvacek, 2009). Although there is no agreed-upon definition of what distinguishes an online course from a hybrid one, most experts agree that to be considered a hybrid, a significant portion of the content (30% to 79%) must be delivered online, which may include various types of online learning activities and discussions and a reduced the seat time of face-to-face meetings (Simonson et al., 2009).

In the institution studied in this research project, a typical hybrid course includes 50% seat time and 50% online learning.

**Online learning:** Online learning is a delivery mode in which most or all of the content (80% or more) is delivered online to minimize seat time by means of some type of learning or course management system (LMS). The LMS used by the institution in this study was Eduvance360, which replaced BlackBoard in 2012.

**Multiple delivery formats (MDF):** In this study, MDF refers to using more than two course delivery modes for the same course (prep) or different courses offered by faculty in a given semester. In the studied work setting, the offered delivery formats include face-to-face, online, web-conference, ITV (interactive TV), and hybrid/blended. This study examined the three modes with the highest enrollments: f2f, online, and hybrid

**Pedagogical strategy:** In this study, pedagogical strategy refers to a general teaching method that can influence instructional design. Some experts relate pedagogical strategies to teaching style, or models that focus on the classroom teacher emphasize the wide spectrum of practices between instructionism and constructivism. This research employs Conti's teaching style inventory (1989) to examine participant faculty members' teaching beliefs and actions. The term *pedagogical strategies* is sometimes used interchangeably with *learning/instructional management*, which is closely related to

instructionism, due to the student characteristics situated in an open admissions policy at the 2-year college setting.

**Self-efficacy:** In this study, self-efficacy is defined as one's belief to succeed in playing a major role in how one approaches goals, tasks, and challenges (Bandura, 1997).

**TPACK:** This abbreviation refers to Technological, Pedagogical, and Content Knowledge, the necessary knowledge tools to take on MDF tasks. [2]

**Overview of the Dissertation**

This research investigates a field of study that has not been adequately studied: the use of a Multiple Delivery Format (MDF) in a 2-year technical college environment. This chapter examined current distance education (DE) trends and pointed out the tendency of investigations into DE to concentrate on the 4-year college setting even though close to 50% of the students in post-secondary educational institutions enrolled in DE are 2-year college students. It also defined several key terms used in this study. Chapter 2 reviews the existing literature regarding the transition from traditional f2f delivery and the online learning environment to hybrid delivery modes, which are recognized as possessing the best features of f2f and online delivery modes,[3] according to

[2] The details of TPACK framework, refer to Mishra, P., Koehler, M. J. (2006) Technological Pedagogical Content Knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017-1054. doi: 10.1111/j.1467-9620.2006.00684.x.

[3] This is a perception based on the 4-year college setting.

most of the current literatures and research based on 4-year college setting. Chapter 3 describes the rationale for employing the case study method and the steps taken to collect and analyze data. Chapter 4 presents the findings of the data analysis. Chapter 5 discusses the themes and conclusions that emerged from the collected data, addresses the limitations of the research, and offers suggestions for further study.

# CHAPTER 2

# LITERATURE REVIEW

This chapter reviews the existing literature regarding the transition from traditional face-to-face (f2f) delivery to online learning environment to hybrid delivery modes, which are recognized as possessing the best features of f2f and online delivery modes. In this trend, the researcher found inadequate studies on MDF, in particular, at the 2-year college setting. The research described a burgeoning demand for MDF and how this research was connected to the distance education (DE) trend.

Among the rapid technological changes taking place in education during the early 21st century, DE has stood out in the teaching and learning landscape (Saba, 2005; Hannafin & Land, 1997; Schlosser & Anderson, 1993). Theories and practices of DE have undergone significant transformations over the past 50 years. Taylor (2010) describes the evolution of technological innovation in distance education in terms of five generations of DE delivery: (a) correspondence and print; (b) multimedia print, audiotape, videotape, computer-based learning, and interactive video (disk and tape); (c) telelearning, audio-teleconferencing, video-conferencing, audiographic communication, broadcast TV/radio, and audio teleconferencing; (d) flexible learning, interactive multimedia (IMM) online, Internet-based access to WWW resources, and computer-mediated communication; and (e) intelligent flexible learning using automated response

systems and campus portal access to institutional processes and resources.

These technological innovations and affordances have led to different terminologies used for online learning (Anderson & Illoumi, 2004). There is ongoing debate about adopting a particular delivery technology in improving learning (Clark, 2001; Kozma, 2001). In addition to the strand of research on the theories and practice of online learning, regarding the socio-economic impact on society, a series of investigations were conducted. In a survey based on responses from more than 2,500 colleges and universities, it addressed that online learning was strategic operation of institutions. Numerous chief academic officers have said that online education was critical to their long-term strategy, and has been growing exponentially since 2010 (Allen & Seaman, 2010). Allen and Seaman's survey also reported that the economic impact on institutional budgets had been mixed, 47% seeing their budgets decrease, while 27% have experienced an increase in budget (Allen & Seaman, 2010). Furthermore, in the "Class Differences – Online Education in the United States, 2010" survey, academic leaders reported that the impact of the economy was greater in 2010 than 2009. They pointed out that with increasing demand for both f2f and online courses, the online demand is greater than that for the corresponding f2f offerings (Allen & Seaman, 2010). Distance education gradually becomes part of the educational system when cost-effectiveness is a factor in the selection of instructional choices, accessibility, and flexibility of the course

offerings (Stevenson & Bell, 2009).

## The Expansion of Distance Education: From Online to Hybrid/Blended Learning

Distance education has become such a common form of instruction that three out of four students of higher education have experienced some type of instruction that is online (Faculty Focus, 2014). Many supporters and stakeholders advocate DE to be a significant option for academic opportunity in postsecondary institutions (McKee, 2010). Research shows that multiple factors are associated with the increasing demands for DE across various educational settings. These factors include the development of innovative technologies, issues exist in the context of demographic shifts, socio-economic variations, as well as the online credential markets driven by the proprietary enterprises. Distance educators, learners, administrators, parents, policy makers and relevant stakeholders have to make choices regarding the pedagogical, economic, demographic, systemic, and political characteristics of the distance education systems within which they participate (Anderson & Illoumic, 2004). These features of contemporary life resulted in one of the noteworthy implications that no longer do any geographic monopolies exist in higher education (Harasim, 1990). Online learning seems to be taking on the role of a panacea to tackle socio-economic and educational problems.

With DE flourishing in higher education, issues and debates regarding accreditation and accountability have been a concern for a wide spectrum of stakeholders. During the last decades, many questions related to DE have been raised, solutions proposed, and some problems solved. The early stage of mixed enthusiasm and skepticism toward this booming enterprise has slightly changed. The educational communities have engaged in research focusing on the comparisons of perceptions, quality, and effectiveness between online and f2f learning. More than a decade ago, a multitude of studies had revealed "no significant difference" between f2f and online (Russell, 2001). Allen et al. (2010) have noted that a majority of chief academic officers rate the learning outcomes for online education "as good as or better" than those for f2f instruction. However, the research also addressed that a sizable minority considered online to be inferior, and each subsequent year's report displayed similar results (Allen & Seaman, 2010).

Whether no significant differences, or one being better than the other in the learning outcome between online and f2f instruction, a rapidly growing third approach– hybrid, or blended mode–appears to be receiving much of the stakeholders' attention. A brief review of the evolution of distance education may help explain why this alternative method of instruction is now getting more attention in higher education.

Starting in the late 1990s when online education began to flourish, some schools

and faculty used the web-enhanced approach as a transitional or experimental stage to move toward teaching completely online. The developing stage created an intersection of web-enhanced and hybrid/blended grey zones across the traditional f2f and the full-online modes.

Even though many instructors embraced the benefits of online learning, dissenting voices were heard as well. Some educators discouraged students from taking fully online courses (Young, 2002). The dissenters argued that technology could not replace the human factor in higher education (Merisotis & Phipps, 1999). Another point of view came from the Sloan Consortium, which conducted a national survey from 2007 to 2009. According to the Sloan Consortium, due to the murky path of evolution from f2f learning to fully online, the data made clear that blended learning was generally not part of an institutional transition strategy from f2f to fully online courses, but rather a discrete option that institutions chose on its own merits (Sloan-C, 2009).

During the transition toward online instruction, a strand of research shows that inadequate social presence and interactions among peers and facilitators are the major drawbacks in the online environment, while the inflexibility and inconvenience are the major disadvantages in the f2f classrooms (Brown, 2001; Carnevale, 2002; Oblender, 2002; Ward, 2004; Young, 2002). Due to these factors, an alternative approach, a combination of the two learning environments may provide solutions to bring the best

features of the two modes together decreasing the undesirable elements of each format. Following this vein, the hybrid, or blended learning was brought into the scene, which advocates to take advantage of the technical affordance and the flexibility of an online environment to incorporate f2f interactivity into the learning process (Brown et al., 2001).

During the pre-Internet era, educators found concern in the general population regarding the controversy of the "high tech versus high touch" issue. Naisbitt expressed this concern in his *MegaTrends* book by providing a perspective that whenever new technology was introduced into society, there must be a counterbalancing human response to the new trend (Naisbitt, 1982). In short, the more high tech something would be, the more high touch might be needed to increase people's comfort levels (Green, 2004). Hybrid or blended learning mode by combining the best features of the two worlds - f2f and online, becomes a potential solution to the above mentioned controversy. Due to this necessity, several hybrid models were developed. The following section reviewed each model and its implication.

**The Hybrid Learning Model.** Hybrid learning model was first developed by Mossavar-Rahmani and Larson-Daugherty (2007). It consists of the student surrounded by a learning community ring. Model components attached to the student are course materials, group work, assessment, virtual campus, concierge, academic resources, and

faculty (Mossavar-Rahmani & Larson-Daugherty, 2007). The basic components of instructional design are present and the learning community aspect is important to the learning effectiveness of a hybrid course.

**The learner-centered hybrid online model.** This model is designed in a T-shape, and consists of three horizontal components: first class, f2f orientation; learner (in the middle); and last class, f2f closure. The vertical components consist of instructor; chat, e-mail, and online threaded discussion; learner (middle); chat, email, and online threaded discussion (repeated component); and fellow students (Martyn, 2003).

Martyn also included a seven "critical quality indicators" matrix in the article that is helpful to the design process. These quality indicators are: student-faculty contact, student-student collaboration, active learning, prompt feedback, time on task, the communication of high expectations, and respect for diverse talents (Martyn, 2003). This model would work well if students are highly committed with strong self-efficacy.

**The Multimodal Model.** This model provides faculty with specific examples on how to blend pedagogy with technology to create hybrid courses. To create a purposeful hybrid class, faculty members must consider the content, social/emotional contexts, dialectic/questioning activities, synthesis/evaluation tools, collaboration/student-generated content, and reflection opportunities (Picciano, 2009b). This model emphasizes blending pedagogy with technology is a key for a meaningful hybrid course.

The hybrid mode challenges higher education to rethink the needs of their learners. These models might have been developed based on the perspectives of the typical 4-year colleges' or universities' student needs. Their learners tend to be traditional, technologically savvy, and are less burdened by personal, job and family responsibilities. Thus student-centered pedagogy would be the common thread underlying these model developments as their design epithet emphasizing the constructivist teaching philosophy (Graham, 2006; Irlbeck, Kays, Jones, and Sims 2006; Picciano 2009b). However, will there be hybrid models incorporating the needs and the characteristics of 2-year students into the design processes?

In short, hybrid learning has been a trend presented in both the scholarly literature and the popular press (Graham, 2013). Graham pointed out that there were approximately 200 dissertations and hundreds of journal articles found relating to hybrid learning (2013). In addition, the American Society for Training and Development identified hybrid or blended learning as a top trend in the knowledge delivery industry (Rooney, 2003). Ross and Gage maintained that in higher education the use of hybrid or blended learning has grown rapidly. They predicted that it would become the "new traditional model" (Ross et al., 2006, p. 167) or the "new normal" in course delivery (Norberg, Dziuban, & Moskal, 2011, p. 207). Since hybrid or blended delivery mode gradually has become an important part of distance education, the following section

discussed its role as part of MDF in current trend, since hybrid (blended) mode plays an important role in MDF practice.

**The Need for Multiple Delivery Formats**

To increase access to education for the growing adult population, many colleges are offering programs and courses to meet diverse learners' needs in multiple delivery formats, such as f2f, online, hybrid, web-conference, interactive TV (ITV), and accelerated or compressed night/weekend courses. However, some stakeholders have become increasingly concerned about the popularity of distance education and their pedagogical quality. In 1997, the Sloan Consortium created a five-pillar model to assist institutions in evaluating learning effectiveness, cost effectiveness, access issues, and student and faculty satisfaction with online education (Sloan-C, 1997). The Sloan Consortium is also committed to the quality of hybrid courses. In the fall of 2001, the Quality Matters (QM) initiative began with a small community of Maryland distance educators collaboratively solving problems to assure quality in their online distance learning courses (Quality Matters, 2007). Today, it has been developing into a leader in quality assurance for online education and has received national recognition for its peer-based approach to continuous improvement in online education and student learning (Shattuck, 2007). Furthermore, in April of 2008, the Sloan Consortium hosted its fifth meeting on hybrid courses for higher education for improving online learning quality

(Picciano, 2009a).

Among the multiple delivery formats available in higher education, hybrid courses originally were developed to solve the pedagogical quality issues of online education. Hybrid courses ideally allow faculty members to conduct part of a class in the traditional classroom and the other part online. Professionals started discussing the use of hybrid courses as an instructional design option around 2004 (Picciano & Dziuban, 2007). The first discussions about hybrid courses caused confusion because hybrid courses were labeled differently. Hybrid courses have been described as mixed-mode, enhanced, integrated, or as blended learning experiences (Picciano, 2009a). Picciano noted that hybrid courses are statistically missing from higher education institutions' databases due to improper labels and definitions.

Ross and Gage (2006) explained that hybrid learning allowed learners to have the freedom in choosing formal types of courses to earn a degree of which some are hybrid, some f2f, and some fully online. The Sloan-C survey of U.S. colleges and universities found that 64.7% faculty teach online course about as frequently as they teach f2f (61.6%), and a large percentage teach hybrid courses (67.4%) (Allen, Seaman, & Garett, 2007), which offers evidence that blended programs may continue to grow. However, many faculty members are not expected to integrate technology into teaching and learning, nor are they required to develop alternative course delivery formats that are part

of blended programs, particularly in 4-year universities.[4] On the other hand, students are becoming more diverse and the traditional students tend to be technologically savvy and demand faculty to deliver a variety of course formats. These educational trends have created challenges within higher education (King & Lawler, 2003). As Bond, Kim, and Zeng (2006) noted, "Blended learning highlights the need for instructional skills in multiple teaching and learning environments" (p. 564). Thus, it is important to understand how faculty learn to facilitate adult learners in blended programs and how they migrate among multiple course delivery formats influencing their teaching practices.

Faculty may wonder whether the hybrid mode truly combines the best features of f2f and online formats. The recent proliferation of books, trade magazines, journal articles, conferences, and campus initiatives highlights that hybrid/blended learning is an on-going educational transformation. A body of research proclaims that hybrid/blended learning provides more engagement for students, re-conceptualization of teaching and learning, technological advances, and pedagogical shifting than classes taught in a single mode (Bonk & Graham, 2005; Dziuban, Hartman, & Moskal, 2004; Garrison & Kanuta, 2004; Garrison & Vaughan, 2008; Humbert & Vignare, 2005). But how instructors facing challenges regarding teaching effectiveness and learning outcomes were not adequately addressed.

[4] As to 2-year colleges, delivery format decision-making tends to be top-down and changes swiftly.

According to a report by the U.S. Department of Education, a set of well-designed empirical studies suggests that hybrid courses result in similar or better learning outcomes in comparison to f2f courses, although none of these studies focused on 2-year college students (Xu & Jaggars, 2011). Contrary to the research outcome of the U.S. Department of Education's report, the author's current work setting resonated Xu and Jaggars' findings: the College Administration has been promoting hybrid courses for more than four years while both faculty and students have expressed a decreasing interest in participation.

**Inadequate Research on Distance Education in the 2-Year College Setting**

The American 2-year school is a vast, rapidly changing, and under-studied institution (Lombardi, 1981; Dougherty; 1994; Hanson, 2010). The former Los Angeles City College President John Lombardi (1981) once said that many scholars and laypersons would find paradoxes surrounding 2-year educational institutions. He simply pointed out two salient points. One was that even though titled with "college" where stakeholders could find basic subject matters reading, writing and arithmetic- were taught, while there were 4-year College seeking aspirants co-existing with the GED learners. The other phenomenon was this fast-growing segment of education which seemed to be the least known in the PK-16 system. Dougherty (1994) argued that 2-year colleges had not received attention they deserved. He critiqued that most people often

knew very little about them, and believed they were only a peripheral part of the collegiate system, while 2-year colleges were highly relevant in many areas of social life. He named 2-year colleges were hybrid institution, combining many different and often contradictory purposes.

With the above understanding, in the online learning environment, one concern in this paper is regarding majority of the distance education research focusing on the 4-year college setting, while available data suggest a rapidly increasing enrollment in 2-year colleges than that of 4-year colleges (Jaggers, 2013). A few available empirical studies have compared online and f2f outcomes in the 2-year college setting; however, they tend to focus on retention, such as Carpenter et al.'s research that suggested students being substantially less likely to complete online courses, even after controlling for a wide array of student characteristics (Carpenter, Brown, & Hickman, 2004; Jaggars & Xu, 2010; Xu & Jaggars, 2010; Zavarella, 2008). Since most of research tend to pay attention to the two mode comparisons (f2f vs. online; hybrid vs. online) and concentrate on the 4-year university setting, studies focusing on 2-year colleges, in particular, on f2f, hybrid, and online multiple-format experiences from students' and instructors' experiences situated in the 2-year college setting are rare (Huang, 2009).

**Lack of Research on Multiple Delivery Formats**

While there are considerable studies (National Center for Education Statistics,

2014; Dziuban, Hartman, & Moskal, 2004; Martyn,, 2003; Parisot, 1997; Lowes, 2008) investigating the characteristics of successful online courses and on how to bring good pedagogy into the online learning and hybrid learning environments, research on the multiple delivery formats combined with multiple courses is sorely inadequate, particularly in the 2-year college setting.

The other phenomenon shows that though the expanded learning formats are accelerating, most of the stakeholders still perceive the two environments of online and f2f separately (Lowe, 2008). Lowe explained that there was a cognitive and pedagogical continuity affecting teachers in the two teaching formats. Lowe coined the term "trans-classroom teacher" to address this question:

> …while f2f and online courses do indeed take place in separate environments, the social field of the teacher who teaches them includes both. And as this teacher moves — either simultaneously or serially — from one environment to the other, the course being taught will also go through several transformations as it is shaped and reshaped to fit first one and then the other. (Lowe, 2007, p.14)

She argued that the trans-classroom instructor, moving between different teaching formats to facilitate learners with potentially altered cognitive and pedagogical strategies as a "mental-migrant" (Lowe, 2008).

Lowe's observations on trans-classroom teaching shed a new light on the MDF

research (2008). The study of the MDF is a timely and important field to inform relevant stakeholders about the changing demographic and socio-economic trends affecting educational practices. Yet, most of the research results derived from the 4-year college settings might not reflect what actually happens in the 2-year college contexts. As aforementioned, the decreasing interests of students and faculty in the hybrid delivery method at the current research setting did not resonate the body of research, which exalted hybrid delivery as the bridge between the best features of the two worlds.

According to the current institution's course enrollments, there is a pattern of selecting course delivery formats reflecting both students' and instructors' preferences. This pattern shows that the online courses are the first one to be filled up, and followed by the f2f. The hybrid format tends to be difficult to attract students to enroll in and for faculty to teach. On many occasions, due to low enrollments, some hybrid courses had to be cancelled. The college administrators of the author's current work-setting have been eager to persuade and encourage faculty to enhance the hybrid course teaching via an internal professional development program.[5] Many 2-year colleges, in particular,

[5] The following campus-wide email on March 8, 2012 delivered by the Department of Professional Development of the current work setting, informed instructors of following message: "The Most Cost-Effective Way to Deliver Quality Learning: There's good news for university administrators agonizing over online learning versus face-to-face (f2f) instruction. With Blended Course Design, you can get the best of both worlds, a synergistic combination that can help you reduce costs while improving the quality of learning. Blended Course Design combines online learning and f2f instruction, and you can discover how to make it work at your school by participating in Magna's video Online Seminar Ten Ways to Improve

technical colleges, have embraced online courses as a way to serve the needs of their learners and reach a large number of students. The following section explains the missions of 2-year colleges in contemporary society to obtain a better understanding why 2-year educational institutions found distance education to be an important part of their missions.

Due to historical necessity, 2-year colleges (community and technical) have been playing multifaceted roles to meet the socio-economic needs of society. Public 2-year colleges account for close to 50% of higher education institutions (National Center for Education Statistics, 2012). By having an open-admissions policy for a majority of non-traditional and disadvantaged students, 2-year technical colleges assume a key role in vocational training to meet business-industrial needs and providing remedial educational opportunities. Two-year technical colleges absorb displaced workers during the economic vicissitudes and fulfill the democratic notion of access to higher education via transfer programs for students who are otherwise unable to gain access to the 4-year college. Given their multiple functional roles in the socio-economic system, 2-year colleges play

---

Blended Course Design. Dr. Ike Shibley will show you why Blended Course Design is an effective option for today's educational institutions. Blended Course Design: Solves physical space issues, allowing for enrollment growth. Enables students to work more and enjoy greater flexibility. Tuition costs continue to increase, which is driving more students into the workplace. Blended Course Design provides them with the flexibility they need to hold down a job while still pursuing an education. Provides today's most effective education model…"

crucial roles to extend college opportunities in a systematic and cost-efficient way (Huang, 2009). Thus, expanding variety of courses and delivery formats available to diverse students is necessary to meet learners' needs and to reach the educational goals.

In conclusion, this chapter informed the relevant stakeholders about the evolution and expansion of distance education, the current trends, and emerging hybrid delivery mode, which was a convergence of the traditional f2f instructional method with online instruction. This chapter also examined the inadequacy of the research regarding distance education and multiple delivery formats in the 2-year college setting.

In the next chapter, the author will explain the research methodology used for this study.

# CHAPTER 3

# METHODOLOGY

Human beings interacting with their environments often create complex phenomena. Research methodology is a way of thinking about and studying multi-layered social reality (Strauss & Corbin, 1998). Researchers have developed quantitative, qualitative, and mixed methods for a variety of investigative purposes.

Because social contexts affect people's thinking and behavior, experimental or quantitative research approaches are not always suitable for studying human phenomena, particularly in an educational setting. Such situations often call for qualitative research methods, which refers to any research that generates findings not arrived by statistical procedures or other means of quantification. These methods can be used to research people's lives, lived experiences, behaviors, emotions, and feelings as well as organizations, social movements, and other larger social structures and functions (Strauss et al., 1998). In this research study, the complex phenomena examined were participants' actions, preferences, and experiences about multiple delivery formats (MDF). Thus, the researcher adopted a qualitative approach.

## Research Methods

Many types of qualitative research methods have been developed for social

science and educational research, one of which is the case study. According to Yin (1994), case studies provide pertinent data about real-life events. Stake (2000) maintained that the case study method is defined by interest in individual cases, not by the particular method of inquiry used. According to Simon and Francis (2001), case study methods are frequently used in a social context needing analysis.

**Purposes of Case Studies.** Gall, Gall, and Borg (2003) noted that researchers conduct case studies for the following purposes: (a) to produce a detailed description of a phenomenon, (b) to develop possible explanations of a phenomenon, or (c) to evaluate a phenomenon. Thus, case studies can be descriptive, explanatory, or evaluative, and sometimes all three purposes may be merged in one case study (Gall et al., 2003). They explained these purposes below:

1. Description, in which researchers intend to generate thick description of a phenomenon and conceptualize it. In creating thick description, researchers look for constructs inferring from the observed phenomena. They defined themes as salient, characteristic feature of a case.

2. Explanation, in which researchers focus on providing explanations for the phenomena that were studied. Gall et al. referred to these explanations as patterns which meant that one type of variation observed in a case study being systematically related to another observed variation.

3. Evaluation, in which researchers conducted studies to identify salient constructs, themes, patterns, and making judgments.

In this MDF study, the researcher obtained thick description from the participants' first-hand experience in delivering MDF. From the description, the researcher searches for themes presented in the MDF phenomenon. Though making judgment is not a purpose of this MDF study, as mentioned in the previous section, the researcher intends to provide recommendation for improving MDF teaching, and better inform relevant stakeholders about the cultural contexts and practices that affect MDF implementation.

As to whether to conduct a single case or multiple cases for study, Gall et al. (2003) stated that some researchers might choose to focus on one case because of its intrinsic interest, whereas other researchers might decide to study multiple cases in order to test the generalizability of themes and patterns. Yin (1994) argued that the decision to study multiple cases should be based on a replication logic, in which a researcher predicts that the results of different cases will differ as consistent with a specific theoretical proposition. In this MDF study, the researcher based on an auto-ethnographic study of her own lived experiences of being an MDF facilitator, expected to find similarities and differences regarding delivering courses through MDF among participating faculty members from different disciplines and thus decided to conduct a multiple case study. Each participating faculty members represents a unit, and totally, there are four units

comprise four case studies in this study. The following section further discusses the characteristics of case studies.

**Characteristics of Case Studies.** Gall et al. (2003) identified four characteristics of case study research: (a) the study of phenomena by focusing on specific instances; (b) an in-depth study of each case; (c) the study of a phenomenon in its natural setting; and (d) the study of the emic perspective of case study participants. This MDF study possesses all four of these characteristics, as explained below.

***The study of a particular phenomenon.*** A case study intends to shed light on an instance or phenomenon, which can be a process, event, person, or thing that interests the researcher (Gall et al, 2003). The instance explored in this study is the MDF facilitation. For purposes of management and meaning, researchers tend to concentrate on just a few of a case's many aspects. Based in an earlier auto-ethnographic study on MDF experiences in 2009, the researcher chose to focus on the MDF preferences, pedagogical strategies, and the challenges experienced by the four participants in delivering MDF.

***In-depth study of the four cases.*** In this MDF study, an amount of information was collected from the four participating faculty members through a 2-hour f2f interviews following a semi-structured questionnaire of open-ended questions, a half-an-hour follow-up, informal conversations at the work setting, and subsequent data-gathering activities for four months detailed later in this chapter.

***Study of an Instance in Its Natural Setting.*** Kirk and Miller (1986) defined qualitative research as an approach that involves watching people within their own territory and interacting with them in their own language and on their own terms. Yin (1994) also pointed out the importance of studying a phenomenon in its natural context. This MDF study was conducted in the college setting in which the participants were employed, examined their customary practices, and focused on their MDF preferences, pedagogical strategies, and challenges in delivering MDF.

***Representation of Emic and Etic Perspectives.*** A third purpose of case studies is to obtain a thick description to understand a specific phenomenon as it is experienced by the participants. The researcher's task is to analyze the phenomenon as the participants view it, which is called an emic or insider perspective, while maintaining their own perspective as researchers, which is called an etic or outsider perspective (Gall et al., 2003). In this research, the participants' MDF preferences, pedagogical strategies, and challenges were examined from an emic perspective situated in a 2-year college context. The researcher gathered information and analyzed data based on her personal professional experience as an outsider from the etic perspective. Both perspectives are represented in the data analysis and research results.

The case study thus provides a framework for researchers to explore an

individual, a group, or an institution's unique attributes in depth. This research project captures the details of the experiences of faculty members with at least 2 years'[6] practice in delivering MDF situated in the General Education College. This qualitative study investigates the interactions of several unique phenomena which were rarely researched before, including how MDF instructors interact with the cultural contexts within a 2-year technical college setting.

**Conceptual Framework**

A conceptual framework provides an analytic tool with several variations and contexts, which is used to make conceptual distinctions and organize ideas (Shields & Rangarjan, 2013). Shields & Rangarjan defined a conceptual framework as "the way ideas are organized to achieve a research project's purpose" (2013, p. 24). This MDF study was based on the knowledge of andragogy that provides a conceptual framework to organize ideas related to MDF in a distinctive way for data collection and analysis to achieve the research purposes: (a) to obtain a detailed description of instructors' MDF experiences; (b) to provide recommendations for improving MDF teaching, and (c) to better inform relevant stakeholders regarding the cultural contexts and practices that

[6] The main reason to select participants with at least 2-years' MDF experience is that one year might not adequately provide rich experience, while the number of faculty members who have more than 2-years' experience in MDF within a specific semester is small. So the research decided to choose 2-year as a cutting point.

affect MDF implementation.

In current literature, andragogy refers to the science of theory and practice about lifelong and life-wide education of adults (Hanson, 2008). According to Knowles, it is a specific theoretical and practical approach, based on a humanistic conception of self-directed and autonomous learners and teachers as facilitators of learning (Knowles, 1984). Theory of andragogy (Knowles, 1984) has the following assumptions about the design of learning:

1. Adults need to know why they need to learn something.

2. Adults need to learn experientially.

3. Adults approach learning as problem-solving.

4. Adults learn best when the topic is of immediate value.

In the pedagogical practices, andragogy means that the curriculum and instruction for adult learners need to focus more on the process and less on the content being taught. Pedagogical strategies such as case studies, role playing, simulations, problem-based, and situated learning are most useful. Instructors adopt a role of facilitator or resource rather than knowledge transmitter (Knowles, 1984). These types of teaching and learning activities are common practices in the current research setting.

Knowles (2005) maintained that andragogy (Greek: "man-leading") should be distinguished from the more commonly used pedagogy (Greek: "child-leading"). Later,

Knowles himself changed his position and believed that pedagogy-andragogy represented a continuum ranging from teacher-directed to student-directed learning and that both approaches were appropriate with children and adults, depending on the situation (Merriam, S.B., Caffarella, R.S., & Baumgartner, L.M., 2007). Hanson (1996) argued that the difference in learning was not related to the age and stage of one's life, but rather related to individual learner's characteristics and the differences in context, culture and power within different learning environments. Both Knowles' and Hanson's perspectives were adopted by the researcher when using pedagogy to refer to andragogy in this paper.

The main reason the researcher chose andragogy as a conceptual framework is due to the unique culture of the 2-year college. The trajectory of 2-year college development is quite different from that of the 4-year college. James Ratcliff's model (1994) placed the growth of 2-year colleges within larger of tenets of educational history. He maintained that the development of the community colleges was seen a response to seven historical trends in educational history: (1) local community boosterism, (2) the rise of the research university, (3) the restricting and expansion of the public educational system, (4) the professionalization of teacher education, (5) the vocational education movement, (6) the rise of adult, continuing and community education, and (7) open access to higher education. Tillery and Deegan (1985) took a more linear perspective in analyzing the creation of 2-year colleges in the context of five generations of change. Geller (2001)

summarized that the first generation was from 1900-1930, characterized as being an extension of secondary school. The second generation, from 1930-1950, was characterized as the junior college generation. The third generation, from 1950-1970, was referred to as the community college generation. The fourth generation, from 1970-1985, was called the comprehensive community college generation. Finally, the fifth generation, from 1985 to the present, which was not assigned a name. Tillery and Deegan's model was modified by Geller (2001). Geller suggested a sixth generation, called learning community college generation characterized by O'Banion's six key principles of the learning community college: (1) creating substantive change in individual learners; (2) engaging learners as full partners in the learning process; (3) creating and offering as many options for learning as possible; (4) assisting learners in forming and participating in collaborative learning projects; (5) defining the roles of learning facilitators by the needs of the learners; and (6) documenting improved and expanded learning for its learners, the only way the learning college and its facilitators succeed (O'Banion, 2001). These six learning principles developed to meet the diverse learners' learning needs resonated Knowles' and Hanson's andragogical theories and practices.

The 2-year college is the largest single sector of the U.S. higher education network (Hanson, 2010). They serve close to half of the undergraduate students in the United

States (AACC, 2015). Most of them are adult learners (non-traditional students) who have jobs, family responsibilities, and other engagements outside campus. The average age of a 2-year college student is 29, and two thirds of them attend part-time. At the same time, 2-year colleges in addition to providing access for adult students, they also serve an increasing number of traditional students who take specific courses to get ahead in their studies (AACC, 2015). This diverse student population entails theory and practice of andragogy to engage in learning activities for teaching to be effective.

It suffices to say that culture of a 2-year technical college is quite distinctive from that of 4-year educational institutions, even though these institutions tend to be lumped together as post-secondary educational entities by policy makers, commentators, and relevant stakeholders. Issues such as educational missions, climate, diversity of the faculty and student body, funding, infrastructure, and overall ecological configuration contribute to the unique 2-year technical college environment (Baker, 1994; Cohen & Brawer, 2002, Dougherty, 1994, Hanson, 2010, Huang, 2009). Situated in this cultural contexts, the characteristics of the diverse learners' learning conditions are outstanding phenomena which are the focal points of the four participants in this research. Within this context, the four participants' MDF preferences, pedagogical adjustments, and challenges cannot be fully understood without exploring the cultural context in which the instructors were engaged, in particular related to the pedagogical (andragogical) strategies.

According to Knowles' humanistic conception, ideally, the adult learners are independent and self-directed learners. They understand the purpose of learning which can be applied in the real life situation. Though 2-year colleges are the gateway to postsecondary education for many minority, low income, and first-generation postsecondary education students, they also impose pedagogical issues and challenges due to their life circumstances and learning conditions, especially when interfacing with MDF learning. Thus the researcher uses andragogy as a conceptual framework to provide a guidance in MDF data collection and analysis.

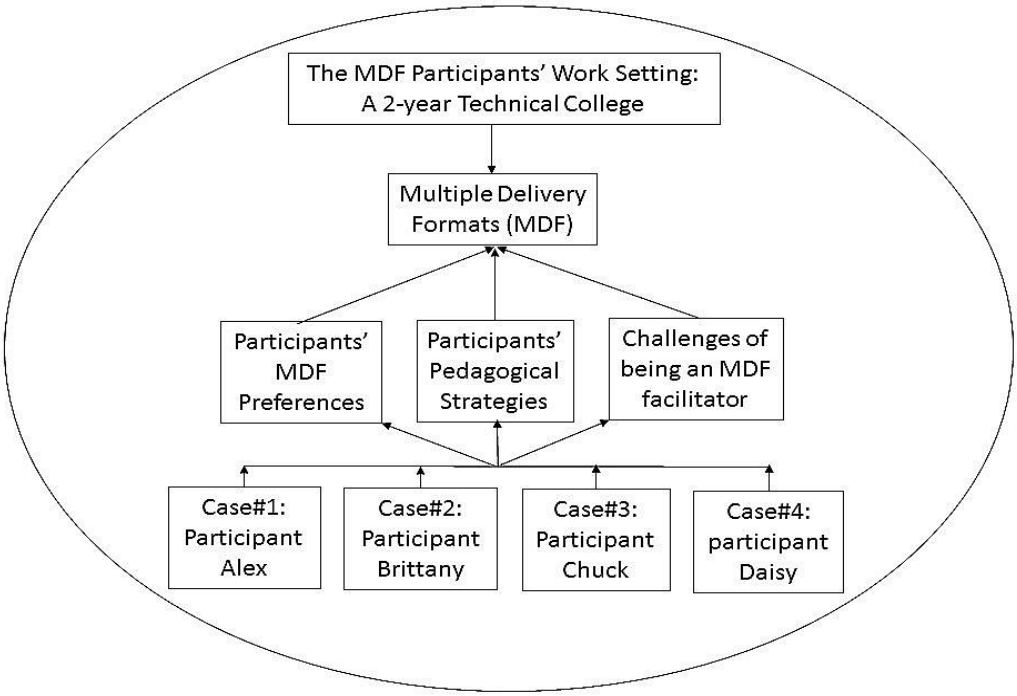


*Figure 3.1.* MDF contexts.

## Purposeful Sampling

One major concern and limitation in conducting this research was related to selecting the cases to be studied. Due to the passage of the 2011 Act 10 by the state legislature, the climate in the studied college underwent a rapid change, including a diminishment in the power of the Teachers' Union and a resulting climate of uneasiness among the faculty.[7] As a consequence, the researcher had to proceed cautiously in soliciting the participation of faculty who would be willing to give candid interviews. Another consideration was that not all instructors in the work setting had experience working with MDF. Of the 256 full-time instructors serving in the college, two-thirds of them had completed hybrid and online training. Among those trained faculty,[8] four faculty members who had at least two years' experience in offering MDF during the 2013–2014 academic year were purposefully selected via the researcher's collegial

[7] The 2011 Act 10 legislation was passed by the Wisconsin Legislature which was also known as the **Wisconsin Budget Repair Bill**, addressing a projected $3.6 billion budget deficit. The legislation primarily impacted the following areas: collective bargaining, compensation, retirement, health insurance, and sick leave of public sector employees. In response, unions and other groups organized protests inside and around the state capitol. The bill was passed into law and became effective as of June 29, 2011. The represented public employees exempt from the changes to the collective bargaining law are state patrol troopers and inspectors. See, http://oser.state.wi.us/docview.asp?docid=7246

[8] Among the trained faculty members, including instructors of General Education College, some experienced two delivery modes for a class. But to offer MDF (at least f2f, online, and hybrid three formats) within a specific semester are not many.

connections within the general education disciplines of the college. Table 1 presents profiles of the participating faculty members, based on their answers to the study questionnaire.

Table 3.1

*Participating Faculty Members' Basic Demographic Information*

| | |
|---|---|
| Sex | Two male and two female faculty members, who are assigned the names of Alex, Brittany, Chuck, and Daisy. |
| Age | Ranged from mid-40s to early 50, with an average of 48. Ages of individual participants are not given to maintain their privacy. |
| Education | One holds a Ph.D., one has completed a master's degree, one has earned a master's degree and plans to pursue a terminal degree, and one has a professional degree that is equivalent to a Ph.D. |
| Experience | Two of the four participants had high school and other college teaching experience, with an average of eight years of teaching. One had served in the military before entering a teaching career; another had a professional career in the private sector before entering the educational field. |
| MDF Training | All had completed MDF in-house training before delivering MDF. |
| MDF experience | All participants had at least two years of MDF experience, with an average of three years. |

**Data Collection**

After the research IRB was approved, the author began data gathering procedures for this study. Because the instructors were teaching 18 to 21 credits per semester and involved in various required campus activities, meetings between the researcher and

participating faculty required setting specific appointments to conduct interviews. Data collection went through the following three steps.

***Step 1.*** The researcher initially set up appointments via email to visit the offices of five potential candidates for this research. Four of them agreed to participate in this research. During those visits in November, 2013, the researcher explained the nature and procedure of this research to the participants. Following those meetings, the researcher sent out a formal invitation to the participants via email with detailed information regarding the research topic, the IRB and issues of ethics, confidentiality, and informed consent. Four faculty members from four different disciplines agreed to participate in this research and signed the informed consent forms (Appendix B).

***Step 2.*** The researcher contacted each of the four faculty members to set up a place and time of his/her choice for a 2-hour audiotaped interview following a semi-structured open-ended questionnaire (Appendix A).

These interviews were conducted during December, 2013 and January, 2014. To obtain information about their teaching styles, the participating MDF instructors also completed the Conti teaching style inventory (Appendix C) after the interviews, which enriched the understanding of each instructor's pedagogical strategies and provided a source for data triangulation.

Each 2-hour f2f interview based on the open-ended questionnaire consisted of

three parts. The topic of and rationale behind each of the three parts of the questionnaire are explained in the following subsections.

*Research Question 1: Instructor's preferences in choosing delivery formats.* As stated in the definition of terms in chapter 1, *preference* refers to a MDF instructor's attitude toward a set of MDF choices, which reflects the participant's explicit decision-making process (Lichtenstein & Slovic, 2006) or evaluative judgment in the sense of liking or disliking a specific delivery format (Scherer, 2005). According to this strand of research, preferences can be modified by decision-making processes and conditions such as the available choices (Brehm, 1956; Sharot, De Martino, & Dolan, 2009) and can manifest in an unconscious way (Coppin, Delplanque, Cayeux, Porcherot, & Sander, 2010). By investigating the faculty members' delivery format preferences, the researcher intended to obtain information about why and how they made decisions regarding specific delivery formats.

Given that various combinations of the three delivery modes (f2f, online, hybrid) were possible across different preps (courses), such as teaching a particular course using more than one delivery format or teaching different courses in different formats, the participants were asked to identify their preferences among various combinations. In scenario 1, the instructor was asked to choose between a given set of formats (i.e., f2f vs. online, f2f vs. hybrid, and hybrid vs. online). In scenario 2, the participants were asked to

rank their preferences among the three formats (i.e., f2f, hybrid, and online).

*Research Question 2: Instructor's pedagogical strategies in MDF delivery.*

Within the teaching profession, *pedagogy* is recognized as the science and art of education and as comprising instructive strategies related to the instructor's own teaching philosophy and to learning goals governed by the learners and instructor (Shulman, 1986). This research defined pedagogical strategies as similar to teaching style and employed Conti's teaching style inventory (1989) to examine participant faculty members' teaching beliefs and actions. The researcher also asked participants how they adapted, adjusted, or changed their pedagogical strategies across different delivery formats to meet diverse learners' needs and achieve desirable learning conditions and outcomes.

*Research Question 3: Challenges in teaching or facilitating MDF within a single semester.*

In this study, *challenge* is defined as a something that requires a great amount of time, skill, and determination on the part of participant faculty members to achieve desirable goals through the use of MDF. As mentioned earlier, delivering multiple courses through multiple formats to diverse student populations may entail multiple challenges, such as pedagogical adjustments, technological affordance, professional development, student engagement, and personal life issues. Thus, Research Question 3

asked participant faculty members about the challenges they experienced in delivering instruction through MDF.

***Step 3.*** After the four interviews were completed, the researcher transcribed the contents from the recorded files and then sent the transcript draft to each participant in February 2014 and asked them to review the accuracy of the data. Because of faculty members' busy schedule as the spring semester began, the half-hour follow-up interviews were completed via email communication and through informal conversations in the school setting. Missing information or unclear texts were subsequently clarified via email. As Merriam (2009) remarked that participant checking in qualitative research was a way to demonstrate internal validity. For data triangulation and further expanding the information beneficial to this research topic, at this stage the researcher also continuously gathered participants' teaching plans and course syllabi in addition to collecting the school's administrative publications, documents, college and department minutes, and records of professional development events, attending two of the participants' best practices presentations that were relevant to MDF practices, and several informal conversations with participants and relevant faculty members regarding MDF for over four months.

**Approaches of Data Analysis**

**Analyzing Data during Data Collection.** Gall et al. (2003) claimed that data

collection was emergent in the case study research. They argued that the researcher learned from data collected at one point in time could affect the subsequent data collection activities, thus the researcher needed to analyze the data while collection was still in progress (Gall et al., 2003). They propounded two strategies for facilitating this process: making records of field contacts and thinking "finish-to-start" (Gall et al. 2003). These two approaches were explained as follows:

***Making records of field contact.*** Miles and Huberman (1994) recommended that case study researchers used standard form to summarize data-collection for further data collection. They also suggested that researchers used contact summary sheet to summarize what was learned from each field observation or interview. The contact summary sheet helps researchers to record the specific details of an idea, event, situation, problem, or people that involves in the research and might affect the subsequent data collection (Miles & Huberman, 1994).

***Thinking "Finishing-to-start".*** Wolcott advised researchers learning how to do qualitative research to work "finishing-to-start", instead of "start-to-finishing" (Wolcott, 1994, p. 404). This approach involves that researchers think in holistic way on their entire research project at the very beginning. Wolcott recommended to adopt this approach as soon as a problem has been formulated before beginning fieldwork or interviews (1994). Thus the finish-to-start method helps researchers anticipate the types of data that should

be collected, and in what depth (Gall et al. 2003).

In this MDF study, the researcher at one point had to decide whether to apply phenomenological research method or case studies. As mentioned before, the researcher has conducted an auto-ethnographic research on her own lived experience account as an MDF instructor situated at a 2-year college setting in 2009 to a conference. She borrowed Miles and Huberman's ideas by designing various summary sheets to record her daily teaching and learning activities and interactions with students, faculty, and administrators in her own work setting as the research field for that research. These work sheets and research findings are valuable to the current study. The other aspect is that the researcher has been through the MDF experience for several years. She got a big picture of the MDF conditions, such as the demographic trend, educational budgetary issues, diverse learners' needs, and collage missions and so on, in addition to her own experience, thus adopting case studies from finishing-to-start approach is appropriate for her to design the semi-structured open-ended questionnaire and the subsequent communications with the participant to anticipate types of data to be collected.

There are three main approaches that can be used to analyze case study data: interpretational analysis, structural analysis, and reflective analysis (Tesch, 1990). In interpretational analysis, the researcher examines case study data closely to find "constructs, themes, and patterns that describe the phenomenon being studied" (Gall et

al., 2003, p. 453). In structural analysis, the researcher examines case study data for the purpose of identifying patterns inherent in discourse, tests, events, or other phenomena, which requires less inference than interpretational analysis. In reflective analysis, the researcher relies primarily on intuition and judgment in order to portray or evaluate the phenomena being studied. Whereas interpretational and structural analysis involve explicit procedures that are performed in a prescribed sequence (p. 459), reflective analysis relies on introspective contemplation, tacit knowledge, or artistic sensitivity, which do not require a prearranged sequence (p. 459).

**Procedures of Analysis**

For this MDF research, the researcher used a primarily interpretational process to explore participants' responses regarding their experiences delivering instruction through MDF to identify themes and patterns that appeared to describe and explain the MDF phenomenon. This section describes the procedures followed in this analytic process.

**Segmenting the Database.** After having reviewed the software-generated database, the researcher decided to code the data by hand during the analysis process so as to maintain a close connection with the data and provide the flexibility to make such changes as revising memos and reorganizing data sets.

To begin the data analysis, the researcher broke the text into meaningful segments, or "a section of the text that contains one item of comprehensible information" (Gall et

al., 2003, p. 453). After having read the original data several times, the author did open coding on the text. According to Strauss and Corbin (1998), open coding is an analytic process through which concepts are identified and their properties discovered within the data. Although open coding can be done in different ways, including line-by-line, reviewing one sentence or paragraph at a time, or after reading the entire document (Strauss et al., 1998), the researcher decided to code by paragraphs of an instance which comprises the researcher's question and the participant's answers of the transcribed interviews. The participating faculty members' expressions were broken down into discrete parts, closely examined, and compared for similarities and differences. A detailed example is shown in the next subsection.

**Developing categories.** As Gall et al. (2003) point out, developing a set of categories that "adequately encompass and summarize the data is one of the most critical steps of the analysis" (p. 453). To construct a set of categories appropriate to the phenomenon being examined, researchers can either adopt a set of categories developed by earlier researchers or develop their own. Given the paucity of studies on MDF situated in a 2-year college setting, the researcher decided to adopt categories she had developed from her earlier auto-ethnographic research on this topic and others that emerged from her repeated readings of the text. Details of developing categories will be found in the next section. This involved determining which phenomena share sufficient

similarities to be considered instances of the same construct and specifying guidelines to differentiate which segments in the database were instances of that category.

The participating faculty members' expressions were broken down into discrete parts for the potential constructs. Strauss et al. also pointed out that after the comparison, the discrete categories needed to go through axial coding which was a process to relate themes or patterns to their subthemes (1998). The term "axial" refers to the coding occurring around the axis of a theme, linking themes at the level of properties or characteristics (Strauss et al., 1998). Events, opinions, objects, people, and teaching and learning activities mentioned in each part of the MDF interviews were coded.

**Coding unit of a segment.** In a researcher's previous personal MDF researches and surveying the literature, some categories and constructs were available.[9] To develop the new category, here is an example to illustrate the process of coding segments.

The following conversation was in response to a question in Research Question 1 of the questionnaire in which participants were asked to choose between online and hybrid as a preferred delivery method. Participant Alex answered that he preferred online to hybrid and then gave the following response in the subsequent discussion with the researcher about the reasons behind this choice:

[9] Such as the pan-classroom facilitator, the adventurous instructor, the organic cognitive migrant, the 4A Self-organizer, the serendipitous facilitator,9 the unique 2-year college missions, and the 2-year college instructor's teaching role.

*Researcher:* Many faculty and administrators are touting hybrid because of f2f taking too much seat time, and online lacking interactions, so hybrid was considered to have the best features of the two worlds. But in reality, it did not work out at our school….

*Alex:* I think, if compared to 4-year institutions that could be different. They have less percentage of "dynamics." The hybrid students don't do the work outside classroom as I expected.[10]

The above segment of Alex's response was broken down into three parts for coding. The first was his comment that a hybrid method implemented in a 4-year college could lead to different results, which the researcher coded into a category of differences between 2-year and 4-year colleges regarding the open admissions policy relating to learners' diverse background as Alex mentioned frequently later in the interview. The second was his comment that 4-year colleges had a smaller percentage of "dynamics," which the researcher inferred and coded as referring to learners' learning conditions after the researcher's further investigation. The third segment was his observation that the hybrid students did not do assignments outside the classroom, which the researcher coded

[10] The current school setting requires a hybrid mode to fulfill 50% of seat time. Under this circumstance, instructors have the flexibility to design when learners have to be in the classroom and when learners work online. In this case, Alex had one week face to face, and followed by an online. He expressed that after the face-to-face session, some students forgot to participate in the online learning activities.

as a category of the previous topic of "dynamics" or learners' learning conditions, which the researcher inferred and coded as referring to such relevant but non-academic issues as self-discipline, learning capacity, time management skills, family issues, and job issues that interfere with learning.

Sometimes participants expressed ambiguous statements which need further probing to be codable, such as the term "dynamics." After the researcher further questioned she found it referred to many learning conditions and life circumstances that students carried to the school setting that interfered with the learning conditions. Sometimes participants' expressions may not be codable according to the researcher's own category system. In such a case, the researcher might decide to go back to revise his or her own category system and then recode all the segments. As Gall et al. (2003) noted, researchers typically revise their category system several times throughout the analytic processes (2003).

**Grouping categories into themes.** As noted above, the main categories identified by the researcher then underwent axial coding to uncover subthemes within these larger themes or patterns (1998). The term "axial" refers to coding around the axis of a theme, linking themes at the level of properties or characteristics (Strauss et al., 1998). Categories conceptually similar in nature or related in meaning went through axial coding to be grouped under more abstract concepts to form sub-themes and themes recorded on

memos with its specific meaning to differentiate from other themes or sub-themes (Strauss et al., 1998). For example, when asked the reasons of their preferred choice between f2f and online delivery formats, participants expressed various subthemes that shared similar concepts of "making connections" to form a theme of "connections," such as human contact, real-time interactions, in-class dynamics, and building relations.

After clustering and categorizing themes/subthemes, all the categories were put through a thematic reduction process. Strauss at al. (1998) proposed that the analytic approach was to systematically gather and order data in a way that structure and process integrated data. Glasser and Strauss (1967) coined the term constant comparison referring to the continual process of comparing segments within and across categories until the satisfactory closure is achieved. Gall et al. (2003) reminded researchers that what was important was the constructs, not the categories as instruments used in the data analysis. The coding process of this paper went through inductive and deductive processes for assertion making. The conceptualizing processes to organize phenomena and label them with a theme were based on these approaches. For example, in one of the coding processes, a characteristic referring to leaners' specific personal learning conditions, such as learning habits, time management skills, different levels of readiness to learn, class attendance, the necessity of instructor's detailed instruction, and sending course reminders, formed a subtheme of "students' learning conditions," which then related to

other subthemes to be part of the "learner characteristics" theme. Another example was that all participants pointed out the characteristics of the individual learner's family, relations, and job conditions as a subtheme of "life circumstances" brought into the learning environment relating to the concept of the "learner characteristics" theme, which was a key challenge to their pedagogical effectiveness.

Once a theme is identified, the researcher began to develop its specific characteristic or properties. All the identified categories, and their variations, subthemes and themes went through thematic reduction process to form a primary code or a dominant theme, for example, the "Learner Characteristics" was identified as prevalent theme that has the specific property of being admitted through an open admissions policy with specific sets of life circumstances and learning conditions to access education, which challenge instructors' pedagogy and teaching effectiveness across different delivery modes.

Comparative analysis was employed to identify similar characteristics and the variations among the four studied cases (Miles & Huberman, 1994). Gall et al. maintained that by applying the method of constant comparison, the researcher should reach at a set of well-defined categories with clear coding instructions. Finally a check on the category system, the inter-rater reliability of coding should be determined (2003). The final thematic statements were shared with the interviewees for clarification and

evaluation to enhance the authenticity of the interpretation process (Creswell & Miller, 2000).

**The Researcher's Role and Involvement in The Case Study**

Unlike the qualitative researcher who tends to play a limited role in the data collection, the case study researcher is the primary "measuring instrument" and involves in the studied phenomena personally (Gall et al. 2003, p.445). The researcher of this MDF study not only closely interacts with the participating faculty members at the work setting on the daily basis during the academic year, but is also empathic to the participants' role as MDF facilitator/educator through her personal teaching experience. In addition to the occasional conversations with the participating faculty, the researcher attended two of the participants' best practice presentations during college professional seminars. She also informally observed one of the participants' in-class activities. Furthermore, the researcher has been an MDF instructor for 12 years at the current institutional setting and conducted an auto-ethnographic research on the lived experience as an MDF facilitator presented in a conference in 2009.

Regarding the role and involvement of the case study researcher's personal disclosure in research reports, Patai (1994) considered some researcher's disclosure could be excessive or inappropriate. Patai concluded that researcher's personal belief and characteristics did not have as much effect on research finding as generally believed, and

therefor left out of research report (Patai, 1994). Nevertheless, as to researcher's sharing one's subjectivity in a report, Peshkin (1998) offered an opposing view. He urged that researchers sought out their subjectivity systematically while their research was in progress, so they could better determine how it might be sharing their inquiry and research outcomes (Peshkin, 1998). Through the interviews and informal conversation with the participants, the researcher inadvertently revealed her perception regarding the impact of the political change, the swift educational budgetary cut, and the quick switching from BlackBoard to the less expensive Eduvance360, as well as the lost voice of Teachers' Union related to MDF implementation. Since 2003, the researcher has been one of the first MDF instructors of the Department of Social Science, she shares her experience with participants in several occasions of the interviews. Peshkin using subjectivity audit involved in taking notes about situations connected to his research that arouse specific feeling (1998). Gall et al. (2003) maintained:

> If self-disclosure passed a certain points, case study participants and readers of the report will view it as a distraction, or they might question the researcher's qualification and the trust-worthiness of the study's findings. On the other hand, brief comments by the researcher about his or her background and experiences relevant to the case study may facilitate the reader's understand of the findings. (p. 449)

Gall et al. (2003) concluded that there were few firm rules about how much personal involvement or disclosure by a researcher was appropriate. Throughout the MDF interviews, the researcher was cautious of her own disclosure based on her research experience and ethical concerns. The latter is discussed in the following section.

**Ethical Concerns**

Data collection in case studies poses several ethical issues, such as the possibility of an interviewee's having unexpected emotional responses to the interviewer's questions, revealing controversial beliefs and feelings to an interviewer, or unwittingly disclosing confidential information to the researcher (Gall et al., 2003). As Gall et al. (2003) pointed out that ethical standards for case study research continued to be actively studied and debated. Flinders (1992) identifies four types of ethical decision making that researchers may engage in when conducting case studies:

1. *Utilitarian ethics,* in which researchers judge the morality of their decisions and actions by considering their consequences.

2. *Deontological ethics,* in which researchers judge the morality of their decisions and actions by referring to absolute values, such as honesty, justice, integrity, and respects.

3. *Relational ethics,* in which researchers judge the morality of their decisions and actions by the standard of whether these decisions and actions reflect a caring attitude

toward others.

4. *Ecological ethics,* in which researchers judge the morality of their decisions and actions in terms of the participants' culture and the larger social systems of which they are part.

All four of the above ethical perspectives provided important guidance to this study, particularly the last one, ecological ethics, since both the participants and the researcher were part of a research setting that was going through a swift political and educational policy change affected by losing a voice through the Teachers' Union and by subsequent budgetary cuts. Throughout the interviews, the researcher constantly reminded herself of this ethical concern. In addition, the researcher of this study took a Research Ethics course and submitted the IRB for approval to her educational institution.

**Validity and Reliability of Case Study Findings**

Gall et al. (2003) pointed out that some case study researcher might not agree in their assumptions about the nature of reality and scientific inquiry. Thus, validity and reliability can become problematic if researchers reject the positivist assumption of a reality that could be known objectively (Gall et al. 2003). But how does a researcher arrive at a valid, authentic, and reliable knowledge claim? Altheidie and Johnson (1994) provided four types of judgments about the credibility of an interpretive researcher's claiming the research findings. Their criteria as the guideline for this MDF research were

described as follows:

1. Usefulness, in which a case study can be useful is that it enlightens the individual who read the report of its findings, or it liberates the individuals being studied, readers of the reports, or some relevant groups. In this MDF study, the researcher shared the first draft with two professors from different colleges. They expressed that they learned new information and saw MDF practices with a brand new perspectives.

2. Contextual completeness, in which the more comprehensive the researchers contextualization, the more credible are their interpretations of the phenomena. By this criterion, case study researchers investigate the contextual features in interpreting the meaning of the phenomena into history, physical setting, environment, numbers of participants, activities, schedule and temporal order of events and the rest of relevant meaningful conditions. In addition to the contextualization, Altheide at al. also emphasized the need of sensitivity to setting's multivocality and tacit knowledge. The former refers to participants who do not speak with a unified voice. They tend to have diverse points of view and interests, while the latter, refers to participants' unarticulated, contextual understanding that manifested in nods, silences, humor, and nuances" (Altheide & Johnson, 1994, p. 492). They suggested that researchers incorporate the implicit meanings presented in the setting (Altheide & Johnson, 1994). In this MDF study, the researcher extended the inquiries on MDF phenomena from individual

participant's account to the characteristics of 2-year colleges, instructional missions, college contexts, diverse student population, college meetings, professional development activities, formal and informal engaging with participants and other faculty members. In each interview, the researcher constantly took notes and memos for specific event happening in the interview, such as, when the researcher interviewed Alex, a female student with a late term pregnancy stopped by to request Alex to give her extended time for complete assignments due to a maternal leave. The researcher observed and took notes how Alex interacted with this student with a tone of caring. During the second interview[11] while the researcher was waiting for Alex, she walked around Alex's lab and discovered several jobs that Alex had to perform in addition to teaching, such as keeping teaching material inventory, purchasing lab materials, and maintaining lab safety and so on.

3. Researcher positioning, in which researchers' interpretations are more credible and useful if they demonstrate sensitivity in how they relate to the situation being studied. The researcher of this study has been part of this work setting for several years. She spoke up and presented in several college, inter-collegial, state, and international meetings and conferences regarding MDF issues and research. For this criterion, the

[11] Alex's interview took more than four hours separated into two sessions due to his busy schedule for multi-tasks.

researcher has her sensitivity in how she relates to this research setting.

4. Reporting style, in which Adler and Alder (1994) proclaimed that are searcher's style of writing "drawing the reader so closely into subjects' world that these could be palpably felt" (p. 381). The researcher of this paper provides a portion of the vivid report on the authentic voice of the participants in order to let readers sense the genuine feeling of the participants.

5. Triangulation, which is the process of using multiple data-collection methods, data resources, analysis, or theories to check the validity case study finding. Triangulation helps to reduce or eliminate biases that might result from relying exclusively on single sources or approach. The researcher emphasized this throughout the process. Ongoing data collection was continued after the formal face-to-face interviews and the follow-ups. In addition to the researcher's using multiple data-collection methods which included designing questions to check the consistency of participants' rational choice and preference, the Conti Teaching Style Inventory (Conti, 1989), the current school's administrative documents, the College meeting minutes, professional development training and information, faculty members' course syllabi, informal collegial conversations, and relevant data sources related to MDF practices, and existing theories and analysis to check the authenticity and reliability of the research finding. The connections between research questions and sources of data is shown in Table 3.2.

Table 3.2

*Connections between Research Questions and Data Sources*

| Research Questions | Data Sources |
|---|---|
| **Research Question 1** asked participants' delivery format preferences between two modes, among three modes, and explained why they made those choices. | • Transcripts from audio-recorded individual interviews conducted through a 2-hour f2f interviews with a semi-structured open-ended questionnaire, and a half hour follow-up via f2f or online communications.<br>• Researcher's informal conversations with participants at the research setting for further information and clarification.<br>• Researcher's ongoing memo writing throughout the data collection processes. |
| **Research Question 2** asked participants' pedagogical strategies when moving around different delivery formats of a given course. | • Transcripts from audio-recorded individual interviews conducted through a 2-hour f2f interviews with a semi-structured open-ended questionnaire, and a half hour follow-up via f2f or online communications.<br>• Participants completed Conti Teaching Style Inventory or Principles of Adult Learning Scale (PALS) after interview. For educators, it also serves as Principle of Adult Teaching Scale.<br>• The researcher collected participants' syllabi, teaching plans, learning activities, attending participants' best practice presentation, participating in various types of professional development to obtain relevant data relating to MDF, gathering campus news and General Education College and Department data related to MDF practices.<br>• Informal conversations with relevant faculty, staff and administrators regarding MDF implementations.<br>• Researcher's previous research paper on her own account of being an MDF facilitator. |

| | |
|---|---|
| **Research Question 3** asked the challenges that they experienced for being an MDF facilitator/instructor. | • Transcripts from audio-recorded individual interviews conducted through a 2-hour f2f interviews with a semi-structured open-ended questionnaire, and a half hour follow-up via f2f or online communications.<br>• The researcher collected participants' syllabi, teaching plans, learning activities, attending participants' best practice presentation, participating in various types of professional development to obtain relevant data relating to MDF, gathering campus news and General Education College and Department data related to MDF practices.<br>• Informal conversations with relevant faculty, staff and administrators regarding MDF implementations.<br>• Researcher's previous research paper on her own account of being an MDF facilitator. |

6. Member checking, in which is the process of having participants review Statements made in the researcher's report for accuracy and completeness. In the previous section, the author of this paper explained the main task of the initial stage of data analysis was member checking through back and forth communication regarding the completeness and accuracy of the transcripts

7. Outlier analysis, Miles et al. recommended using extreme cases as a way to test and strengthen the basic findings. In this study, three of the participants had similar education background and teaching experiences. One was from a professional field outside the educational setting. The researcher treated this case as a potential outlier, and paid attention to the statements made compared to the rest of the three cases.

8. Long term observation, in which gathering data over a long period of time and making repeated observations of the phenomenon can increase the authenticity of case study findings. Though the formal contact hours of the interview of each participant was about three hours, the researcher has long term interest, curiosity and involvement over several years regarding MDF practices of the current work setting.

9. Representativeness check, in which the researcher should consider whether there was overreliance on accessible or elite informants in collecting data. In this research, the four participants were expressive and willing to share experience. Their voices were transcribed and coded with quite equal amount of information.

10. Coding check, in which the reliability or authenticity of the coding process can be checked using the methods for determining inter-rater reliability developed by quantitative researchers. When the first draft was done, the researcher shared with her colleague Dr. M. at the current research setting. Dr. M. has many years' experience in facilitating MDF. She read the researcher's manuscript several times and edited part of the research findings. Dr. M. and offered invaluable suggestions to the research results. Her editing and recommendations served as an important role for the internal validity checking. A researcher's close friend, Dr. S. who is faculty from a local 4-year college providing important insight regarding MDF coding results from his personal research and experience in facilitating distance education at his work setting.

In conclusion, this chapter has explained why the researcher selected the case study as a research method and the issues and difficulties related to conducting the research during a swift change in the political climate of the studied institution. It also described the research procedures, which included purposeful sampling and conducting a 3-step interaction employing interviews, and the design of the semi-structured open-ended questionnaire to obtain information regarding participant faculty members' MDF preferences, pedagogical strategies, and challenges in delivering courses through MDF.

In this chapter, the researcher also raised issues of personal disclosure and involvement, which could affect the trustworthiness of the study findings when the research was in progress. This chapter also highlights the idea of analyzing data during data collection from the perspectives and suggestions of Miles, Huberman, and Wolcott. Finally, the chapter discussed issues regarding validity and authenticity of case study findings, the researcher's role in the research, and four major ethical standards used to guide the research.

# CHAPTER 4

# RESULTS

This chapter presents the findings of this research. The information obtained a result of this study addressed three research questions:

**Research Question 1:** What are instructors' MDF preferences within the context of a 2-year college?

**Research Question 2:** What are the pedagogical strategies adopted by instructors teaching MDF within the context of a 2-year college?

**Research Question 3:** What are the challenges experienced by instructors teaching MDF within the context of a 2-year college?

By answering these questions, this research is intended to (a) produce a detailed description of instructors' MDF experience, (b) provide recommendations for improving MDF teaching, and (c) inform the relevant stakeholders about the cultural contexts and practices affecting MDF implementation.

This chapter provides the results of the analysis described in chapter 3 for each of the three research questions. In presenting evidence provided by the participants' narratives, the researcher has attempted to preserve some of the participants' own voice in the form of excerpts that highlight their specific viewpoints. As Patton (2002) has suggested, voice is more than grammar: "A credible authoritative, authentic, and

trustworthy voice engages the reader through rich description, thoughtful sequencing, appropriate use of quotes, and contextual clarity so that the reader joins the inquirer in the search for meaning" (p. 65).

**Research Question 1: Participants' MDF Preferences**

This study attempted to uncover the MDF preferences of the participants, as these have been shown to consciously or unconsciously shape instructors' decision-making (Brehm, 1956; Sharot, De Martino, & Dolan, 2009). In the educational setting in which the participants worked at the time of the study, all faculty members teach an average of three courses, or preps, amounting to 18 to 21 credits per semester. Before the Act 10 legislation was passed, faculty members were able to select their preferred courses, delivery formats, times, and places based on seniority.[12] One consequence was that junior faculty typically had to pick among the courses left over after more senior faculty made their choices. After the policy changed in the fall of 2011, faculty members could request their favorite courses and delivery modes, although the college dean assigned the actual courses and schedules to individual instructors. Currently, most faculty members have to facilitate multiple preps with different delivery formats. In the Department of Social

[12] Conventionally, the most undesirable scheduling conditions are early morning and night classes, out-reach campus teaching (the current setting has two main campuses and five out-reach campuses), ITV delivery, Web-conference delivery, and hybrid classes. Before the Act 10, online courses were the favorite delivery format among students and senior faculty. One of the consequences was that some senior faculty selected most of the online courses or best time blocks and thus seldom appeared on campus.

Science, for example, 14 out of 16 faculty members facilitate multiple courses in different instructional formats, resulting in a wide variety of teaching experiences and pedagogical methods.

For this part of the research, the researcher designed questions to explore faculty members' preferred delivery formats that might be relevant to their responses to subsequent questions regarding specific pedagogical strategies. These questions explored participants' preferences among different combinations of delivery formats for a selected course and the factors involved in those choices.

To answer RQ1, participants were asked to express their MDF delivery preferences. The first asked them to identify their preferred delivery format between two modes for a course, such between f2f and online, f2f and hybrid, and online and hybrid for teaching an Introduction to Psychology course. The second set of choices was among three options for a course, such as f2f, online, and hybrid for an American Government course. The results for each choice are reported below. (More detailed information about the connections among extracted categories, subthemes, and themes for each choice appear in Appendix D.)

**Preferences Between F2F and Online Formats.** The first sub-question of RQ1 asked participants to choose between the f2f and online formats for a given course and to then explain the reasoning behind that choice. As Table 4.1 shows, three of the four faculty

members preferred f2f delivery to online delivery. The extracted meaningful segments of each participant's explanation for their choice are discussed below.

**Table 4.1**

***MDF Preferences Between Two Single Modes: F2F and Online***

| **Participants** | F2F | Online |
|---|---|---|
| **Case 1: Alex** | 2 | 1 |
| **Case 2: Brittany** | 1 | 2 |
| **Case 3: Chuck** | 1 | 2 |
| **Case 4: Daisy** | 1 | 2 |

*Note.* **1 indicates the first choice, and 2, the second.**

**Alex.** He firmly preferred teaching the selected course online. He said that the contents and pedagogies of the online course were well designed and implemented, which gave him more non-seat time to engage in other professional or personal activities. Alex expressed that he liked having f2f interactions with learners, but he preferred online teaching because it accommodated his multiple roles as an instructor and lab manager (without the help of lab assistants). Online teaching gave him enough time to prepare assignments for learners and create teaching materials for other courses. What he viewed as the most positive feature of facilitating an online course was its flexibility, as it allowed both learners and faculty to fulfill their different roles and balance the demands of jobs and family life. Alex also reported that a larger percentage of independent and

high self-efficacy learners seemed to enroll in the online environment than in the other two modes.

***Brittany***. When asked the preferences, Brittany hesitated when deciding between the two modes. After a short explanation of her hesitation, she chose f2f as her preferred choice. Although Brittany also liked the flexibility that online classes gave her in balancing her teaching and family life, she also stated that a couple of her classes did not go well in an online format because they needed in-class learning activities for students to be successful. She emphasized that she believed the f2f interactions and learning activities were necessary for students to meet the state-required competencies. Brittany also noted that cheating on assignments and exams had been a problem in her online courses.

***Chuck.*** Without hesitation, chuck chose f2f as his preferred format, saying he strongly believed in the power of f2f interactions in education. He said, "I love using technology to enhance my teaching, but there are conditions that technology might not do well." As an example, he mentioned one of his online students who had a problem with Chuck's feedback on an assignment, whom he therefore invited to come to his office for a talk. After the f2f interactions, both had a better understanding of each other's point of view. As a result, Chuck said, "This student is no longer a picture/profile on my online roster. I got a whole different perception and new understanding about this student!"

Regarding the online part of his instruction, Chuck liked its flexibility in freeing up time for other engagements. When asked about online students' performance, Chuck reported that 10%-15% of students in his online classes demonstrated high self-efficacy, which was similar to Alex's observation.

***Daisy*.** She began her answer to this question by saying, "It is hard for me to make a choice between f2f and online, because I love both equally." When I urged her to make a choice for the sake of the research, she finally selected f2f as her first choice. Daisy frankly stated that she liked online classes very much, because they freed up her intense teaching schedule (teaching in two departments) and more time with her minor children at home. Having said that, she expressed strongly how much she enjoyed being in the classroom. Daisy mentioned that many students liked her dynamic and interesting classroom lectures and discussions, and she believed that the students' appreciation contributed to her wanting to teach f2f classes and contributed to her preference.

**Sub-question 1 summary.** Among the participants, the most frequently mentioned reason for preferring f2f to online was the real-time on-site interaction. Three faculty members preferred teaching f2f to online because it built connections through the in-person interactive activities. They mentioned that real-time f2f interactions contributed more to their teaching effectiveness than any of the other modes. Although all the participants reported that they liked online teaching's flexibility for career and family

purposes, they also observed a wide range of learners' learning capacity within the online classes.

**Preferences Between Online and Hybrid Formats.** Asked to identify their preferences between online and hybrid courses, three faculty members chose online and one selected hybrid, as shown in Table 4.2. The extracted information from each participants' explanations of their preferences are discussed below.

**Table 4.2**

***MDF Preferences Between Two Single Modes: Online and Hybrid***

| **MDF Preference** | Online | Hybrid |
|---|---|---|
| **Participants** | | |
| **Case 1: Alex** | 1 | 2 |
| **Case 2: Brittany** | 2 | 1 |
| **Case 3: Chuck** | 1 | 2 |
| **Case 4: Daisy** | 1 | 2 |

*Note.* **1 indicates the first choice, and 2, the second.**

**Alex.** He reported that he preferred online to hybrid teaching because he had been facilitating online courses for more than 10 years and become increasingly successful at it. Regarding the hybrid format, Alex expressed his belief that it was not an ideal mode for the 2-year college setting. As he observed, "Compared to our neighboring university, how many students are parents, or have multiple jobs in that school?" Alex claimed that many students did not complete or forgot to do their online learning activities after they

leaving the f2f session of a hybrid class, and that attendance was a problem when they returned to the f2f classroom after the online session.

***Brittany.*** Like the previous question asked, Brittany again hesitated in choosing a preference. She admitted that she liked online teaching because of her busy teaching schedule, campus involvements, and having four children at home (two of them under five years of age), but because she was concerned about her learners' diverse backgrounds, she chose hybrid over online because it included 50% seat time for f2f interaction. She believed that some courses were not suitable for online teaching, such as Welding, Machine Tooling Techniques, Dental Hygiene, Diagnostic Medical Sonography, and Air Conditioning, Heating, and Refrigeration Technology.[13] Her understanding of why some of her students chose hybrid courses was that they had wanted to register online but found no seats available, so they chose the format with the next-least seat time. Brittany understood that many non-traditional students needed online

[13] Relating to the above phenomenon, the author also informally interviewed a couple of faculty and a department chair regarding courses in their degree programs. This chair said, "We don't offer online or hybrid courses, mainly is because our advisory committee members from the partnership companies have informed us that students needed to take f2f to be candidates for the potential hiring". Faculty member A said, "How do you use online simulation software to show our students to fix a car engine? You have to see them hands-on". He/she continued, "You know what, only about two to three percent of my students can read on their own to understand the textbook information. The majority have to be in class to see my demonstration and do the hands-on activities to understand." Other faculty members and chairs of several degree programs, such as Welding, Diagnostic Medical Sonography, Automotive Technology, Emergency Medical Service and the rest of courses which require heavy face-to-face learning experiences agreed to the above statements.

flexibility due to family, jobs, and their socio-economic conditions, such as not having a reliable vehicle, financial issues, illness, children, and relationship problems. She wanted to make the hybrid format available to students, even though she personally liked teaching online much more than hybrid. To make hybrid courses more effective for her students, Brittany also mentioned that she sent many email reminders and used other class management strategies to keep students coming back to f2f sessions after their online sessions. She offered attendance incentives such as on-site quizzes, reports of previous session contents, and in-class learning activities to earn on-site credits. As an example of the kinds of problems she encountered with hybrid format classes, Brittany described the time she instructed students to record a 2-minute speech clip, upload it to YouTube, and then post it on the discussion board as a hybrid online learning activity. But even though she had done a tech survey and given detailed instructions during the f2f session to make sure that students had the necessary basic understanding and facility to complete those tasks, she ended up receiving many emails about software problems, slow Internet speeds, and technical issues that made the learning activity complicated, and some learners unfamiliar with learning technologies required extended time to complete the homework. In short, even as a technology-savvy instructor, Brittany experienced tremendous stress when dealing with applying technologies to the learning of diverse learners.

***Chuck***. Though Chuck's previous answer indicated that he preferred f2f interactions, in response to this question, he reported preferring online teaching to hybrid teaching. On one hand, he felt that hybrid courses requiring 50% seat-time interaction were beneficial to learners because he could meet all students in a classroom setting and become more familiar with their needs. On the other hand, "In a typical online class, those high-end and low-end students will voice out or contact you more often than those in the middle." Chuck explained that students who fell behind in an online course would often ask the instructor's assistance and that high self-efficacy students tended to ask deeper questions or otherwise obtain the instructor's attention; students in the middle of that continuum, however, seldom contacted him and became strangers to the class. Thus, he needed to pay attention to the "middle-end" learners. When asked how he differentiated between these three types of online students, he responded that he made those judgments based on the quality of their assignments, projects, and online interactions. He estimated that about 10%-15% of students fell in the high end of that range, 30% in the low end, and the rest in between, percentages that were quite similar to the researcher's observations in her own classes. Although a hybrid course could solve some of those problems, he commented that hybrid courses required too much time engaging with learners in the online environment. He remarked that even in the f2f sessions, he spent much of his time explaining the subsequent online activities in detail,

as most learners did not perform well online. Based on his observations, he believed that the hybrid format could be confusing to both learners and instructors, since there was no clear set of instructions or pedagogy for the two different learning environments.

***Daisy.*** She preferred online courses to hybrid ones. In several sidebar conversations during the interview, she strongly criticized the hybrid implementation at her current college setting. She felt the hybrid format could be confusing to faculty as well as to learners. She reported that although she had originally thought of the hybrid format as having the best features of online and f2f learning and that she combined her best f2f and online practices in her hybrid courses, she came to realize that it did not work that way. She said, "Hybrid is totally a brand new class, not from the best features of the two worlds!"

**Sub-question 2 summary.** Although in their answers to the question 1, all the participants valued their on-site interactions for their real-time human contact and hybrid courses devote 50% of their seat time to such interactions, all but one of the participants preferred online to hybrid teaching. For those three, online teaching's benefit of freeing up time for faculty members to engage in other activities outweighed the f2f interactive component of the hybrid format. That may be due in part to the hybrid format's being a relatively new format compared to the f2f and online formats. Whereas online instruction was first implemented in 1998, hybrid instruction did not begin to be offered until 2006.

Based on their responses, the participants' familiarity and successful experience in delivering online courses appeared to make them feel more confident than when using the hybrid method, which was still in a trial-and-error stage and thus consumed more time in instruction and learning management than the online environment. The only participant who chose hybrid over online, Brittany, based her choice not on personal preference, but on her previous experience teaching disadvantaged learners who needed more flexibility and convenience to overcome barriers or obstacles to their learning and tended to choose hybrid courses when the online sections were full.

**Preferences Between Hybrid and F2F Formats.** When participants were asked whether they preferred teaching a hybrid or an f2f for a course, and why they preferred that specific format, three faculty members preferred f2f delivery to hybrid delivery, as shown in Table 4.3. The participants' explanations of their choices are discussed below.

**Table 4.3**

***MDF Preferences Between Two Single Modes: Hybrid and F2F***

| **MDF Preference** | Hybrid | F2F |
|---|---|---|
| **Participants** | | |
| **Case 1: Alex** | 2 | 1 |
| **Case 2: Brittany** | 1 | 2 |
| **Case 3: Chuck** | 2 | 1 |
| **Case 4: Daisy** | 2 | 1 |

*Note.* **1 indicates the first choice, and 2, the second.**

***Alex***. Asked to select between hybrid and f2f, Alex chose f2f without hesitation. He said that because f2f was a conventional delivery mode, faulty knew how to run an f2f class without many pedagogical problems. As to hybrid courses, he repeatedly claimed that it was not an ideal delivery mode for the 2-year college setting. He reported that the learners' diverse backgrounds and wide spectrum of learning capacities challenged his pedagogical techniques, remarking, "I used to teach at a high school with much more rigorous pedagogy and demanding course work than what I am doing here." He mentioned that those high school students had been more homogenous in terms of family background and learning capacity than the learners at the current work setting.

***Brittany***. Brittany had a difficult time choosing between the f2f and hybrid formats. Though she emphasized that she favored f2f interactions, she considered it inflexible for some learners and herself due to the 100% seat time. She stated that she appreciated the free time and convenience of the online and hybrid formats, and she imagined that some learners felt the same way. Nonetheless, she pointed out that the best learning outcomes came from her f2f classes and that the hybrid format took too much of her time providing detailed instructions, sending reminders, and dealing with the low-quality work done online and the absenteeism during the f2f sessions of hybrid courses.

***Chuck***. Chuck preferred f2f to hybrid courses, again, reiterating the importance of the f2f connection with learners to enhance teaching effectiveness. As he reported, "In

the classroom, you identify problems right away. You can see who are scratching their heads, and who gets it. You can see their facial expressions, their tone of questions, their moods, and the whole atmosphere of that class." Chuck liked to answer learners' questions or solve problems immediately and believed that f2f classes provided the most effective teaching. Regarding the hybrid format, Chuck repeated that he spent much more time on hybrid than any of other formats.

***Daisy.*** Daisy hesitated to choose between f2f and hybrid, for she enjoyed the freed-up time due to her busy teaching schedules for two departments and family conditions. Daily said that she was sometimes willing to teach more than five preps and delivery modes in order to reduce the number of courses needed to fulfill the full-time requirement. She said, "Weighing the flexibility of the free-up time versus the complexity of a hybrid, I choose f2f." Daisy recognized that developing and integrating two sets of pedagogies for a hybrid class was challenging. Daisy also mentioned that she was not very technologically savvy, but that she had been constantly learning new technological "tricks" to be a more competent MDF instructor.

**Sub-question 3 summary.** In this question, the most recurring reasons offered by the three participants who preferred f2f to the hybrid format were the interactions and connections made it the most effective teaching mode, which are similar to their responses regarding the previous comparison between f2f and online. As to the hybrid

format, all participants pointing out the pedagogical and course management challenges it presented and the issue of learners' readiness, which they thought might be solved by continuing professional development.

**Preferences Among F2F, Online, and Hybrid Formats.** The last sub-question of RQ1 asked participants to express their preference when they had to choose one delivery format from not just two but three modes: f2f, online, and hybrid. Two participants chose f2f as their most preferred mode, and the hybrid format was unanimously the participants' least preferred mode. The reasons behind their choices are discussed below.

**Table 4.4**

***MDF Preferences Among Three Single Modes: F2F, Online, and Hybrid***

| **Participants/Modes** | F2F | Online | Hybrid |
|---|---|---|---|
| **Case 1: Alex** | 2 | 1 | 3 |
| **Case 2: Brittany** | 1 | 2 | 3 |
| **Case 3: Chuck** | 1 | 2 | 3 |
| **Case 4: Daisy** | 2 | 1 | 3 |

Note: **1 is the first choice, and 3 is the last choice.**

***Alex.*** When choosing among the three modes, Alex selected online as his first choice and hybrid as his last. The reasons he gave were consistent with his previous choices.

***Brittany.*** She noted that although online and hybrid courses provided her flexibility similar to students' demanding the courses with less seat-time, she also

claimed that some courses needed to be taught in the f2f format to be effective. Because she believed her teaching effectiveness was highest in her f2f classes, f2f was her first choice and hybrid was her last choice.

***Chuck.*** He valued the in-class interactions, connections, and instant problem solving of the f2f format and believed the f2f seat time enhanced the teaching effectiveness. However, though his choice was based on the increased seat time, he preferred online to hybrid because of the complexity of hybrid facilitating.

***Daisy.*** In addition to a family situation that was similar to Brittany's, Daisy also had to juggle teaching in two departments. Among the three choices, she chose online as her first choice and hybrid as her last. Like Alex, Daisy's online course was well designed and had been offered for several years. She reported that both instructors and learners were familiar with the course protocols of online classes, which thus ran independently without as much confusion as in hybrid courses.

**Sub-question 4 summary.** By adding one more choice into the selection repertoire, the researcher intended to use choice consistency as an internal validity check. Alex and Chuck's rankings and explanations were consistent with their previous choices, although Brittany and Daisy were more hesitant to choose between f2f and online. The most consistent choice and comments were about the hybrid format, which was the least favorite and ineffective delivery mode of all four participants.

**RQ1 Summary.** Concluded from the four sub-questions of Research Question 1 regarding participants' MDF delivery preferences between two modes and among three modes, the most frequent expressions of participants were the positive effects of f2f interactions and connection in the real time onsite situation. They also pointed out the inflexibility of the 100% seat time of the f2f mode to instructors and learners. Though they all valued the opportunity to facilitate online courses for the well-established framework since 1998 and its freeing up the seat time for balancing other academic and non-academic involvements, they concerned the lack of real time f2f interaction in the online environment that entailed detailed instructions.

Participating faculty members expressed that there was a small proportion of 10 % to 15% higher self-efficacy learners in the online mode than that of in the f2f or hybrid format, but one participant Brittany concerned the online fraudulence. They felt that the students' preparedness and the understanding the nature of hybrid delivery format affected the pedagogy strategies and learning outcomes. Among the various types of delivery formats, the least preferred mode was hybrid and the most effective mode was f2f.

The common explanation of the lowest retention rate of hybrid mode was that the theories and practices of the hybrid framework were still evolving. Lack of the well-developed teaching and learning framework in the hybrid mode at the 2-year college

setting required entailed multiple pedagogical strategies and micromanagement to integrate f2f and online learning. Furthermore, all faculty members expressed that the learner characteristics in the open-admissions policy created very diverse student body, in particular, the huge gaps of students' self-efficacy. Understanding learners' learning conditions and life circumstances were necessary to the effective teaching. They also concerned the technological affordance issues both from their own and learners' perspective, and emphasized the importance of participating in professional development activities. The connections among categories, subthemes, and themes of participants' MDF preferences are tabulated in Appendix D.

**Research Question 2: Participants' Pedagogical Strategy Adjustments**

As mentioned in the previous section, unlike the first research question, the remaining two research questions asked just one question. Research Question 2 asked participants about what adjustments they made in their pedagogical strategies while delivering MDF.

Given the current top-down administrative mandates at the current research setting, curriculum design by instructors is based on state competencies with precise instructional requirements based on Quality Matters Rubric Standards.[14] In this research, instead of

[14] For the newest version of Quality Matters Rubric Standards refers to https://www.qualitymatters.org/rubric

focusing on instructional design as part of the participants' pedagogical strategies, which are sometimes interchangeable with learning/instructional management, the author gathered information on faculty members' teaching styles and choices as they related to the pedagogical spectrum between instructionism and constructivism. The author employed Conti's (1979) 44-question Principles of Adult Learning Scale (PALS) to examine the participant faculty members' pedagogical beliefs and actions. Due to the open admissions policy and the diverse student background at the 2-year college at which the participants worked, most of their learners needed detailed instructions and guidance. This research question explored the ways in which the faculty participants adjusted or changed their pedagogical strategies when moving between different delivery modes. This section reports on the meaningful segments and extracted categories of each participant's discussion of his or her pedagogical strategies; more detailed information on the connections among categories, subthemes, and themes appear in Appendix D.

**Alex.** Discussing the advantages of the f2f format, Alex said, "The f2f has rich in-class interactions and learning activities as well as the instant feedback system. Everything is about making connection with your students. Once you know where your student come from, the good pedagogies follow." When the researcher recalled viewing

an online presentation in which Alex demonstrated how he used Camtasia[15] to capture his f2f learning activities for his online and hybrid classes, Alex explained that "sometimes it is difficult to find proper video clips from the Internet that fit the content pedagogy. Fortunately, when hardware and software are available, such as Podcast Room, Camtasia, and the rest of devices, I make my teaching materials." Alex noted that the f2f and online formats both had well-developed and consistent pedagogies and that learners understood the protocols, expectations, and self-paced working schedule. In these formats, he played the role of coach or adviser.

Throughout the interview, Alex was concerned about two major issues regarding MDF facilitation. One was students' life and learning conditions, and the other was problems relating to hybrid courses. Regarding the latter, Alex said,

> Some students needed to take online, but it was not available due to registration policy.[16] Then they thought that hybrid at least had 50% online, but not aware that they needed to set up two different schedules for f2f and online learning to work with their job, family, and the rest of personal events. They had to do online homework after f2f class to connect to f2f sessions. These increased the complexity of their learning. But some of them were not aware of these conditions…

---

[15] Camtasia is software created and published by TechSmith, for creating video tutorials and presentations directly via screencast or a direct recording plug-in to Microsoft PowerPoint.

[16] Some programs have limited online enrollment capacity or specific policy for registration. For example the Liberal Art program has 40% online courses available. The registration process is based on seniority, students declaring a major, or students approaching to graduation to register and select the desirable courses and delivery formats.

Alex repeatedly expressed that the best pedagogical strategy for teaching effectiveness was fully utilizing the f2f interactive session to make connections with students. As he had mentioned earlier, Alex repeated, "Handling students' non-academic issues are my main pedagogy. When you cannot see them in the real life setting, the possibility for problem solving will decrease!" He continued,

> Remember last week when you interviewed me, a pregnant student of my hybrid class dropped in to request extended time for assignments that she missed in the f2f sessions? She just had a baby a couple days ago. I sent her my recorded lectures and PowerPoint so she could stay home to study the materials.

Alex continued, "Knowing where your students come from and being flexible are keys to success in teaching. I have a couple of times sitting on the hiring committee. You can tell some candidates can make connection with students, while others may not."

Alex's interview yielded the following extracted categories about the pedagogical approaches he thought most important to being an effective teacher. These categories were knowing students' background, being flexible to students, being a caring facilitator, making connections with students, being coach or adviser to students, using technologies to enhance teaching, and using time freed-up from online and hybrid teaching to record f2f teaching for online and hybrid use.

**Brittany.** She expressed that she learned many teaching "tricks" (strategies) to meet her learners' need. As an example, she recalled a recent episode:

> Last semester, I facilitated a scenario analytic project of a hybrid course. I asked each group to present a solution during in-class discussion, and then I flipped the rest of activities online. But during the first couple of weeks, some groups forgot to complete the online part of work, or left to a few people to do the most work. Therefore, I needed to send out reminders for the late groups to catch up. Strategies such as providing incentives for early posting, or critiquing more than the basic requirement could motivate the engagements.

Similar to Alex, Brittany reported paying more attention to her hybrid facilitation: "If I stop sending reminders to connect f2f and online, some will have no clues. I tend to have lecture components in the f2f sessions of my hybrid before it is reinforced in online activities." In her hybrid courses, she noted, "I make sure the social presence of everyone in the online environment. But if some activities are time-consuming in the f2f sessions, then they can do online. Sometimes, you know some student got lost even though before you know it."

She again mentioned that online teaching freed up time for both academic and non-academic activities. She reported using the flipped classroom strategy used by many instructors in her current setting to save time for interactive learning in the f2f sessions of a hybrid class. Brittany also said that hybrid teaching freed up 50% seat time, but it took more time to manage with hybrid learners. Brittany expressed that LMS interactive devices such as chat room, student lounge, and the rest were not the same as the f2f interactions. Brittany consistently used her own ROPE strategy (review, observe, practice, and evaluate) for the first five minutes to engage students in the f2f sessions of

the hybrid class and connect the two learning environments. But still, she reported, the f2f sessions were negatively affected by absenteeism, unpreparedness, forgetfulness, and other personal issues, despite offering attendance incentives. Brittany used the school's Early Alert System, which connects instructors, the Learning Center, and life/career counselors to help students on track. Brittany expressed that both f2f and online courses had been offered for a much longer time at her institution than hybrid ones, and she had been doing well in her online and f2f classes. Brittany used differentiated formative-assessments that encouraged students continuously to try without being afraid of failure. Brittany offered more accessible time via emails, and other social media within 24 to 48 hours, and encouraged student to seek out assistance from the Learning Center.

Brittany's statements provided the following categories regarding her teaching methods: the hybrid mode requiring more time and strategies to engage with students, applying the flipped classroom strategy in her f2f classes, the virtual interactions in the LMS being different from real-time f2f interactions, using incentives to reduce students' absenteeism and unpreparedness when they returned to f2f session, the f2f and online modes being more successful than the hybrid mode, using the school's assisting learning facility and policy, such as the Early Alert System and the referral to the academic service of the Learning Center, and applying a differentiated teaching strategy.

**Chuck.** As mentioned before, Chuck was a strong supporter of f2f teaching. He

mentioned how he got involved in teaching online was when he was newly hired and had to pick up the "leftover" classes. Although he had successful online facilitating experience, Chuck still preferred f2f teaching. Chuck remarked, "In f2f classroom, you identify issues or problems right away and you fix it on spot. In the online environment, you don't have that luxury." As to hybrid teaching, Chuck felt there was a disconnection between the f2f and online sessions due to some students' not being aware that hybrid courses required active learning in both the f2f and online environments. He made efforts to remind students to connect the two learning environments by sending reminders and emphasizing that point in the f2f sessions. Chuck understood the diverse students' learning conditions and adopted a differentiated learning strategy to meet the needs of students with different abilities. He said, "Some students need extra time to complete projects, such as John, his eyesight was impaired. I also offer opportunities for students to correct quizzes to earn extra points without being unfair to other students."

Chuck's narratives provided the following main categories: the f2f mode allowing making connections with students, solving problems on the spot in the f2f mode, informing learners the challenges of connecting two learning environments in the hybrid mode, and using differentiated learning strategies to meet students' needs.

**Daisy.** Asked about her pedagogical strategies, Daisy responded, "I love f2f interactions. I love being in the classroom setting. You can see and feel all the students

that you don't get from online classes." At the same time, she noted, "online learners' questions, online discoveries, and experiences provide me good examples to share with my f2f and vice versa. They are mutually enhanced." Daisy reported that delivering the same content via two different modes made her more aware of the different pedagogical strategies required in the two environments. From her experience, the hybrid environment needed more teaching strategies to keep students coming back to f2f classroom after the online sessions. In particular, she noted using peer pressure to complete collaborative projects for presentation in the next on-site session and giving on-site learning activities that earn additional credits. Daisy said, "I have to spend extra time on informing students to connect with what happened in the f2f sessions and what they need to do when they go back to the online learning environment." The results still sometimes surprised her, however: "I had one semester teaching the same prep for three formats. I provided similar teaching materials, learning activities, same quizzes and exams, graded with the same rubrics, and how come my f2f did the best and hybrid was a disaster?" Daisy did not consider herself technologically savvy, but she said she constantly sought professional development opportunities to continue to learn and integrate technologies into her teaching.

Daisy's responses included these extracted categories: the importance of f2f interactions with students, using different interactive strategies to f2f and online, taking

advantages of the benefit obtained from facilitating a course with online and f2f modes, spending time on classroom management to connect the two types of learning environments; and participating in professional development to learn and integrate technologies into teaching quality.

As mentioned before, the pedagogical knowledge and practices needed for a 2-year college environment are unique condition. During the interviews, all of the participants appeared well-versed in pedagogical theories and practices. Three of the four participating faculty members had extensive high school teaching experience before being employed at their current 2-year technical college, and although the other came from a professional field without teaching experience, she had a bachelor's degree in education and was required to go through a variety of professional development training sessions to enhance his pedagogical practices as part of the teaching certificate renewal and annual performance evaluation during his probationary period. After passing their probation, the teaching quality of faculty undergoes regular evaluation based on student surveys, administrators' in-class observations, and supervisors' and colleagues' input.

Since teaching is the most important task for the 2-year college instructors, the current participant faculty members' syllabi and teaching plans demonstrated dynamic learning activities, such as performance-based hands-on projects and collaborative learning and discussion, and a student-centered constructivist teaching style. However,

the participants' scores [17] on the Conti Principles of Teaching Scale told a different story.

***Participants' Teaching Style Scores.*** The following table showed the results of each faculty member. Scores between below the average score of 146 indicate that a respondent's teaching style is "teacher-centered," while scores above that average indicate his or her teaching style is "learner-centered." According to the indicators, all four of the faculty members presented a lower score than average, indicating a teacher-oriented instructionist style. See detailed info in Table 4.5.

**Table 4.5**

***Participant Faculty Members' Conti Teaching Style Inventory Scores***

| Factor | Mean | Standard Deviation | Alex | Brittany | Chuck | Daisy |
|---|---|---|---|---|---|---|
| **1. Learner-centered Activities** | 38 | 8.3 | 36 | 38 | 33 | 42 |
| **2. Personalizing Instruction** | 31 | 6.8 | 11 | 23 | 27 | 24 |
| **3. Relating to Experience** | 21 | 4.9 | 13 | 19 | 23 | 18 |
| **4. Assessing Student Needs** | 14 | 3.6 | 9 | 8 | 11 | 12 |
| **5. Climate Building** | 16 | 3.0 | 12 | 14 | 18 | 10 |
| **6. Participation in the Learning Process** | 13 | 3.5 | 4 | 10 | 10 | 14 |
| **7. Flexibility for Personal Development** | 13 | 3.9 | 11 | 16 | 13 | 11 |
| TOTAL | 146 | 20 | 96 | 128 | 125 | 131 |

[17] Each faculty member's total score on the instrument is calculated by summing the value of the seven factors.

That all four of the faculty members' combined scores did not reflect a student-centered pedagogy could reflect that they had all adapted to their unique educational environment and diverse student population. In the analysis of the interview data, however, the researcher found that when dealing with learners' non-academic issues that affected learning processes, all four faculty members provided personalized, differentiated, and flexible assistance combined with well-structured teacher-centered instructionist pedagogies. This mixing of instructionist and constructivist teaching styles was also visible in all four faculty members' syllabi and learning activities. These dual demands were also reflected in informal conversations between the researcher and other faculty in student evaluations that indicated that every semester a number of students complained that the student-centered learning activities wasted time and that instructors were not doing their job if they did not "lecture" on the subject matter. In short, properly integrating constructivism and instructionism appeared to be an art that the participants were attempting to master. This appeared to be particularly challenging when moving between two educational philosophy and pedagogies in the hybrid format.

**RQ2 Summary.** In participants' discussions of how they delivered MDF pedagogical strategies, the researcher noticed a pattern of mixing the pedagogies of instructionism and constructivism, a tension also revealed in the contrast between their stated teaching style and their scores on the Conti scale. They reiterated the value of

making connections, understanding students' background, valuing in-class dynamics, being flexible, applying differentiated teaching strategies to accommodating students' diverse learning needs, enhancing TPACK practices, applying a flipped classroom strategy to save time for f2f interactive learning, making extra effort to improve their hybrid practice through professional development, and using micro-managing pedagogy.

**Research Question 3: Participant's Challenges in MDF Instruction**

As discussed earlier, MDF delivery involves both theoretical and practical challenges for instructors. To obtain firsthand information about those challenges, RQ3 asked participants to describe the challenges they experienced in delivering MDF within an academic semester. Becoming an effective MDF instructor is likely to become increasing necessary to meet the needs of diverse students in the 21st century, particularly in the 2-year college setting, as all the participants emphasized in their narratives. Brittany, for instance, noted that students needed access to a variety of course delivery options: "I can't imagine having the same teacher for all of my classes as a student, so why should I believe that all students would want the same format?" But the participants' responses also revealed that the current implementation of MDF imposed various challenges on instructors. The rest of this section reports on the meaningful segments and extracted categories of each participant's discussion of his or her pedagogical strategies. (More detailed information on the connections among categories,

subthemes, and themes appear in Appendix D.)

**Alex.** As he had mentioned on several occasions during the interview, Alex remarked that the diverse background of his students was his major pedagogical challenge. Unlike students in a typical 4-year college, he noted again, many more of his students have to juggle the demands of families, jobs, and school. As a result, he reiterated, "I taught in a quite homogeneous high school with much rigorous pedagogy than teaching at the college level here. Due to the open admissions policy, the students are very diverse. Majority of learners need pedagogical guidance." He identified his major challenges as accommodating the open admissions policy, being aware of learners' diverse backgrounds and life circumstances, understanding learners' self-efficacy issues, providing differentiated teaching, and a necessary focus on instructionism to provide pedagogical guidance to most of the students.

In addition to the general challenges of teaching diverse students, Alex turned his discussion specifically to the topic of hybrid teaching. In particular, he questioned the findings of studies indicating no significant differences in the effectiveness of f2f and hybrid modes of instruction, noting that although he could not tell whether that difference was significant or not during his four semesters of facilitating hybrid courses,

> My department started hybrid in 2006, and then dropped it. We have not offered hybrid for two semesters. These students are not ready to take hybrid. They are not ready to handle two learning environments which have different pedagogical

> strategies and responsibilities. They have too many personal and family issues going on. Mainly, there is too much dynamics in the hybrid mode.

Nonetheless Alex enthusiastically described his engagement in teaching despite the demands of the multiple roles as an instructor:

> Every day I record my f2f lectures via Camtasia, Elmo, and Webcam, making my teaching materials for different formats, deciding different pedagogies for each learning environment, looking for proper ready-made video clips for different subject matters, keeping lab item inventory, tracking on lab and classroom safety, in addition to reading, grading, and sending feedback to learners during weekends. Yep, remember last year, you helped me to translate an item ordered from another country for the lower price to save departmental budget? It finally arrived!

**Brittany.** She is a technologically savvy instructor who uses a variety of technological applications in her teaching, which may help explain her understanding the technological affordance issues from learners' perspective. She said that she needed the flexibility of online and hybrid courses, just like her students, since she had four young children. But she also emphasized the importance of offering hybrid classes to students: "The economic hardship hits on our students hard. Some of our students do not have reliable vehicles, being unable to afford child care, and juggling between part-time jobs. When online classes are filled up, they look for hybrid." Though she likes f2f interactions, she prefers hybrid over f2f courses because of to her experience with disadvantaged students, even though hybrid courses takes more of her time to do "micromanagement." She also mentioned that the flexibility of hybrid which learners

deemed as expedient also imposed pedagogical challenges on her, one of which was dealing with the different degrees of technological expertise and access to technological tools among her students:

> Too much technology! Each student has a different computer with different software. Many of them can't get Citrix[18] to work on their home computers. So, if they are working online, I allow them various options for submission. Many will use YouTube or TeacherTube, but I also have a lot of students who try new applications. They also have different microphones and cameras, so I tell them to test the video to be sure that it can be seen and heard BEFORE the due date. Some students created verbal presentation in some type of business application… I could not remember. Some type of software in their job. I said they can give me. I need to be flexible…

From the above narratives, Brittany's MDF challenges were integrating technologies into teaching, balancing family and career, handling learners' misunderstanding and misuse of hybrid for matters of expedience, trying to combine instructionism and construtivism, and micromanaging students' learning, particularly involving technological applications.

**Chuck.** When facilitating MDF, Chuck responded, "I like f2f interactions. We do many hands-on projects, problem-based projects, collaborative learning, debates, and PowerPoint presentation with peer reviews in my f2f classes. But, it is very important to

[18] Citrix Systems, Inc. is an American multinational software company founded in 1989 that provides server, application and desktop virtualization, networking, software-as-a-service (SaaS), and cloud computing technologies.

offer hybrid." He again mentioned that some students cannot afford to attend f2f all the time due to family and job issues, and that when online courses fill up, hybrid courses provide some of the same convenience. But, Chuck added, "Some students may mistakenly take flexibility as purely convenient expedience to free up time for their life circumstances, in addition to lack of proper learning habits and time management skills." Chuck also pointed out, "My previous jobs did not have union. I adapt quickly. But the switch from BlackBoard to [the less expensive] Eduvance360 affects me. I have not heard any other faculty saying otherwise." He also returned to the particular challenges of teaching hybrid courses:

> Preparation is more important than teaching or facilitation. For the f2f class, students come to class for interaction. For the hybrid, timing is important to move between f2f and online. Finding good resources and making teaching materials for easy access to students, for example, making podcast, finding good videos and so on that take time. MDF lets you working in different environments, but it ties to the way of teaching schedule issues.

Chuck's reported that his major MDF challenges were learners not being ready for hybrid courses, time needed to make his teaching materials accessible to students, applying both instructionist and constructivistic strategies to engage learners, and the quality of the learning management system.

**Daisy.** Discussing the issues related to facilitating MDF, Daisy reported, "I used

to the pattern of teaching many preps in multiple delivery formats. In this environment, the issues of spread-too-thin make me no time for reflection on what I have been doing":

> We and learners are spread too thin. Time is the key issue. Sometimes I teach beyond three delivery formats in order to reduce a class or two. So I have more time for my small children. I have taught more than three preps via more than three formats for several years. That's why it is hard for me to accumulate experience to be an expert for a specific course or a format. Because of the scheduling issues, you seldom get the chance to teach the same course within same formats a couple semesters in a row.

Daisy also described her difficulties trying to develop an effective format for a hybrid version of a course she was teaching. "Initially, I thought combining online and f2f materials to offer a hybrid. But, it did not work out! Then I tried the unit mode providing flexibility for students to complete f2f and online every four weeks as a unit." But she was disappointed to discover that this did not work the way she had hoped because students either procrastinated, or did not come back to the f2f sessions. Daisy continued, "Later, I changed to every other week. It still did not work out that way. Now I am focusing on everyday tasks, such as two hours f2f and flip to one hour online, even in this case, you used up more seat time than online. The other way is one week f2f and the other week online, if you teach night 3-hour-in-a-row hybrid*."*

Daisy concluded her story by noting that *"*Before I taught hybrid mode, I thought that hybrid would be the best parts of the two worlds, but now, I think we got lost in the two worlds." During the interview, Daisy also recognized that she was not as

technologically savvy as she would like to be. She pointed out, "In order to be a competent MDF instructor, you need to be Jack-of-all-trades, knowing useful technologies in your MDF teaching. I need more professional development and training." Due to the above issue, Daisy mentioned, "I don't think that MOOCs (Massive Open Online Courses) are appropriate for our students. It is for the elite learners!"

The above statements revealed Daisy's MDF challenges: the trial-and-error stage of facilitating hybrid courses, the unclear hybrid teaching and learning framework, the importance of being a competent TPACK facilitator.

**RQ 3 Summary.** All of the four participants experienced several types of challenges when delivering MDF. In particular, they identified these challenges as (a) the characteristics of the learner population, (b) the unclear hybrid pedagogical framework entailing multiple pedagogies and efforts, (c) the learners' non-academic issues that affect their learning, (d) the need to be a competent TPACK integrator, (e) the problem of being spread too thin within multiple preps in multiple delivery formats, and (f) the cost issues involved in both to participants' and learners' access to technology.

**Main Themes of Findings**

The findings of the interviews revealed the following six are themes in response to the three major research questions of this study:

**1. The characteristics of the student population have a profound effect on teaching**

**strategies and learning.**

According to the participants, some students in their current teaching setting did not do well in the pure online mode or the online sessions of the hybrid format due to their lack of technological skills, learning habits, time-management skills, and struggle to manage their life situations and responsibilities. This was one of the reasons that participants preferred the f2f environment, as it provided the opportunity to allow non-verbal communication and to detect learning problems that might not be identified in an online environment. All four faculty members pointed out that learners with inadequate self-efficacy intertwined with personal issues and family and job most challenged their pedagogical strategies, particularly in facilitating hybrid courses.

This finding corresponded to the national trend. Two-year colleges comprise close to 50% of the post-secondary educational enrollment. The fast growing student population with diverse background has been a key theme challenging pedagogical effectiveness throughout the interviews. The National Center for Education Statistics shows a general demographic pattern of the 2-year college students. Majority of them come from lower socio-economic status, more minority students in the 2-year colleges than those of in the 4-year colleges, many of them being juggling between job, family, and course work. Many of them are the first generation to attend college compared to that of the 4-year college, and many of them enroll with the part-time student status. The

student demographic profile of the current college reflects quite a similar picture according to the last 3 years' data sets. There are 49% of full time and 51% of part-time. Students with disability and minorities comprise 20% of the student population in the General Education College, which means one out of five students need specific pedagogical assistance.

**Table 4.6**

***Liberal Arts Student Demographics***

| Demographics/ Year | 2012-13 | | 2011-12 | | 2010-11 | |
|---|---|---|---|---|---|---|
| | Number | % | Number | % | Number | % |
| **Full-Time** | 270 | 49 | 338 | 53 | 294 | 55 |
| **Part-Time** | 281 | 51 | 295 | 47 | 245 | 45 |
| **Disability** | 45 | 8 | 49 | 8 | 46 | 9 |
| **Minorities** | 66 | 12 | 80 | 13 | 60 | 11 |
| **Male** | 255 | 46 | 331 | 52 | 301 | 56 |
| **Female** | 295 | 54 | 299 | 48 | 238 | 44 |
| **Mean Age** | 23 | | 22 | | 23 | |
| **Total Program Students** | 551 | | 633 | | 539 | |

Note. **Sources: College of Student Life, 2014.**

Decades ago, Cross (1971) pointed out the three tracks of students in the higher education - the aristocratic, the meritocratic, and the egalitarian. Most of the young prospective students from the upper socioeconomic classes and the high-aptitude

aspirants went to college based on ability. Cross also concluded that the majority of students entering open-door 2-year colleges came from the lower half of the high school classes, academically and socioeconomically. Today, the situation remains in the similar situation.

The open admissions policy of the current institution admits a student body with diverse needs and abilities with a wide range of life circumstances and learning conditions as expressed by all the four participants. These diversities include the displaced workers, non-traditional learners, prepared learners, part-time enrollees, low-income women with minor children, and minority students that may contribute to this phenomenon. Cohen and Brawer (2002) noted that the open-admissions procedures alone allowing students to enter classes almost at will had been challenging the pedagogical strategies the most. For example, in current research setting, some students did not do well in the online learning environment due to lack of technological skills, learning habits, time-management skills, and the struggle to manage life conditions and responsibilities. This was one of the reasons that participants preferred the f2f environment because it provided the opportunity to allow non-verbal communication and to detect learning problems that might not be identified in an online environment. All four faculty members pointed out that the learners with inadequate self-efficacy intertwined with personal issues, family affairs, and job challenged the pedagogical

strategies the most, particularly, in facilitating hybrid courses.

Regarding learning capacity, various data sets reveal a certain pattern of academic capacity of the entrants. The American College Testing Program's entrance-test for 2-year colleges have been considerably lower than the norm for all college students, such as the average national ACT composite score was 20.6, but for students pursuing 2-year college degree had an average of 17.0 (National Center for Educational Statistics, 1993). These differences showed up on statewide tests as well.[19]

Examining the current institution's Compass score[20] distribution (see the data sheet below), the researcher found a huge gap between the academically capable students and the marginally capable students.

**Table 4.7**

***Student Compass Scores During 2011-2013 of the Current Institution***

| **Compass Scores/Year** | 2012-13 | | | 2011-12 | | | 2010-11 | | |
|---|---|---|---|---|---|---|---|---|---|
| **2013/Recommended** | High | Low | Avg. | High | Low | Avg. | High | Low | Avg. |
| **Writing 60** | 99 | 1 | 75 | 99 | 6 | 71 | 99 | 1 | 73 |

[19] Scores on the New Jersey College Basic Skills Placement Test showed that 46.8 percent of the students entering the county colleges in 1993 "lack proficiency " in verbal skills, this compared with 19.6 percent at the state colleges. Comparable figures for computation are 54.0 versus 20.7 percent, and for elementary algebra 72.9 versus 30.9 percent (New Jersey State Department of Higher Education, 1994).

[20] The **COMPASS** program is a series of untimed computerized placement tests developed by American College Testing (ACT). COMPASS helps identify students' strengths as well as the knowledge and skills that they will need in order to succeed in specific subject areas. COMPASS also helps schools use this information to guide students toward classes that strengthen and build logically upon learners' current knowledge and skills.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Reading 80** | 99 | 38 | 86 | 99 | 19 | 85 | 99 | 19 | 85 |
| **Algebra 39** | 97 | 15 | 34 | 95 | 15 | 35 | 99 | 17 | 58 |

Note. **Sources: Admission Office, 2014.**

The gaps in writing, reading, and algebra scores were distinctly wide. This phenomenon also correlated with the faculty members' expression in the interviews that there were 10% to 15 % of the high achievers in each learning mode, particularly, in the online learning environment. Three faculty members expressed that progressing over time, online attracted well-organized, self-motivated and independent students than those of f2f or hybrid. This result corresponded to one finding of Jaggars' (2011) who examined the literature for evidence regarding the impact of online learning in the community college settings. She concluded that online coursework might hinder progression for low-income and underprepared students. Furthermore, students who were employed for more hours and students who had demographic characteristics associated with stronger academic preparation were more likely to enroll in online courses. However, students who enrolled in hybrid courses were quite similar to those who enrolled in an f2f curriculum (Jaggars, 2011). This wide range of earning capacity also reflected on the typical 2-year colleges that differentiate three categories of student population in different learning environments: the transfer, the remedial, and the occupational.

The instructors in a study indicated that they had come into their teaching

positions at the 2-year college expecting to teach college-level students, but soon discovered that they had to adjust their teaching methods and expectations to meet the actual performance and needs of their students, suggesting that the similar situation observed two decades ago by Cohen and Brawer (2002), has not improved, and perhaps even worsened.

Thus, as long as egalitarian thoughts and practices exist that everyone should have equality of access to educational opportunities, regardless of socioeconomic background, race, ethnicity, sex, gender, or ability, the 2-year colleges will continue to accept the diverse enrollees (Cross, 1971).

**2. The complexity of the hybrid pedagogical framework entails multiple pedagogies and increased effort.**

To explain why the hybrid format did not perform as well as other modes, all the participants pointed out the insufficient teaching and learning framework for both faculty and learners at the current institutional setting. A couple of participants described this problem as a matter of the complex "dynamics" of hybrid teaching. According to Alex, the complexity of hybrid as an alternative distance learning format did not fit well with the 2-year college setting, due to its diverse student population. Daisy used "dynamics" to describe her experimental approach to figuring out a proper way to facilitate a hybrid course. Another of these complicating dynamics was, as Chuck noted, that while hybrid

courses helped meet students' needs, some students took hybrid courses' flexibility as an expedient opportunity to free up time for their life circumstances, which, combined with their lack of proper learning habits and time management skills, often resulted in procrastination and failing to assume the learning responsibilities in both learning environments of the hybrid class.

The unclear hybrid teaching-learning framework emerged as a dominant theme in this research. Regarding Hybrid Framework, Picciano (2009b) pointed out that if there was no sound pedagogical reason for using a particular teaching method in a hybrid course, it should not be used. Research showed that developing hybrid courses without pedagogical frameworks had caused difficulty for faculty to meet the learners' needs and fulfill the competencies' requirements (Batts, 2006; Bonk et al., 2006; and Wenger & Ferguson, 2006). These problems have been repeatedly validated from the faculty members' perspective and experiences investigated in this paper.

Research data showed that blending and incorporating technology into the learning environment and designing effective learning communities are the key components for the hybrid mode (Bonk, 2006; Picciano, 2009; Palloff & Pratt, 1999; Verkroost, 2008). However, to implement the integrated TPACK hybrid with quality is not as easy to develop as most stakeholders believe, especially in the 2-year college setting. As one of the participant faculty members pointed out that simply applying

technological components to a hybrid course did not work well in forming a learning community. It is the social presence and real human contact were necessary for expressing care and making connections that makes hybrid and the rest of delivery formats working.[21] In this research setting, among three delivery modes, hybrid persistently had lowest retention rate compared to other modes. The following table shows the most recent data compared the retention rate among three formats of full-time equivalent (FTE) [22] in the Liberal Arts of General Education College.

**Table 4.8**

***FTE Liberal Arts Successful Course Completion by Delivery Type of the current Institution***

| Delivery Types/Year | 2012-13 | | 2011-12 | |
|---|---|---|---|---|
| | % of completion | FTE | % of Completion | FTE | % of Completion |
| **F2F** | 62 | 128 | 62 | 49 | 62 |
| **Online** | 63 | 23 | 66 | 22 | 60 |
| **Hybrid** | 56 | 12 | 58 | 12 | 53 |

Note. Sources: Department of Behavioral Science and Civic Effectiveness, 2014.

[21] This statement was expressed by all four participant faculty.

[22] The 2-year colleges are funded by the state based on the concept of the full-time equivalent student (FTES). For every FTES that the college serves, it receives approximately $3,000 in funding from the state. FTES can be generated under five different formulas: Census Week, Positive Attendance, Daily Census and Independent Study/Work Experience.

This result resonated a recent Community College Research Center's (CCRC, 2012) research outcomes of a southern and a western state. However, that research only focused on the comparison between f2f and online. Their data showed that the f2f had higher retention rates than that of online.

From the above analyses, the hybrid mode may not have the best features of the two worlds in the 2-year college contexts. According to all four participants' experience, hybrid learners tended to juggle between f2f sessions and the online environment, thus, confusion and discontinuity could occur. Even within the same course, faculty members expressed that it was like teaching more than two totally different courses or different two formats, and each had its own pedagogy and managements. F2f was successful in pedagogical consistency, while hybrid needed extra technological knowledge (TK) to render the content knowledge (CK) via different pedagogical knowledge (PK) to connect two learning environments.

Scholars in the hybrid research field have differentiated three types of hybrid practices. This first stage of development is "Hybrid Course" which combines online and traditional classroom experiences into one course. As mentioned in the definition, to distinguish a hybrid, there has to be "30% to 79%" learning activities in the online environment (Simonson, Smaldino, Albright, & Zvacek, 2009). The second stage of development is "Enabling Hybrid Course" which is a hybrid category promoting access

and convenience to the learning environment (Graham, 2006). The third stage of development is "Transformational Hybrid Course" which exhibits drastic changes in pedagogical frameworks, activities, and the authentic use of learning technology (Graham, 2006). In this research, according to the above categorization, the current hybrid practices fit into the first stage with a combination of the second stage of promoting access and convenience to the learners. The practice of the transformative stage requires a shift of paradigm in pedagogical framework with learning technological integration. Apparently, the current college is in its neophyte stage as expressed by the participants.

To search for the reasons why hybrid did not perform well as other modes did, all four participants reiterated the insufficient teaching and learning framework creating "pedagogical dynamics" as mentioned in the previous section, added up with learners learning conditions and life circumstances that challenged their pedagogy the most. Alex used the frame of reference from f2f and online modes to point out that the complexity of hybrid as an alternative distance learning did not fit into the 2-year college setting, due to the diverse student population. "Dynamics" to Daisy was her trial-and-error method to figure out a proper way to facilitate a hybrid. Thus the term "dynamics" connoted a less defined, organized, or developed teaching and learning framework. "Dynamics" also referred to discontinuity, meaning that students who could get lost between two modes of

learning as mentioned by all participants. This information was also found in one of the researcher's papers (2009) regarding her own lived experience of MDF. From her own experience migrating among different delivery formats among multiple preps, she found that students once were familiar with online learning protocols, they tended to show less interest in attending the f2f sessions that made hybrid teaching effectiveness difficult. On the other hand, as all the participant pointed out that once hybrid students attended the f2f sessions, it was challenging to them to go back to online to complete required online learning activities. For the latter, learners might take the online flexibility of hybrid as convenience to meet with their job, schedules, life circumstance, which tended to impose confusion, discontinuity and obstacles to attend the f2f part of hybrid learning (Huang, 2009). "Dynamics" also referring to expedience, as Chuck argued that he emphasized hybrid meeting students' needs, he also pointed out that some students mistakenly took hybrid's flexibility as expedience to free up time for their life circumstances, in addition to lack of proper learning habits and time management skills. The combinations of several factors resulted in procrastination that failed to assume the learning responsibilities in both learning environments of the hybrid class. As mentioned before, Daisy expressed that at the beginning she thought that just blending the online and f2f part of learning activities should work well. In fact, through two semesters' trials and errors, she claimed, "Hybrid is a pure third animal! It is like teaching a brand new course!

You need two different sets of pedagogies while seamlessly moving back and forth between them! It is truly time consuming!" Daisy's expression resonated an explanation in one of the Sloan Consortium's research about hybrid learning. It pointed out that due to a murky evolution from f2f learning to fully online, blended learning was generally not part of an institutional transition strategy from f2f to fully online courses, but rather a discrete mode of option (Sloan-C, 2009).

The other reason why hybrid teaching challenged teaching and learning paradigms was that the growth of the hybrid mode was only about a decade old (Picciano & Dziuban, 2007). Both f2f and online formats have been well developed and practiced via faculty members' own curriculum design and delivery. All participants' expressions also resonated a previous research finding based on the 4-year college's setting. It proclaimed that the hybrid/blended learning required more engagement with new media, re-conceptualization of teaching and learning, technological affordance, and pedagogical shifting than those of the single mode (Bonk & Graham, 2005; Dziuban, Hartman, & Moskal, 2004; Garrison & Vaughan, 2008; Humbert & Vignare, 2005). In conclusion, all participants expressed it took extra efforts to conduct micro-management for the hybrid class due to the unclear teaching framework.

**3. Learners' non-academic issues influence their learning.**

As mentioned above, the characteristics of the student population was the main

challenge to pedagogical effectiveness identified by all of the participants. They expressed that learners' non-academic affairs interfered both teaching and learning process. Students' tended to bring their personal issues, such as unreliable transportation vehicle, inadequate access to electronic devices for assisting learning, heath problems, jobs, children, and relationship issues, into the learning environment. Faculty members needed to adopt different pedagogical strategies to connect with students and provide support to improve their learning conditions.

Thus, the key issue presented by this problem was how to provide the necessary personalized attention and pedagogy, which explained the participant's recognition of the importance of f2f interactive components in enhancing learning outcomes. The results of the faculty members' Teaching Style Inventory indicated a tendency among the faculty members to adopt a "non-academic constructivism" that provided student-centered learning assistance to enhance student-faculty connections via understanding students' life circumstances, and followed by instructionism to facilitate the content areas.

**4. It is essential for instructors to become competent TPACK integrators.**

All of the participants had mastered not just content knowledge of their own disciplinary areas, but participated in mandatory in-house pedagogy and technology training to be certified before delivering different formats as part of their teaching evaluation requirements. They needed to be familiar with TPACK: the integration of

content knowledge, pedagogical knowledge, and technology knowledge.

The responses of the participants supported the finding of Cohen and Brawer (2002) reported that the teaching methods of 2-year college instructors were often superior to those of their counterparts at 4-year universities because some of them came from the ranks of high school teachers and had received professional training in pedagogy. The three of these faculty whom had significant high school teaching experience also expressed more appreciation of their current teaching opportunities than the faculty member who to the teaching field from a professional field, who tended to see current conditions, such as issues of academic freedom, union voice, and individualized curriculum issues with a more critical eye.

In addition to their teaching, the faculty members also engaged in advisory committees, advising student clubs, partnerships with local community, advocating for the school, assisting in recruiting students, and serving in various types of in-service and professional development activities. In this sense, as Cohen et al. (2002) maintained, the faculty members were more like public school teachers than university faculty, including a lack of access to aides, assistants, or other academic resources. Faculty thus had to be a "Jack-of-all-trades," as Daisy mentioned, serving as curriculum and course material developers, content experts, course designers, multiple-course instructors, multiple-format facilitators, technology enablers, classroom managers, and other such minor roles,

as fundraisers and community liaisons.

**5. Instructors are spread too thin by having to managing multiple preps and multiple delivery formats.**

As a result of serving as the aforementioned "Jack-of-all-trades," the participants described being constantly spread too thin by their many and diverse teaching responsibilities. In particular, taking care of hybrid courses consumed an inordinate amount of their teaching time and effort to achieve a desirable teaching effectiveness. Juggling multiple preps and migrating among multiple delivery formats with six to seven classes and 18- to 21-credit teaching loads per semester easily lead to burnout.

**6. The costs of technology negatively influence access and effectiveness.**

Due to their susceptibility to political and educational policy changes, fiscal vicissitudes had an effect on several aspects of the participants' teaching experience, in particular the problem of technological affordability. State-level budgetary issues affected the quality of the licensed LMS that Chuck critiqued with reservations. Faculty members also mentioned that the technological devices students they used were diverse in their functionality. They had Internet connections of different speeds, and some students did not have the printers or software required to complete homework properly.

The following chapter will discuss the implications of these findings for practice, policy, and future research.

# CHAPTER 5

# CONCLUSIONS AND IMPLICATIONS

The purpose of this case study was to explore how multiple delivery formats (MDF) are viewed and experienced by the participant faculty members teaching in a 2-year college setting and to use that information to better understand instructors' MDF experience, provide recommendations for improving MDF teaching, and inform the relevant stakeholders regarding the cultural contexts and practices that affect MDF implementation.

## Overview of Findings

An analysis of the information gathered from the study showed that the majority of the four faculty participants preferred the f2f setting over the online environment because of its real-time connections and teaching effectiveness. While they appreciated the flexibility that online asynchronous learning provides to free up time for other academic and personal activities, they also felt that they lost human contact in the virtual environment. All four faculty participants reported significant challenges in facilitating hybrid classes and described the hybrid framework at their institution as still evolving through a trial-and-error process. Participants all emphasized that the confluence of the diverse student population and the open admissions policy imposed tremendous challenges on instructors' pedagogical adjustments and teaching effectiveness in

delivering MDF. They also expressed concerns about the challenges that assigned teaching schedules with multiple preps in multiple delivery formats present for being an effective MDF instructor in the growing demand for distance education. They reported feeling spread too thin by the demands of being competent TPACK facilitators, and their other institutional responsibilities to successfully fulfill the state required competencies and meet the needs of their students.

Finally, participants' MDF experiences resonated most of the theory and practice of andragogy, such as using case studies, role playing, problem-based, service learning, collaborative learning, situated learning, and the rest of authentic learning activities and assessments. However, from the participants' experiences, the most effective pedagogical (andragogical) strategies tended to happen in the f2f setting than that of any other delivery formats. Participants facilitated adults' learning emphasizing more on the process, flexibility, as well as connection, and less on the content being taught.

On the other hand, Knowles' ideal adult learners who are self-directed and independent in controlling their own learning are minority in this research. They comprise 10% to 15% high self-efficacy leaners who tend to do well no matter what kind of delivery format they enroll. The survey results of Conti's teaching style and learning activities of participants reflected Knowles' pedagogy-andragogy representing a

continuum ranging from teacher-directed to student-directed learning. The integrated instructionism and constructivism is practiced by all of the four participants to meet the diverse learners' needs.

**Conclusions and Implications for Practice**

Overall, the two most prevalent themes that recurred in the faculty members' responses regarding their teaching preferences, strategies, and challenges were the distinctive characteristics of their student population and the evolving nature of the hybrid framework. This section discusses the implications of these findings for practice.

In the age of disruptive learning, although the anytime, anywhere, anyhow virtual mobile mode of learning has permeated many areas of the educational landscape, these results indicate that there are still learners who need the guidance provided by f2f instructionism more than constructionist pedagogies. This study therefore supports the conclusion of Cox (2009), who found that although the relative lack of interpersonal connection and support in the online learning environment might not be particularly problematic for high self-efficacy learners, this is not the case for many of the low-income, ethnic minority, or first-generation students who comprise most of the 2-year college population. The responses of the participants in this study indicated that many of their learners were under prepared and may not have learned the necessary academic discipline required in a postsecondary educational setting. However they were also

learners with high self-efficacy who needed the educational opportunities to move forward. These conditions were not fixed, and advancement could be taught and earned if opportunities were available to them.

The participants' responses about the importance of making connections between learners and instructors also echo a recent Department of Education study on 2-year colleges, that found instructors' caring, connection, encouragement, and guidance were critical to help alleviate underserved students' anxiety, build their academic motivation, and support their success (Barnett, 2011). They also support earlier findings that to enhance diverse students' learning and achievement, distance learning needs to incorporate stronger interpersonal connections and instructor guidance (Jaggars et al., 2013), as all four participants believed that learners required real human contacts through f2f pedagogies and teaching strategies to learn better and preferred f2f delivery because of its teaching effectiveness, even though it imposed more inflexibility on both instructors and learners than do the online and hybrid modes.

Engaging with well-prepared, competitive and privileged student population may have higher return of educational investment, but a society does not function only with the high learning capacity students. It is a holistic system comprising different segments of population to integrate as a whole. As mentioned in the previous section, 2-year colleges serve close to 50% of the post-secondary student population but they have not

been accorded with the due care and attention, and probably, have become an effective educational budget-saving mechanism.[23] Indeed, they are not from the aristocratic or meritocratic tracks, who benefit from the wind of advanced technology, thus sailing much further than those who are stranded by the turbulent sea. But, the 2-year colleges are embedded with greater potential than that of any other institutions because their concern is with the people most in need of assistance (Bourque, 1995). Bourque pointed out that a former President[24] indicated that 2-year colleges functioned on the "fault line" of American education. Cohen et al. (2002) argued that the significance of the 2-year colleges' success in continuously moving forward because they were engaged with people who could enter the mainstream or who could fall back into a cycle of poverty and welfare. Furthermore a Vice President[25] mentioned that the successful story of the 2-year college was America's secret weapon. However, as the swift changing educational policy and budgetary issues, the increasing class size, pushing toward more distance courses and teaching more classes create even tougher challenges to instructors who might have

[23] Two year colleges tend to be managed in a budgetary swift mode. There are no student dormitories, the various types of sport fields, the student recreational centers, nor the spacious auditorium. Using the current school setting as an example, 2 to 20 faculty members share a limited office space. The graduation ceremony has to be held at the auditorium of the local big high school or university and printing for teaching materials is recorded. These necessary components of what a school is about – are economically saved.

[24] Mr. Bill Clinton.

[25] Current Vice President, Mr. Joe Biden.

already spread too thin and burnout. Therefore, if the higher education philosophy addresses the importance of egalitarianism and practices that everyone should have equality of access to educational opportunities, regardless of all sorts of diverse background, then the 2-year colleges will continue to accept the enrollees (Cross, 1971), and many of them will involve in MDF learning. Through examining MDF experience and challenges of faculty working in a 2-year technical college, this study connected the micro perspective of the participants' daily educational practices to the larger environment of a 2-year college setting that is subject to the vicissitudes of the educational policy changes. Based on these findings, this study offers the following recommendations:

**Macro-level Recommendations**

From the macro-level perspective, the two primary missions of the 2-year technical college are to prepare entry-level workers to serve the community's needs and to provide a low-cost opportunity for disadvantaged students who want to pursue a 4-year college degree. To fulfill these dual functions, a systemic and systematic paradigmatic shift to reform the admission policies of colleges such as the one in this study may be needed. How to maintain egalitarian access to educational opportunities for all but also provide educational accountability is challenging yet a necessary change that must be made if the education provided by 2-year colleges is to be and remain viable.

To enhance learning outcomes entails systemic and systematic coordination and collaboration to support students and instructors on the frontline of these colleges' attempts to fulfill their missions and who form the essential core of the system. Yet many such institutions, facing budgetary constraints, have followed the pattern of the studied college in downsizing and reorganizing such support services and programs as the Department of Professional Development, Assisted Learning Center, Career and Personal Counseling, Developmental Education, and IT Department. But if 2-year colleges are to attract enough students to be economically viable and meet their communities' employment needs, they will also have to rigorously identify those students' particular and individual learning capacity and life circumstances and provide necessary pre-learning orientation, remedial instructions, and guidance regarding the different nature of each delivery mode before they select and register for courses.

**Meso-level Recommendations**

The experiences of this study's participants and the diverse needs of 2-year college students suggest that their whole institutional structures, including individual departments and colleges, the offices of Academic Affairs, Financial Aid, and the support services mentioned above need to develop seamless collaboration to meet students' learning needs. The Department of Professional Development also needs to provide faculty members with sufficient training opportunities and proper incentives to help already

spread-too-thin MDF instructors learn how to employ new and effective pedagogical methods and educational technologies, with an emphasis on the evolving theories and practices of the hybrid mode.

**Micro-level Recommendations**

The faculty members who participated in this study repeatedly stated that connectivity and individualized pedagogy were essential to create desirable learning outcomes for specific segments of the student population they encountered in their daily MDF teaching. Although the participants recognized that effective teaching was the most important element in meeting this goal, they felt unable to perform as well as they wished, given their current unpredictable and heavy teaching loads of seven classes of 21 credits in multiple delivery modes per semester along with their other campus duties and demands of their personal lives. The participants also noted that given their heavy teaching load and responsibilities, they seldom had time to devote to reading or conducting research in either education or their academic disciplines, which is not a requirement for their positions. This seemed to contribute to the feelings several expressed of being glorified high school teachers, as functioning like white-collar workers rather than teachers, and not being understood or respected by their peers in the 4-year universities.

Issues regarding the connection between research and practices, Stokes (1997)

emphasized on the "Pasteur's Quadrant," suggesting the dual focus of building basic theory while simultaneously improving practice. The researcher found a puzzling issue that most theories and practice in teaching and learning tended to focus on PK-12 or at the university level, leaving the most dynamic, diverse, demanding educational setting of the 2-year college with inadequate research and interests. Thus supporting and encouraging faculty to engage in teacher-scholar activities might significantly raise faculty morale and intellectual engagement, and result in the integration of current theories and best practices into their teaching to better meet the needs of their students. All doing so would appear to entail a complex change in the 2-year colleges.

One potential solution to this need could be met by encouraging instructors to engage in theory and practice integration on a small scale and in practical research, such as action research regarding MDF by providing release time, reducing teaching loads, or offering financial compensation or reimbursement for engaging in this type of academic activities. Such activities could be recognized along student evaluations and administrator's teaching observation on instructors in determining faculty members' performance and merit-based pay increases (particularly in the case of studied institution, where the teaching rewarding system based on seniority was abolished by Act 10 in 2011 and no specific criteria or standards beyond teaching evaluations have been set up to replace it).

**Limitations of Study**

As noted in chapter 3, this case study was conducted during a political transition that may have affected the participants' responses and whose implications for the state's 2-year colleges are still in flux and unclear. Throughout the interviews, the researcher noticed that participants tended not to touch on sensitive issues relating to their teaching, such as the high-rank administrators' top-down decision, the silence of Teachers' Union, the drastic change from the sophisticated Learning Management System to the current inexpensive one with less functions for online facilitation, and the over-crowded instructor offices, to name a few. Although this may have affected the candor or completeness of their responses, the researcher attempted to minimize this effect by keeping her questions specifically focused on the individual participants' teaching experiences.

It should also be noted that all the participants were selected from the General Education College, and thus their instructional preferences, strategies, and challenges might be different from those of faculty and adjuncts in other degree programs of the institution. The distinctive political and economic situation in the state in which this college is located may also limit the applicability of these finding to 2-year colleges in other geographical settings.

Another possible limitation of this research was that the researcher was also an

instructor in the same educational setting. Her emic perspective might have unconsciously affected the analysis of the data, although as explained in chapter 3, she also collected other types of data for the purposes of triangulation.

**Implications and Recommendations for Future Research**

Although the original research design of this study also included interviewing five learners who had experienced all three of the MDF formats during their coursework to provide a more holistic understanding of this topic, this student population was found to be too small and close to graduating to recruit a sufficient member of participants. For the future research exploring these issues from the perspectives of 2-year college learners could provide very valuable insights.

Because this case study only focused on one unit of the college, similar research conducted with a larger and more inclusive sample might also provide new insights into the experiences of 2-year college faculty in this institution. Ideally, this type of research can also be expanded to investigate the perspectives of campus administrators and supporting staff on MDF issues. The college decision-makers, professional development specialists, and supporting staff play important roles in involving MDF implementations. In addition to the above suggestions, comparing the results of this study with a similar one conducted in a 2-year college that also employs MDF formats but offers more or

different support for students and faculty members might offer very useful recommendation for improving educational experiences of 2-year colleges more broadly.

## REFERENCES


Adler, P. A., & Adler, P. (1994). Observational techniques. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 377-392). Thousand Oaks, CA: Sage.

Allen, I. E., Seaman, J. & Garrett, R. (2007). *Blending In: The Extent and Promise of Blended Education in the United States.* MA: Sloan C.

Allen, I. E. & Seaman, J. (2008). *Staying the course: Online education in the United States.* Needham, MA: Sloan Consortium.

Allen L.E, Seaman, J. (2009). Learning on Demand: Online Education in the United States *Online Learning Consortium*. Retrieved from http://olc.onlinelearningconsortium.org/publications/survey/learning_on_demand_sr2010

Allen, I. E., & Seaman, J. (2010). *Class differences: Online education in the United States,* Needham, MA: Sloan Consortium.

Altheide, D. L., & Johnson, J.M. (1994). Criteria for assessing interpretive validity in qualitative research In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 485-499). Thousand Oaks, CA: Sage.

American Association of Community Colleges. (2014). Reports and White Papers. *AACC*. Retrieved from http://www.aacc.nche.edu/Publications/Reports/Pages/default.aspx

American Association of Community Colleges. (2015). Students at Community Colleges. *AACC.* Retrieved from http://www.aacc.nche.edu/AboutCC/Trends/Pages/studentsatcommunitycolleges.aspx

Anderson, T. & Elloumi, R. (2004).*Theory and Practice of Online Learning*. Retrieved from http://cde.athabascau.ca/online_book/

Baker, G. A. (1994). *A handbook on the community college in America: Its history, mission, and management.* Westport, CT: Greenwood Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*, New York: Freeman, p. 604.

Barnett, Elisabeth A. (2011). Validation Experiences and Persistence among Community College Students. *The Review of Higher Education, 34*(2): 193–230.

Barrett, K., Bower, B. & Donovan, N. (2007). Teaching styles of community college instructors. The American Journal of Distance Education, 21(1), 37-49.

Batts, D. (2008, December). Comparison of student and instructor perceptions of best practices in online technology courses. *Journal of Online Learning and Teaching, 4*(4), 477-489.

Bear, C. (2013). Is Online Education Widening the Digital Divide? *Mind/Shirt – How we will learn*. Retrieved from http://blogs.kqed.org/mindshift/2013/08/is-online-education-widening-the-digital-divide/

Bell. L., Neary, M., & Stevenson, H. (Eds). (2009). *The Future of Higher Education: Policy, Pedagogy and the Student Experience.* NY: Continuum International Publishing Group.

Blume, L. E., & Easley, D. (2008) Rationality. *The New Palgrave Dictionary of Economics.* (2nd Ed.), Retrieved from http://www.dictionaryofeconomics.com/article?id=pde2008_R000277 doi:10.1057/9780230226203.1390

Bonk, C. & Graham, C. (2005). *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer Publishing.

Bonk, C., Kim, K., & Zeng, T. (2006). *Future directions of blended learning in higher education and workplace learning settings.* In C. Bonk & C. Graham (Eds.), The handbook of blended learning (pp. 550-567). San Francisco, CA: John Wiley & Sons.

Bourque, M.P. (1995). On the fault line: President Clinton salutes community colleges. *Community College Journal*, 65(6), pp. 38-42.

Boyer, E.L. (1990). Scholarship reconsidered – priorities for professoriate. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (1999). *How people learn: Brain, mind, experience, and school.* Washington, DC: National Academy Press.

Brehm J. W. (1956). Post-decision changes in the desirability of choice alternatives. *Journal of Abnormal and Social Psychology.* 52:384–389.

Brown, D. G. (2001). *Hybrid courses are best*. Syllabus Magazine, *15*(3), 22. Carnevale, D. (2002). *Online students don't fare as well as classroom counterparts, study finds.* Chronicle of Higher Education, *48*(27), 38.

Carpenter, T. G., Brown, W. L., & Hickman, R. C. (2004). Influences of online delivery on developmental writing outcomes. Journal of Developmental Education, *28*(1), 14–16, 18, 35.

Castronova, E. 2006. *Synthetic worlds: The business and culture of online games*. Chicago: University of Chicago Press.

Choy, S. (2002). Findings from the condition of education 2002: Nontraditional undergraduates (NCES 2002-012). Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Cohen, A., & Brawer, F. (2002). *The American Community College.* 4th ed. San Francisco, CA: Jossey-Bass Publisher.

Community College Research Center. (2014). Online and Hybrid Course Enrollment and in Washington State Community and Technical Colleges. *CCRC*. Retrieved from http://ccrc.tc.columbia.edu/publications/online-hybrid-courses-washington.html

Connolly, M., Jones, C., & Jones, N. (2007). Managing collaboration across further and higher education: A case in practice. *Journal of Further and Higher Education*, *31*(2), 159-169.

Conti, G. J. (1989). Assessing teaching style in continuing education. In E. Hayes (Ed.), *Effective teaching styles* (pp. 3-16). San Francisco: Jossey-Bass

Coppin, G., Delplanque, S., Cayeux, I., Porcherot, C., & Sander, D. (2010). I'm no longer torn after choice: How explicit choices implicitly shape preferences of odors. *Psychological Science,* 21(4), 489–493

Cox, R. D. (2009). *The College Fear Factor: How Students and Professors Misunderstand One Another.* Cambridge, MA: Harvard University Press.

Creswell, J. W. & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124-131.

Cross, K. P. (1971). Toward the future in community college education. Paper presented to White House Conference on Youth. *Research Report.* Berkeley, CA: Center for Research and Development in Higher Education, *6*(2), 6-8

Dougherty, Kevin. (1994). *The Contradictory College – The Conflicting Origins, Impacts, and Futures of the Community College.* Albany, NY: State University of New York Press.

Eells, W.C. (1931). *The Junior college.* Boston, MA: Houghton Mifflin.

Faculty Focus. (2014). *Babson Study: Over 7.1 million higher Ed students learning online.* Retrieved from http://www.facultyfocus.com/articles/edtech-news-and-trends/babson-study-7-1-million-higher-ed-students-learning-online/

Gagne, R.M. (1995/1996). Learning processes and instruction. *Training Research Journal*, *1*(1), 17-28.

Gall, M.D., Gall P. J., & Borg, W. (2003). *Educational Research – An Introduction.* Boston, MA: Pearson Education, Inc.

Garrison, D. R. & Kanuta, H. (2004). Blended learning: uncovering its transformative potential in higher education. *Internet Higher Educ*., *7*(2), 95–105.

Garrison, R. D., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines.* San Francisco, CA: Jossey-Bass.

Geller, H. (2001). A Brief History of Community Colleges and a Personal View of Some Issues (Open Admissions, Occupational Training and Leadership). Retrieved from http://files.eric.ed.gov/fulltext/ED459881.pdf

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: strategies for qualitative research.* Chicago, IL: Aldine.

Graham**,** C. R. (2005). Blended learning systems: Definition, current trends, and future directions. In C. J. Bonk & C. R. Graham (Eds.). *Handbook of blended learning: Global perspectives, local designs* (pp. 3-21). San Francisco, CA: Pfeiffer Publishing.

Graham, C. R. (2013). Emerging practice and research in blended learning. In M. G. Moore (Ed.), *Handbook of distance education* (3rd ed., pp. 333– 350). New York, NY: Routledge.

Graham, C. R., & Dzuiban, C. (2005). Blended Learning Environments. In: Spector, M., Merrill, D., Mirrienboer, J.V., & M. Driscoll. (Eds.). *The Handbook of Research on Educational Communications and Technology.* (3rd Ed). Florence, KY: Taylor & Francis group LLC.

Green, K. (2004). High touch, high tech, hybrid. *Converge Magazine.* Retrieved from http://www.convergemag.com/Publications/CNVGMar00/DigTweed/DigitalTweed.shtm.

Hannafin, M. & Land, S. (1997). The foundations and assumptions of technology enhanced student-centered learning environments. *Instructional Science, 25*, 167-202.

Hanson, A. (1996). The search for separate theories of adult learning: does anyone really need andragogy? In Edwards, R., Hanson, A., and Raggatt, P. (eds.) *Boundaries of Adult Learning. Adult Learners, Education and Training*, London: Routledge.

Hanson, C. (2010). *The Community College and the Good Society: How the Liberal Arts were Undermined and What we can do to Bring them Back*. Los Angeles, CA: Bridge21

Harasim, L. (1990). *Introduction to online education. In online education: Perspectives on a new environment.* L. Harasim, ed. Pp.xxvii-xxiii. New York, NY: Praeger Publishers.

Heerema, D. and Rogers, L. (2001). Avoiding the Quality/Quantity Trade-Off in Distance Education. *T H E Journal,* 29:14-29.

Honeyman and Miller (1993). Agriculture distance education: A valid alternative for higher education? *Proceedings of the National Agricultural Education Research Meeting.* 67-73.

Horn, M. B. (2013). The Transformational Potential of Flipped Classrooms. *EducationNext*. *13*(3). Retrieved from http://educationnext.org/the-transformational-potential-of-flipped-classrooms/

Huang, L. (2009). "What is the Lived Experience of Designing and Teaching Multiple Delivery Methods -Live Meeting, Hybrid, Online, and Face To Face (f2f) within a

Semester at a Technical College Setting"? Retrieved from *ERIC*. http://files.eric.ed.gov/fulltext/ED511355.pdf

Humbert, J. & Vignare, K. (2005). RIT introduces blended learning—successfully! In J. C. Moore (ed.), *Elements of Quality Online Education: Engaging Communities, Wisdom from the Sloan Consortium*, Volume 2 in the Wisdom Series. Needham, MA: Sloan-C.

Irlbeck, S., Kays, E., Jones, D., & Sims, R. (2006, August). The Phoenix rising: Emergent models of instruction design. *Distance Education, 27*(2), 171-185. doi:10:1080/01587910600789514

Jaggars, S. S. (2011). *Online learning: Does it help low-income and underprepared students?* (CCRC Working Paper No. 26, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.

Jaggars, S. S. (2014). Democratization of Education for Whom? Online Learning and Educational Equity. *AACU. 17(1)*. Retrieved from https://www.aacu.org/diversitydemocracy/2014/winter/jaggars

Jaggars, S. S. & Xu, D. (2010). *Online learning in the Virginia Community College system.* New York, NY: Columbia University, Teachers College, Community College Research Center.

Jones, N. (2006). E-college Wales, a case study of blended learning. In C. Bonk & C. Graham (Eds.), *The handbook of blended learning* (pp. 182-194). San Francisco, CA: John Wiley & Sons.

King. K .P, & Lawler, P.A. (2003). *These educational trends have created challenges within higher education.* 25th Annual Conference on Distance Teaching and Learning. Retrieved from http://www.uwex.com/disted/conference

Kochtanek, R. & Hein, K. (2000). Creating and nurturing distributed asynchronous learning environments. *Online Information Review, 24*(4), 280-293

Kokswijk, J.V. 2003.Architectuur van eencybercultuur. PhD dissertation, Universiteit Twente; Retrieved from http:// www.kokswijk.nl/publications/files/Samenvatting.pdf

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content

knowledge? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60-70.

Knowles, M. (1984). *The Adult Learner: A Neglected Species* (3rd Ed.). Houston: Gulf Publishing.

Knowles, M., Holton, E. F., Swanson, R. A. (2005). *The adult learner: The definitive classic in adult education and human resource development. (6th ed.).* Burlington, MA: Elsevier.

Kirk, J., & Miller, M. L. (1986). *Reliability and validity in qualitative research*. Thousand Oaks, CA: Sage.

Lichtenstein, S., & Slovic, P. (2006). *Construction of Preference*. Cambridge, NY : Cambridge University Press.

Lord, T. R. (1986). Scholarly Pursuit in the Two-Year College - Becoming Extinct, *College Teaching, 34*(4), 12-123.

Lowes, Susan. (2008). "Online Teaching and Classroom Change: The Trans-Classroom Teacher in the Age of the Internet*." Innovate: Journal of Online Education, 4*(3). Retrieved from http://innovateonline.info.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.

Merriam, S.B., Caffarella, R.S., & Baumgartner, L.M. (2007). *Learning in Adulthood: A Comprehensive Guide*. San Francisco: Jossey-Bass. P.87

Martyn, M. (2003). The hybrid online model: Good practice. *EDUCAUSE Quarterly*, 26 (1), 18-23.

McConnell, D. (2002). The experience of collaborative assessment in e-learning. Studies in Continuing Education, *23*(1), 73-92.

Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017-1054. doi: 10. 1111/j.1467-9620.2006.00684.x.

McKee, T. (2010). Thirty Years of Distance Education: Personal Reflections, *International Review of Research in Open and Distance Learning, 11*(2), 100-108

Merisotis, J. P., & Phipps, R. A. (1999).*What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education.* Washington, DC: The Institute for Higher Education

Miles, M., & Huberman, A. M. (1994). *Qualitative Data Analysis*. CA: Sage Publications, Inc.

Milner, D. A. (2003). Visual awareness and the primate brain. In M. A. Jeeves (Ed.), *Human Nature*. London: Routledge, (p.152)

Moore, M., & Kearsley, G. (2005). *Distance education: a systems view*, 2nd ed. Belmont, CA: Wadsworth Publishing**.**

Mossavar-Rahmani, F., & Larson-Daugherty, C. (2007, March). Supporting the hybrid learning model: A new proposition. *MERLOT Journal of Online Learning and Teaching, 3*(1), 67-78.

Naibitt, John. (1982). *Megatrends: Ten New Directions Transforming Our Lives.* New York, NY: Grand Central Publishing.

National Center for Education Statistics. (2014). Contexts of postsecondary education: Learning opportunities: Distance education at postsecondary institutions. *NCEC*. Retrieved from http://nces.ed.gov/programs/coe/2004/section5/indicator32.asp, http://nces.ed.gov/programs/coe/indicator_csa.asp

Oblender, T. E. (2002). *A hybrid course model: One solution to the high online drop-out rate.* Learning & Leading with Technology, 29(6), 42–46.

O'Banion, T. (2001). A learning college for the 21st century. *AAC&U.* Retrieved from http://www.greaterexpectations.org/briefing_papers/learningcolleges.html

Palloff, R. & Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the online classroom.* San Francisco, CA: Jossey-Bass.

Parisot, A.H. (1997). Distance education as a catalyst for engaging teaching in the community college: Implications for institutional policy. *New Directions for Community Colleges,* 99, 5-13.

Parsad, B., & Lewis, L. (2008). Distance education at degree-granting postsecondary institutions: 2006–07 (NCES 2009-044). Washington, DC: U.S. Department of Education, *National Center for Education Statistics*.

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Perraton, H. (1988). A theory for distance education. In D. Stewart, D. Keegan & B. Holmberg (Eds.), *Distance* education*: International Perspectives, 9* (5-113). New York, NY: Routledge.

Picciano, A. (2009, April). Introduction to the special issue on blended learning. *Journal of Asynchronous Learning Networks, 13*(1), 3-5.

Picciano, A. (2009, April). Blending with purpose: The multimodal model. *Journal of Asynchronous Learning Networks, 13*(1), 7-18.

Picciano, A. & Dziuban, C. (Eds.) (2007). *Blended learning: Research perspectives.* Needham, MA: Sloan-C.

Quality Matters. (2007). Quality Matters: Collaborative Program Planning at a State Level. Online Journal of Distance Learning Administration, 10(3).Volume X, Number III, *Rubric for online and hybrid courses.* Retrieved from http://www.qmprogram.org/rubric

Ratcliff, J. (1994). *Community Colleges.* 3rd ed. ASHE Reader Series Lexington, MA: Ginn Press.

Rooney, J.E. (2003). Knowledge infusion: Blending learning opportunities to enhance educational programming and meetings. *Association Management*, *55*(6), 26-32.

Ross, B., & Gage, K. (2006). Global perspectives on blended learning: Insight from WebCT and our customers in higher education. In C.J. Bonk & C.R. Graham (Eds.), *Handbook of blended learning: Global perspectives, local designs* (pp. 155-168). San Francisco, CA: Pfeiffer.

Ross**,** B. & Gage, K. (2006). Global perspectives on blending learning: Insight from WebCT and our customers in higher education. In C. Bonk & C. Graham (Eds.), *The handbook of blended learning* (pp. 155-168). San Francisco, CA: John Wiley & Sons.

Rowan, B., Schilling, S. G., Ball, D. L., Miller, R., Atkins-Burnett, S., Camburn, E., & Geoff, P. (2001). Measuring teachers' pedagogical content knowledge in surveys: An exploratory study. State College, PA. *Consortium for Policy Research in Education, Study of Instructional Improvement.*

Russell, T. L. (2001). *The no significant difference phenomenon: A comparative research annotated bibliography on technology for distance education*. Montgomery, AL: IDECC

Saba, F. (2005). Critical Issues in distance education: A report from the United States. *Distance Education*, 26, 255-272.

Salmon, G. (2000). E-moderating: The key to teaching and learning online. London: Kogan Page.

Scherer, K.R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44: 695-729.

Sharot, T., De Martino, B., & Dolan R. (2009). How Choice Reveals and Shapes Expected Hedonic Reaction. *Journal of Neuroscience*. 29:3760–3765.

Sheely, S., (2006). Persistent technologies: Why can't we stop lecturing online? *Proceedings of the 23rd Annual Ascilite conference: Who's learning? Whose technology?*

Shields, P., & Rangarjan, N. (2013). *A Playbook for Research Methods: Integrating Conceptual Frameworks and Project Management*. Stillwater, OK: New Forums Press. p. 24.

Shulman, L.S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher,* 15(2), 4-14.

Simon, M. & Francis, J. (2001). *The dissertation and research cookbook from soup to nuts: A practical guide to help you start and complete your dissertation or research project (3rd ed.).* Dubuque, IA: Kendall/Hunt Publishing.

Simonson, M., Smaldino, S., Albright, M., & Zvacek, S. (2009). *Teaching and learning at a distance: Foundations of distance education* (4th ed.). Boston: Pearson.

Singh, H. (2003). Building effective learning programs. *Educational Technology, 43*(6), 51-54.

Sloan Consortium. (1997). *The 5 pillars.* Retrieved October 5, 2009, from http://www.sloan consortium.org/5pillars

Sloan Consortium. (2009). *Online Learning Consortium*. Retrieved from http://onlinelearningconsortium.org/

Sperry, R. L. (1985). Changed conceptions of brain and consciousness: Some value implications. *Zygon*, 20, 41-57.

Stake, R.E. (2000). Case Studies. In N.K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 435-454). Thousand Oaks, CA: Sage.

Stokes, D. (1997). *Pasteur's Quadrant – Basic Science and Technological Innovation*. Brookings Institution Press.

Strauss, A., & Corbin J. (1998). *Basic of Qualitative Research – Techniques and Procedures for Developing Grounded Theory*. CA: Sage Publication, Inc.

Taylor, J. (2001). Fifth generation distance education. *e-Journal of Instructional Science & Technology, 4*(1), 1-14. Retrieved from http://eprints.usq.edu.au/136/.

Taylor, J. (2010). *Sustainable higher education learning futures*. Keynote address, AACE conference: Global Learn Asia Pacific, Penang.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. New York: Falmer.

Tillery, D. & Deegan, W. (1985). "The Evolution of Two-Year College through Four Generations". *In Renewing the American Community College: Priorities and Strategies for Effective Leadership.* San Francisco: Jossey-Bass.

Thornton, J. W, Jr. (1972). *The community Junior College*. (3rd. ed.). New York, NY: Wiley.

Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms.* (2nd Ed.) Alexandria, VA: ASCD.

Tucker, B. (2012), The Flipped Classroom. *EducationNext. 12*(1). Retrieved from http://educationnext.org/the-flipped-classroom/

Verkroost, M J, Meijerink, L, Lintsen, H, & Veen, W. (2008). Finding a balance in dimensions of blended learning. *International Journal on E-Learning, 7*(3), 499-522.

Ward, B. (2004). *The best of both worlds: A hybrid statistics course*. Journal of Statistics Education, *12*(3). Retrieved from http://www.amstat.org/publications/jse/v12n3/ward.html

Wenger, M. & Ferguson, C. (2006). A learning ecology model for blended learning from Sun Microsystems. In C. Bonk & C. Graham (Eds.). *The handbook of blended learning* (pp. 76-91). San Francisco, CA: John Wiley & Sons.

Wolcott, H.E. (1994). *Transforming qualitative data: Description, analysis, and interpretation.* Thousand Oaks, CA: Sage.

Xu, D. & Jaggars, S. S. (2010). *The effectiveness of distance education in Virginia's community colleges: Evidence from introductory college-level math and English courses.* Manuscript submitted for publication.

Xu, D. & Jaggars, S. S. (2011). *Online and Hybrid Course Enrollment and Performance in Washington State Community and Technical Colleges.* CCRC Working Paper No. 31. Retrieved from http://files.eric.ed.gov/fulltext/ED517746.pdf

Yin, R. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Young, J. (2002). 'Hybrid' teaching seeks to end the divide between traditional and online instruction. *The Chronicle of Higher Education, 48*(28). Retrieved May 7, 2009, from http://chronicle .com/free/v48/i28/28a/28a03301.htm

Zavarella, C. A. (2008). *Computer-based instruction and remedial mathematics: A study of student retention at a Florida community college (Doctoral dissertation).* University of South Florida.

Zhao, F. (2003). Enhancing the quality of online higher education through measurement. Quarterly Assurance in Education, *11*(4), 214-221

Zirkle, C., & Ourand, D. B., (1999). Teaching a Course through Multiple Delivery Systems: Some Lessons Learned. *Paper presented at the Indiana Postsecondary Education Conference* (Muncie, IN, October 25, 199). Retrieved from http://files.eric.ed.gov/fulltext/ED435800.pdf

## APPENDICES

### Appendix A

### MDF Semi-structured Open Ended Questionnaire

---

Dear _____,

Thank you for participating in this research. My name is Crystal Huang. I am writing my dissertation focusing on faculty who have experienced multiple delivery format (MDF) – face to face, online, and hybrid delivery modes.

This is a semi-structured with open-ended questionnaire. It takes about two hour to complete it. As addressed in the informed consent you agreed, I will audio-tape the interview at a convenient location of your choice.

Due to participating in this study being voluntary, your decision will not affect your current or future relations with our College and the researcher. You are free not to answer any question or withdraw at any time without affecting those relationships.

Again, I truly appreciate your time to help me conduct this research.

Sincerely,

Crystal Li-chin Huang

Email:
huan0195@umn.edu
phone: 715-833-6283

**Part A – Participant Background information**

1. Age:

2. Gender:

3. Educational background:

4. Disciplines you teach:

5. When did you complete the hybrid delivery mode training?

6. When did you complete the online delivery mode training?

7. How many semesters have you taught the online mode?

8. How many semesters have you taught the hybrid mode?

9. How many semesters have you taught f2f, hybrid, and online within a specific academic semester?

---

**Part B – MDF Preferences, pedagogies, and challenges**

**Research Question 1 – MDF Preferences**

**Please choose the best answer that reflects your preference**

1. If you have to teach a course with a choice between a face to face and an online delivery formats, please indicate your preference in the table.

| Delivery format/choice | face to face | online |
|---|---|---|
| 1 is the first choice. | | |
| 2 is the second choice. | | |

Why do you prefer this specific format to the other?

---

2. If you have to teach a course with a choice between a face to face and a hybrid delivery formats, please indicate your preference in the table.

| Delivery format/choice | face to face | hybrid |
|---|---|---|
| 1 is the first choice. | | |
| 2 is the second choice. | | |

Why do you prefer this specific format to the other?

---

3. If you have to teach a course with a choice between a hybrid and an online delivery formats, please indicate your preference in the table.

| Delivery format/choice | hybrid | online |
|---|---|---|
| 1 is the first choice. | | |
| 2 is the second choice. | | |

Why do you prefer this specific format to the other?

---

4. If you have to teach a course with a choice from one of the following 3 formats, what is your priority?

| Delivery format/choice | face to face | online | hybrid |
|---|---|---|---|
| 1 is the first choice. | | | |
| 2 is the second choice. | | | |
| 3 is the third choice | | | |

What are the factors affecting your choice?

---

**Research Question 2 – MDF Pedagogical Strategy Adjustments**

What kind of pedagogical changes /adjustments have you experienced in delivering MDF?

---

**Research Question 3 – MDF Challenges**

What are the challenges of being an MDF instructor within a semester?

---

This is the end of the interview.

Thank you!

## Appendix B

### Consent to Participate in a Research Study

### Dissertation Title: What Are the Preferences, Pedagogic Strategies, and Challenges of Instructors Teaching in MDF within A 2-Year College Contexts?

**Research Purpose:** I understand that the purpose of this study is to explore faculty members' preferences, pedagogic strategies, and challenges in multiple delivery formats (MDF) within a 2-year college contexts.

**What participating will be like and time involved:** I understand that I will be interviewed by the researcher and answer questions based on a semi-structured open-ended questionnaire as well as complete a teaching style inventory at a mutually convenient time and in a private location of my choosing. The initial interview will require 120 minutes and will be tape-recorded. I also understand that I will be contacted for a second interview to verify meaning and discuss findings. The follow-up interview (20 to 30 minutes) would occur within 2 months after the first interview.

**The Importance of Confidentiality:** I understand that all identified information which might link me to my interview data will be kept confidential. Only an identification number or false name will appear on the tapes or printed materials. No one will be able to associate my name with my data. The taped interviews will be transcribed by the researcher. A master copy of all participant names will be kept in a locked file in the researcher's personal office. Only she will have access to this list. This list, the audio-tapes and the personal information sheets will all be destroyed within one year after the completion of the study. The narrative transcripts without identifiers will be kept for possible future research. My name will not be used in written reports or presentations of the study findings.

**The Voluntary Participation:** I understand that I am free to choose not to participate in this study. In addition, if I do choose to participate I am free to withdraw at any time, even in the middle of an interview. This means that I can ask to have the tape-recorder turned off at any time during the interview.

**Benefits:** I understand that this study may provide shared information to enhance MDF practices for our teaching and learning communities.

**Risks:** I expect that I will experience a minimum of risk, discomfort or stress while participating in this study.
If I have further questions about the research itself, or if I wish to obtain a summary of the results of the research, I may contact:

**Li-chin (Crystal) Huang**
Email: huan0195@umn.edu
Phone: 715-833-6283

In addition I may contact the researcher's dissertation committee chair with questions about the research, or if I have a research-related problem:

**Dr. Aaron Doering**
Associate Professor
University of Minnesota, LT Media Lab
210 Learning and Environmental Sciences Building
1954 Buford Avenue
St. Paul, Minnesota 55108

Email: adoering@umn.edu
Phone: 1 612-625-1073

Authorization: I have read this form completely and have decided that I will participate in the study described. The general purpose, the requirements of participation and possible hazards and inconveniences of participating have been explained to my satisfaction. I will be given a copy of this consent form. My signature indicates my consent to participate.

Signatures:

Participant:_____Date:_____

Researcher:_____Date:_____

## Appendix C

### Principles of Adult Learning Scale (PALS)

**Developed by Gary J. Conti**

**DIRECTIONS**

The following survey contains several things that an instructor might do in classroom. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you **most frequently practice** the action described in the item. Your choices are *Always*, *Almost Always*, *Often*, *Seldom*, *Almost Never*, and *Never*. If the item **does not apply** to you, circle number 5 for never.

| ***Always*** | ***Almost Always*** | ***Often*** | ***Seldom*** | ***Almost Never*** | ***Never*** |
|---|---|---|---|---|---|
| **A** | **AA** | **0** | **S** | **AN** | **N** |

| **Question/Item** | **Response Category** | **Value** |
|---|---|---|
| 1. I allow students to participate in developing the criteria for evaluating their performance in class. | A AA O S AN N | |
| 2. I use disciplinary action when it is needed. | A AA O S AN N | |
| 3. I allow older students more time to complete assignments when they need it. | A AA O S AN N | |
| 4. I encourage students to adopt middle class values. | A AA O S AN N | |
| 5. I help students diagnose the gaps between their goals and their present level of performance. | A AA O S AN N | |
| 6. I provide knowledge rather than serve as a resource person. | A AA O S AN N | |
| 7. I stick to the instructional objectives that I write at the beginning of a program. | A AA O S AN N | |
| 8. I participate in the informal counseling of students. | A AA O S AN N | |

| Question/Item | Response Category | Value |
|---|---|---|
| 9. I use lecturing as the best method for presenting my subject material to adult students. | A AA O S AN N | |
| 10. I arrange the classroom so that it is easy for students to interact. | A AA O S AN N | |
| 11. I determine the educational objectives for each of my students. | A AA O S AN N | |
| 12. I plan units which differ widely as possible from my students' socio-economic backgrounds. | A AA O S AN N | |
| 13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions. | A AA O S AN N | |
| 14. I plan learning episodes to take into account my students' prior experiences. | A AA O S AN N | |
| 15. I allow students to participate in making decisions about the topics that will be covered in class. | A AA O S AN N | |
| 16. I use one basic teaching method because I have found that most adults have a similar style of learning. | A AA O S AN N | |
| 17. I use different techniques depending on the students being taught. | A AA O S AN N | |
| 18. I encourage dialogue among my students. | A AA O S AN N | |
| 19. I use written tests to assess the degree of academic growth rather than to indicate new directions for learning. | A AA O S AN N | |
| 20. I utilize the many competencies that most adults already possess to achieve educational objectives. | A AA O S AN N | |

| Question/Item | Response Category | Value |
|---|---|---|
| 21. I use what history has proven that adults need to learn as my chief criteria for planning learning episodes. | A AA O S AN N | |
| 22. I accept errors as a natural part of the learning process. | A AA O S AN N | |
| 23. I have individual conferences to help students identify their educational needs. | A AA O S AN N | |
| 24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept. | A AA O S AN N | |
| 25. I help my students develop short-range as well as long-range objectives. | A AA O S AN N | |
| 26. I maintain a well-disciplined classroom to reduce interference to learning. | A AA O S AN N | |
| 27. I avoid discussion of controversial subjects that involve value judgments. | A AA O S AN N | |
| 28. I allow my students to take periodic breaks during class. | A AA O S AN N | |
| 29. I use methods that foster quiet, productive desk work. | A AA O S AN N | |
| 30. I use tests as my chief method of evaluating students. | A AA O S AN N | |
| 31. I plan activities that will encourage each student's growth from dependence on others to greater independence. | A AA O S AN N | |
| 32. I gear my instructional objectives to match the individual abilities and needs of the students. | A AA O S AN N | |

| Question/Item | Response Category | Value |
|---|---|---|
| 33. I avoid issues that relate to the student's concept of himself/herself. | A AA O S AN N | |
| 34. I encourage my students to ask questions about the nature of their society. | A AA O S AN N | |
| 35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives. | A AA O S AN N | |
| 36. I have my students identify their own problems that need to be solved. | A AA O S AN N | |
| 37. I give all my students in my class the same assignment on a given topic. | A AA O S AN N | |
| 38. I use materials that were originally designed for students in elementary and secondary schools. | A AA O S AN N | |
| 39. I organize adult learning episodes according to the problems that my students encounter in everyday life. | A AA O S AN N | |
| 40. I measure a student's long term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests. | A AA O S AN N | |
| 41. I encourage competition among my students. | A AA O S AN N | |
| 42. I use different materials with different students. | A AA O S AN N | |
| 43. I help students relate new learning to their prior experiences. | A AA O S AN N | |
| 44. I teach units about problems of everyday living. | A AA O S AN N | |

**Scoring the Principles of Adult Learning Scale (PALS)**

**Positive Questions**

Question numbers 1, 3, 5, 8, 10, 14, 15, 17, 18, 20, 22, 23, 24, 25, 28, 31, 32, 34, 35, 36, 39, 42, 43, and 44 are positive items. For positive questions, assign the following values: Always=5, Almost Always=4, Often=3, Seldom=2, Almost Never=1, and Never=0.

**Negative Questions**

Question numbers 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40, and 41 are negative items. For negative questions, assign the following values: Always=0, Almost Always=1, Often=2, Seldom=3, Almost Never=4, and Never=5.

**Missing Questions**

Omitted questions are assigned a neutral value of 2.5.

**Factor 1: Learner-Centered Activities**

| Question # | 2 | 4 | 11 | 12 | 13 | 16 | 19 | 21 | 29 | 30 | 38 | 40 | Total Score |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Score | | | | | | | | | | | | | |

**Factor 2: Personalizing Instruction**

| Question # | 3 | 9 | 17 | 24 | 32 | 35 | 37 | 41 | 42 | Total Score |
|---|---|---|---|---|---|---|---|---|---|---|
| Score | | | | | | | | | | |

**Factor 3: Relating to Experience**

| Question # | 14 | 31 | 34 | 39 | 43 | 44 | Total Score |
|---|---|---|---|---|---|---|---|
| Score | | | | | | | |

**Factor 4: Assessing Student Needs**

| Question # | 5 | 8 | 23 | 25 | Total Score |
|---|---|---|---|---|---|
| Score | | | | | |

**Factor 5: Climate Building**

| Question # | 18 | 20 | 22 | 28 | Total Score |
|---|---|---|---|---|---|
| Score | | | | | |

**Factor 6: Participation in the Learning Process**

| Question # | 1 | 10 | 15 | 36 | Total Score |
|---|---|---|---|---|---|
| Score | | | | | |

**Factor 7: Flexibility for Personal Development**

| Question # | 6 | 7 | 26 | 27 | 33 | Total Score |
|---|---|---|---|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| Score | | | | | | |

**Computing and Interpreting Your Scores**

Factor scores are calculated by summing the value of the responses for each item/question in the factor. Compare your factor score values to their respective means (see table below). If your score is equal to or greater than each respective mean, then this suggests that such factors are indicative of your teaching style. From such factors, you will then begin to identify what strategies you use to be consistent with your philosophy (from the Philosophy of Adult Education Inventory, PAEI). Those scores that are less than the mean indicate possible areas for improving a more learner-centered approach to teaching.

An individual's total score on the instrument is calculated by summing the value of each of the seven factors (see table below). Scores between 0-145 indicate your style is "teacher-centered." Scores between146-220 indicate your style as being "learner-centered."

For a complete description of PALS and each of the seven factors, see Conti, G.J. (1998). Identifying Your Teaching Style (Ch. 4). In M.W. Galbraith (Ed.), *Adult Learning Methods* (2nd ed., pp. 73-84). Malabar, FL: Krieger Publishing Company.

| Factor | Mean | Standard Deviation | Your Score |
|---|---|---|---|
| 1 | 38 | 8.3 | |
| 2 | 31 | 6.8 | |
| 3 | 21 | 4.9 | |
| 4 | 14 | 3.6 | |
| 5 | 16 | 3.0 | |
| 6 | 13 | 3.5 | |
| 7 | 13 | 3.9 | |
| TOTAL | 146 | 20 | |

## Appendix D

## Connections Among Categories, Subthemes, and Themes of MDF Preferences, Pedagogical Strategies, and Challenges

**Research Question 1:** What are instructors' MDF preferences within the context of a 2-year college?

### Extracted Categories Case by Case of Each Format

#### Preferences between F2F and Online Formats

**Alex.** Extracted Categories: (a) f2f interactions, (b) online establishments, (c) online freeing up time for public activities and personal life, (d) multiple roles as an instructor, (e) online flexibility, (f) 10 to 15% high self-efficacy learners in the online environment, and (g) balancing career and family.

**Brittany.** Extracted Categories: (a) online flexibility, (b) f2f teaching effectiveness, (c) the importance of in-class learning activities, (d) dealing with online fraudulences, (e) concerning learners' learning conditions, and (f) balancing career and family life.

**Chuck.** Extracted Categories: (a) the effects of real life communications, (b) f2f interactions, (c) connection between instructor and learner in the f2f setting, (d) high self-efficacy students in the online courses, (e) concerning learners' learning conditions, and (f) online flexibility.

**Daisy.** Extracted Categories: (a) the dynamics of f2f, (b) learners' positive feedback from the f2f interactions, (c) online flexibility, (d) balancing career and family life, and (e) faculty's multiple teaching roles.

#### Preferences between Online and Hybrid Formats

**Alex.** Extracted Categories: (a) online successful experience, (b) learners' job and family issues involving in learning, (c) the missing online part of learning responsibility of students in a hybrid course, and (d) the discontinuity between online sessions and f2f sessions.

**Brittany.** Extracted Categories: (a) online flexibility, (b) hybrid reducing 50% seat time, (c) learners' family conditions, (d) learners' job conditions, (e) learners' socio-economic conditions, (f) learners' choosing hybrid as an expedience, (g) entailing more pedagogical strategies to manage two learning environments, (h) the technological affordance of learners, and (i) diverse student background.

**Chuck.** Extracted Categories: (a) the 50% hybrid seat time being beneficial for interactions, (b) hybrid being time consuming to engage with students, (c) easily to identify high self-efficacy students in the online environment, (e) the lost voice of the middle-end students in online, (d) unclear managements and pedagogy for the two learning environments of a hybrid, and (f) learners' not doing well in the online activities of a hybrid.

**Daisy.** Extracted Categories: (a) hybrid being confusing, (b) trying to combine the best parts of f2f and online into a hybrid, (c) experimenting on hybrid, and (d) hybrid being a brand new class, totally different from its f2f and online worlds.

**Preferences between Hybrid and F2F Formats**

**Alex.** Extracted Categories: (a) f2f being a conventionally well-practiced delivery format, (b) learners' learning capacity, (c) diverse learners' background, (d) diversity challenging pedagogy, and (e) hybrid not being an ideal delivery format for 2-year colleges.

**Brittany.** Extracted Categories: (a) f2f inflexibility, (b) f2f being the most effective teaching mode, (c) hybrid releasing 50% seat time, (d) hybrid being time consuming, (e) learners' low performance in the online of a hybrid, (f) absenteeism in the f2f sessions of a hybrid, and (g) lost the continuity between online and f2f learning sessions.

**Chuck.** Extracted Categories: (a) f2f building strong learner and instructor connection, (b) f2f providing multi-senses engaging, (c) f2f being effective problem solving mode, (d) f2f as the most effective teaching mode, and (e) hybrid being time consuming.

**Daisy.** Extracted Categories: (a) f2f inflexibility, (b) hybrid complexity, (c) 2-set pedagogies for hybrid, (d) integrating 2-set pedagogies for a hybrid, (e) hybrid as a much

newer delivery format, and (f) the needs for constant learning new educational technologies.

| *Connections of Categories, Subthemes, and Themes of MDF Preferences* | | |
|---|---|---|
| **Extracted Categories of Three Formats** | **Subthemes of Three Formats** | **Themes of MDF Preference** |
| **Extracted Categories of F2f Format** | **F2f Format Subthemes** | **F2f Themes** |
| F2f: deep connections with learners<br>F2f: in-class learning activities<br>F2f: in-class dynamics<br>F2f: building strong connections between learners and instructors<br>F2f: engages in Gestalt parallel processing information.<br>F2f : being effective in solving learning problems on-site<br>Learners' life conditions<br>Learners' learning conditions<br>Technological affordance issues | **Subtheme#1 F2f making meaningful Connections**<br>It defines that the real time on-site f2f interactions create deeper understanding between learners and instructors that facilitate bonding and connection.<br>- coded from the categories of Alex, Brittany, Chuck, and Daisy. | **F2f Themes:**<br>**Interactions and connections**<br>**Parallel processing information**<br>**Teaching effectiveness**<br>**Inflexibility**<br>**Diverse learner background** |
| F2f: teaching effectiveness<br>F2f: being the most effective teaching mode among the three<br>F2f: being effective in solving learning problems | **Subtheme#2 F2f teaching effectiveness**<br>It refers to instructor's sense of success in facilitating a course through f2f mode evidenced by leaners' learning outcomes or course evaluation compared to other modes. | |
| F2f : multi-senses engaging<br>F2f: identifying learning problems on-site | **Subtheme#3: F2f mobilizing all five senses in teaching and learning, or parallel information processing**<br>This subtheme refers to the parallel information processing in the f2f environment. Instructors and students expand all five senses engaging in the classroom setting which is different from the online learning environment emphasized on using visual and auditory faculty. | |

| | | |
|---|---|---|
| F2f being inflexible | **Subtheme#4: F2f being inflexible**<br>Due to the 100% seat-time requirement, f2f was criticized as being inflexible to meet the diverse learners' needs. It also refers to lack of free-up time for instructors teaching 18 to 21 credits per semester. | |
| **Extracted Categories of Online Format** | **Online Format Subthemes** | **Online Themes** |
| Online successful experience<br>Online being flexible<br>Online attracting high self-efficacy learners (approximate 10% to 15%)<br>Online losing the voice of the middle-end students<br>Online balancing career and family life<br>Faculty's multiple teaching roles<br>Online freeing up time<br>Online: on-own-pace<br>Online lacking f2f on-site dynamics.<br>Online and hybrid entailing detailed instructions<br>Rendering online fraudulences<br>Learners' technological capacity<br>Learners' technological affordance | **Subtheme #1: Online flexibility**<br>It is defined as providing freedom from seat-time attendance both to learners and faculty members. Online frees up time for participants to engage in both academic and non-academic activities and balance work and family.<br>**Sutheme#2: Well established online success**<br>This subtheme defines that the online class has been implemented since 1996 with well-defined curriculum, instructions and it went through thorough professional development and the in-house training. The retention and quality of online has been improving over time according to the work setting's data.<br>**Subtheme#3: Lacking on-site dynamics**<br>It refers to online virtual learning lacks on-site, real time, f2f interactions even though the social presence and content presence are embedded in the online learning environment.<br>**Subtheme#4: Requiring detailed instructions**<br>It refers to online classes requiring instructors to provide detailed instruction to engage in online learning activities, such as how to conduct an effective peer reviews, completing online | **Flexibility**<br>**Well established protocol**<br>**Lacking f2f interactions**<br>**Entailing micro-managements**<br>**Wide spectrum of learners' self-efficacy**<br>**Wide gaps of learners' technological affordance** |

| | | |
|---|---|---|
| | presentations, and peer critiques etc.<br>**Subtheme#5: Online entailing micromanagement**<br>This subtheme refers to instructors' online facilitation entailing intense management in integrating contents, social presence, peer interactions, and monitoring potential fraudulence happening in assignments as well exams.<br>**Subtheme#6 Technological affordance**<br>This subtheme in this paper, refers to sufficient user-friendly technological facilities or devises for instructors and students to accomplish required tasks either in the public or private setting. | |
| **Extract Categories of Hybrid Format** | **Hybrid Subthemes** | **Hybrid Themes** |
| Hybrid reducing 50% seat time<br>Hybrid being time consuming to engage with students<br>• Unclear managements and pedagogy for the two learning environments of a hybrid<br>• Learners' not doing well for the online activities of a hybrid<br>• Hybrid being confusing<br>• Participants' perception of combining the best parts of f2f and online into a hybrid., but in reality, hybrid being confusing<br>• Hybrid providing both f2f and online learning experiences<br>• Experimenting on hybrid<br>• Hybrid being time-consuming to engage with students<br>• Hybrid being unclear regarding applying managements and pedagogy to two learning environments<br>• Learners not doing well for the online activities of a hybrid<br>• Hybrid being confusing<br>• Hybrid not being an ideal delivery format for 2-year colleges | **Subtheme#1: Hybrid reducing 50% seat time**<br>This subtheme refers to hybrid reducing 50% of seat time and is converted into online learning activities. It frees up 50% of time to attend on-site f2f learning. It allows learners to reduce seat time and have online learning experience. It is supposed to integrate the best features of f2f and online. But in reality, it can be misunderstood due to unclear framework or being taken as an expedience instead of flexibility.<br>**Subtheme#2: Hybrid providing flexibility and convenience**<br>This subtheme refers to both instructors and learners only attending 50% of seat time. It reduces commuting, family, jobs and other cost and inconvenience.<br>**Subtheme#3 Hybrid offering f2f and online learning experience** | **Unclear hybrid framework**<br>**The least preferred and effective mode**<br>**Providing exposure to two learning environments**<br>**Confusing**<br>**Discontinuity**<br>**Expedience**<br>**Requiring class micro-managements**<br>**Entailing two sets of pedagogies** |

| | | |
|---|---|---|
| • The complexity in connecting two modes of a hybrid<br>• Hybrid entailing two sets of pedagogies<br>• Integrating two sets of pedagogies for a hybrid being challenging<br>• Entailing continuous professional development to learn new educational technologies<br>• Dealing with learners' learning habits.<br>• Hybrid entailing multiple pedagogical strategies<br>• Hybrid requiring intensive learning managements or micro managements<br>• Hybrid easily losing continuity between two learning environments<br>• Hybrid lacking clear teaching-learning framework<br>• Learners choosing hybrid as a course selecting expedience<br>• Hybrid not being an ideal delivery format for 2-year colleges<br>• Learners' low performance in the online of a hybrid<br>• Absenteeism in the f2f sessions of a hybrid | This subthemes refers to hybrid requiring 50% of the seat time, while the other 50% of the learning time moved to online environment. Thus, learners have the chance to learn from different environments.<br>**Subtheme#4: Hybrid as course selection expedience**<br>This subtheme refers to some learners using hybrid's 50% of seat time as flexibility for personal life convenience without fully understanding the responsibility in engaging in two different learning environment in a hybrid course.<br>**Subtheme#5: The unclear hybrid framework**<br>This subtheme refers to the current practice of hybrid staying in the experimental or the first or second stage of development according to the existing hybrid models and theories. Thus it causes confusing, time consuming, and misunderstanding the efforts required to engage in two sets of pedagogies and learning environments.<br>**Subtheme#6: Hybrid entailing two sets of pedagogies and managements for two learning environments**<br>This subtheme refers to instructors who need to prepare two sets of teaching strategies and course managements to engage learners in two different learning environments. On the other hand, it also refers to some hybrid learners who do not understand the required efforts to engage in hybrid learning.<br>**Subtheme#7: Losing continuity between online sessions and f2f sessions in a hybrid**<br>This subtheme refers to the connection between an online | **Entailing two sets of class managements**<br><br>**Needs for more professional development** |

| | | |
|---|---|---|
| | session and an f2f session could be lost due to many factors, such as forgetting, absenteeism for attending f2f after online, or performing poorly in the subsequent online learning activities.<br>**Subtheme#8: Hybrid entailing micromanagement.**<br>This subtheme refers to effective pedagogical strategies, such as detailed course instructions and class management to integrate f2f and online learning activities into a seamless one.<br>**Subtheme#9: The needs of continuous professional development to improve hybrid**<br>This subtheme refers to the lack of clear hybrid framework, confusing and time consuming happening to instructors and learners. According to the successful development of online, given similar time frame and training, hybrid may harvest the best features of the two worlds. | |
| **Learners' Background Across All Three Formats** | | |
| **Extracted Categories of Learners' Background Categories** | **Subthemes of Learners' Background** | **Themes** |
| • Family condition<br>• Job condition<br>• Learners' job and family issues involving in learning<br>• Learners' socio-economic conditions<br>• Diverse learners' background<br>• Learners' choosing hybrid as an expedience<br>• Learners' learning capacity<br>• Diversity challenging pedagogy<br>• Dealing with learners' learning habits.<br>• Learners' technological capacity and affordance | **Subtheme#1 Learners' Life circumstances**<br>Learners' life circumstances include the registered students' personal life conditions such as family, children, jobs, relations, financial conditions that bring into their learning conditions.<br>**Subtheme#2 Learners' Learners' learning conditions**<br>Learners' learning conditions include events that complicate their learning processes such as the first generation attending college, time management skills, learning habits, self-disciple, external-locus, and self-efficacy. | **Leaner Characteristics** |

Research Question 2: What are the pedagogical strategies adopted by instructors teaching MDF within the context of a 2-year college?

***Connections of Categories, Subthemes, and Themes of MDF Pedagogical Strategies***

| Extracted Categories of Pedagogical Strategy Adjustments | Characteristics of Subthemes of MDF Pedagogical Strategies | Themes of MDF Pedagogical Strategies |
|---|---|---|
| **Alex**<br>• Making connections with students<br>• Being coach or adviser for f2f and online classes<br>• Using technologies to enhance teaching<br>• Using free-up time from online and hybrid to record f2f teaching for online and hybrid<br>• Knowing students' background<br>• Being flexible to students<br>• Being a caring facilitator<br>• Using differentiated teaching strategy<br>• Using flipped classroom strategy<br>**Brittany**<br>• Hybrid requiring more time and strategies to engage with students<br>• Applying flipped classroom strategy | **Subtheme #1: Understanding Learners' circumstances**<br>Learners' life circumstances include the registered students' personal life conditions such as family, children, jobs, relations, financial conditions that bring into their learning conditions.<br>**Subtheme#2: Understanding Learners' Learners' learning conditions**<br>Learners' learning conditions include events that complicate their learning processes such as the first generation attending college, time management skills, learning habits, self-disciple, external-locus, and self-efficacy.<br>**Subtheme#3 Being flexible**<br>It defines that instructors use differentiated teaching strategies to meet the diverse students' learning needs.<br>**Subtheme#4 Integrating technologies into teaching**<br>It refers to instructors practice the basic model of TPACK to integrate technology, pedagogy and content knowledge to facilitating learning.<br>**Subtheme#5 Adopting differentiated teaching strategies**<br>It refers to instructors practice the basic model of TPACK to integrate | **Understanding learners' background**<br>**Making connection with students**<br>**Making connection between f2f and online learning environments of hybrid**<br>**Being flexible**<br>**Practicing basic PTACK model of teaching**<br>**Applying differentiated teaching strategy**<br>**Adopting flipped classroom strategy**<br>**Using school's assisting learning system**<br>**Micro-managing students' learning** |

| | | |
|---|---|---|
| • The virtual interactions of the LMS and real-time f2f interactions not being the same<br>• Reducing students' absenteeism and unpreparedness when returning to f2f sessions of a hybrid<br>• F2f and online were more successful than hybrid<br>• Using the Early Alert System to help student on track.<br>• Using differentiated teaching strategy<br>• Using flipped classroom strategy<br>**Chuck**<br>• F2f making connection<br>• F2f solving problems on spot<br>• Informing students the nature of hybrid entailing two sets of engagements in two learning environments.<br>• Adopting differentiated learning strategy<br>• Using differentiated teaching strategies<br>• Using flipped classroom strategy<br>**Daisy**<br>• Liking f2f interactions with students<br>• F2f interaction being different from that of online | technology, pedagogy and content knowledge to facilitating learning.<br>**Subtheme#6 Adopting flipped classroom strategies**<br>It refers to instructors using classroom sessions for real time, f2f interactive lessons to accomplish tasks which are difficult to be done in the online environment and make the instructor-created learning materials accessible outside classroom or online to save time of f2f situated learning.<br>**Subtheme#7**<br>**Improving hybrid facilitation**<br>It refers to instructor's efforts in integrating TPACK and making connection between f2f and online learning environments.<br>**Subtheme#8**<br>**Micro-managing learning**<br>This subtheme refers to instructors using variety of effective pedagogical strategies and classroom managements, such as detailed course instructions, on-site participation credits, collaborative learning, sending reminders, using Early Alert system and so on to engage learners. | **Improving hybrid practice through professional development.** |

| | | |
|---|---|---|
| • The teaching strategies of online and f2f being mutually beneficial<br>• Hybrid requiring more classroom management to make two types of learning environment connected<br>• Through professional development opportunities to learn and integrate technologies into teaching. | | |

Research Question 3: What are challenges experienced by instructors teaching MDF within the context of a 2-year college?

***Connections Among Categories, Subthemes, and Themes of MDF Challenges***

| Extracted Categories of MDF Challenges | Characteristics of Subthemes of MDF Pedagogical Strategies | Themes of MDF Pedagogical Strategies |
|---|---|---|
| **Alex**<br>• The open admissions policy<br>• Learner's diverse background<br>• Learners juggling among family, jobs, and school work<br>• Learners' self-efficacy issues<br>• Differentiated teaching<br>• Pedagogical guidance to most students<br>• The unsuccessful hybrid implementation<br>• Students not being ready for hybrid learning | **Subtheme #1: Understanding Learners' life circumstances**<br>Learners' life circumstances include the registered students' personal life conditions such as family, children, jobs, relations, financial conditions that bring into their learning conditions.<br>**Subtheme#2: Understanding Learners' Learners' learning conditions**<br>Learners' learning conditions include events that complicate their learning processes such as the first generation attending college, time-management skills, learning habits, self-discipline, external-locus vs. internal-locus, and self-efficacy issues.<br>**Subtheme#3 Rendering learners' non-academic issues involving in learning**<br>It defines that instructors need to be | **Characteristics of student population**<br>**Unclear hybrid pedagogical framework**<br>**Learners' non-academic issues involving in learning.**<br>**Integrating constructivism and instructionism in timing condition.** |

| | | |
|---|---|---|
| • Students' life circumstances<br>• Multiple roles as an instructor.<br>**Brittany**<br>• Integrating technologies into teaching - TPACK<br>• Micromanaging learning, particularly involving with learners' technological applications being time consuming<br>• Balancing family and career<br>• Learners' misunderstanding and misusing hybrid as an expedience<br>• Trying to combine instructionism and construtivism<br>**Chuck**<br>• Learners not being ready for taking hybrid<br>• Making teaching materials for easy access to students<br>• Creating and preparing teaching materials being time consuming<br>• Applying both instructionism and construtivism strategies to engage learners<br>• The quality of learning management system<br>**Daisy**<br>• Both instructors and learners being spread too thin in teaching and learning | flexible in using differentiated teaching strategies to meet the diverse students' learning needs, and accommodating learners' non-academic issues involving in the learning processes.<br>**Subtheme#4: The unclear hybrid framework**<br>This subtheme refers to the current practice of hybrid staying in the experimental or the first or second stage of development according to the existing hybrid models and theories. Thus it is confusing, and time- consuming. Hybrid requires to engage in two sets of pedagogies and learning environments. It also refers to some hybrid learners who do not understand the required efforts to engage in hybrid learning.<br>**Subtheme#5: Integrating constructionism and instructionism**<br>This subtheme refers to instructors judging different contents, pedagogies, technologies, and learners' learning background to migrating between instructionism and construtivism. For example, participants expressed online and hybrid required detailed instructions and micromanagement, while f2f has authentic and situated learning activities. In addition to instructions, instructor's interaction and making connection with students tend to use constructivist approach in an authentic and real life consideration as advisor and coach.<br>**Subtheme#6: Hybrid entailing micromanagement**<br>This subtheme refers to instructors using variety of effective pedagogical strategies and classroom managements, such as detailed course instructions, on-site participation credits, collaborative learning, sending reminders, using Early Alert system and so on to engage learners to engage in learning.<br>**Subtheme#7 Integrating technologies into teaching requiring sufficient time** | **Spread-too-thin within multiple preps in multiple delivery formats**<br>**Issues of the Technology affordance**<br>**Being a competent TPACK integrator** |

| | | |
|---|---|---|
| • MDF being hard for accumulating experience<br>• Unclear hybrid teaching and learning framework<br>• Trial-and-error stage in facilitating MDF<br>• Being a competent TPACK facilitator<br>• Moocs not fitting 2-year colleges for majority of learners in the 2-year college which require more instructionism than constructivism | **to implement**<br>It refers to instructors practicing the basic model of TPACK to integrate technology, pedagogy and content knowledge to facilitate learning.<br><br>**Subtheme#8 Being Spread-too-thin in engaging in hybrid facilitation**<br>It refers to instructor's efforts in integrating TPACK and making connection between f2f and online learning environments, including personal efforts in preparing and making teaching materials, individual trial-and error experimenting, management strategies, and seeking professional development. The activities and engagement cause instructor spread too thin. | |