Factors Associated with the Quality of International High Schools

in the EARCOS Region

A DISSERTATION SUBMITTED TO THE FACULTY

OF UNIVERSITY OF MINNESOTA BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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May 2019

Acknowledgements

I don't even know where to begin, there are so many people that helped me get to the finish line. I would like to first thank my family. My husband, Mitch, who had to put up with me throughout this process, never believing that I would not finish. He has been my partner and rock for the past 27 years who never gave up on me. My children, Justin and Sydney, who encouraged me day after day even when I felt there was no end in sight. Love you to the moon and back. And finally, to my parents, who encouraged me to continue to pursue my dreams and education from a young age.

I would like to thank my co-advisors, Dr. Deanne Magnusson and Dr. Gerald Fry, for the amazing support and encouragement. Dr. Magnusson believed in me from the beginning when she accepted me into the LIIE cohort program, right to the end, where she knows me as a student and educator better than anyone. I truly value her guidance and friendship throughout this process, I will miss our weekly Skype's. To Dr. Fry, thank you for helping me better understand statistics and always believing in me.

I would like to thank my good friend, Kristen Knudsen, for her support in providing me feedback and encouragement when I needed it most. And I need to thank Emily Kurtz, my statistician, for putting up with my endless questions related to the statistics in my study. Emily always made it sound so easy.

When I began this journey Dr. Krajczar was has a huge supporter of my study. It is with great sadness that he passed away before I was able to share my findings with him. His enthusiasm and support for education was infectious and he will always be an inspiration to me.

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Ultimately, this whole journey would not have been as meaningful without my LIIE cohort friends. I have made lifelong friends who has supported me throughout this journey. You all have no idea how much your support has meant to me. Keep being awesome!

Abstract

The purpose of this study was to determine school administrators and teacher views on factors influencing the quality of international high schools in the East Asia Regional Council of Schools (EARCOS) region.

The following research questions guided this study:

1. In what ways do administrators and teachers define school quality?

2. What factors do administrators and teachers view as influencing school quality?

International high school administrators and teachers were asked to complete a survey designed to determine participants views regarding school quality in international high schools. A total of 375 participants, both school administrators and teachers completed the survey, and 20 individual interviews were conducted. Through this exploratory sequential mixed methods study, findings emerged pertaining to international high school quality. These findings were synthesized into six school quality characteristics from the administrator and teacher perspective. They are supportive school climate, collaborative school culture, quality teachers, multiple student learning opportunities, effective and competent school leaders, and credentialed school administrators and teachers.

The key implication for practice focuses on the need for effective leadership in schools. In order for school quality to be achieved, effective leadership needs to be at the

forefront. Further research on the types of leadership, individualized personalized student

learning, and the use of collaboration in schools is also recommended.

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CHAPTER ONE

INTRODUCTION

The concern surrounding school quality has been at the forefront of education for many years. At the heart of school quality is the learning that occurs in schools. It is important to understand the factors essential to enhance school quality which has been investigated in numerous studies (Bates, 2010, Barratt, Barratt, Chawla-Duggan, Lowe, Nikel, & Ukpo, 2006; Hall, 2017). Given the rapid expansion in international schools, understanding what constitutes school quality has become increasingly important. English-medium international schools totaled 2,584 in 2000, while more recently, the number of international schools is estimated to be over 10,000 (ISC Research, n.d.). This 400% increase over 16 years reflects the growth in the international school sector. The concern for school quality is emerging as a potential issue as many international schools are opening around the globe that are lacking school quality standards and this suggests the need for further research (Mayer, Mullens, & Moore, 2000). As Meyer (1977) states, "education is a central element in the public biography of individuals, greatly affecting their life chances" (p. 55). Although school quality concerns are relevant for all schools, this study focuses on school quality related to international high schools in the East Asia Regional Council of Schools (EARCOS) region.

Sallis (2002) suggests,

the pursuit of quality is an exercise requiring not only a well-developed and-understood system and procedures but also a customer-oriented transformational culture where individuals are given the responsibility for the quality of the work in their area and can contribute fully to its achievement. (p. 15)

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In 2000, the U.S. Department of Education conducted a statistical analysis of school quality and concluded that "school quality affects student learning through the training and talent of the teaching force of what goes on in the classrooms, and the overall culture and atmosphere of the school" (Mayer et al., 2000, p. i). Moreover, the Special Study Panel on Education Indicators (1991) suggests school quality needs to be defined, assessed, and monitored to ensure that schools are of high quality.

Rationale for the Study

The purpose of this study was to determine school administrators and teacher views on factors influencing the quality of international high schools in the East Asia Regional Council of Schools (EARCOS) region. Defining and assessing school quality is difficult and can often seem contradictory depending on the school and country. Schools are "at risk through the spiraling evolution and growth of international education, and the 'rise of for-profit international schools' presents a risk to mission, and ultimately quality" (Hayden, Levy, & Thompson, 2015, p. 3). With school quality at stake in the rapidly growing international school sector (ISC Research, 2018), more research on the factors associated with the quality of international schools is needed (Hayden & Thompson, 2016).

Quality instruction emerges as a significant factor affecting the effectiveness of student learning (Hattie, 2009). Dufour and Marzano (2015) also address the issue of quality instruction:

> If schools can only be as good as the professionals within them, and
> if one of the most critical variables in student learning is the quality
> of instruction students receive each day in their classrooms,

substantive school improvement will create the conditions that

promote more effective teaching in every classroom. (p. 66)

As the international school sector begins to shift to include more host-country

nationals, many new international schools are for-profit (Hayden & Thompson, 2013;

James & Sheppard, 2014). Indeed, "many parents see international schooling as a

deliberate 'strategy' for competing in the global, or even national, marketplace by giving

their child skills and dispositions that global capital requires" (Bunnell, 2016, p. 223).

In a study on the governance of international schools, James and Sheppard (2014)

found an increase in proprietary schools in recent years. Hayden et al. (2015) estimate

that "most international schools are for profit, and the future will continue to be

dominated by profit-making schools and school groups" (p. 51). These profit-making

schools may have owners or school boards who are not educators, allowing non-

educators to make educational decisions. The rise of for-profit international schools

makes it challenging for parents to locate quality schools since there are so many school

options available to them.

School administrators and educators have a responsibility to ensure that they meet

not only their students' educational and lifelong needs but also the need for global

citizens who can address global issues (November, 2012). School administrators should

be educational leaders who take the initiative to ensure that their schools guarantee a

quality education (Seashore Louis, Dretzke, & Wahlstrom, 2010). Seashore Louis et al.

(2010) investigated the relationship of instructional leadership, shared leadership, and

trust with positive student achievement. Instructional leadership supports teachers, while

shared leadership recognizes teacher participation in school-wide decisions, and trust is

seen as crucial for teachers to feel safe in the school and to not fear making mistakes (Seashore Louis et al., 2010). When all these factors are present, schools are more likely to achieve high quality.

Quality education is not only an issue in the field of international education but also a serious global concern. McKinsey conducted a study examining the attributes of school quality in 25 school systems around the world, including the top 10 performing countries (Barber & Mourshed, 2007). The authors report that despite massive amounts of money spent on education, education systems around the globe have seen minimal improvement over the decades (Barber & Mourshed, 2007). The study results identified the three areas that had the most significant impact on schools "getting the right people to become teachers, developing them into effective instructors, and ensuring that the system can deliver the best possible instruction for every child" (Barber & Mourshed, 2007, p. 1).

According to DeGroot (1983),

In the case of education, in the end it is not important how beautiful we teach it, but how much pupils learn from it, what the outcome is. In the end it is about the independent variables, results, learning effects. (as cited in Van Kemenade, Pupius, & Hardjono, 2008, p. 176).

Learning results need to be at the forefront of school quality so that students can continue to be successful.

Values Premise

As an international career educator, I have witnessed the rapid growth of international schools over the past 25 years. During my tenure of working at international schools, I have been disturbed by how school quality is customarily defined. Ideas about school quality vary across different educational systems in the international school context. One of the challenges I faced during this study is compartmentalizing my strong feelings about education as I believe that education encompasses many variables. Having spent most of my educational career, as both a teacher and an administrator in the Middle East and Asia, I better understand the cultural differences among families and other educators regarding school quality. It is clear that culture plays an important role as it directly influences views of school quality.

Education has grown in complexity in a response to prepare students for an uncertain future. Unlike a generation ago, we are educating students for a future that is uncertain, for jobs that do not yet exist, and for problems that have yet to be encountered. Darling-Hammond (2006) states, "Education is increasingly important to the success of both individuals and nations, and growing evidence demonstrates that—among all educational resources—teachers' abilities are especially crucial contributors to student's learning" (p. 300). The ability for teachers to ignite passion and motivation is essential as educators move deeper into the 21st century. Rost (2006) believes:

> motivation provides a source of energy that is responsible for why learners decide
> to make an effort, how long they are willing to sustain activity, how hard they are
> going to pursue it, and how connected they feel to the activity. (p. 1)

If educators can harness what excites students, they give each of them the potential to succeed, and for many, this is more than assigning numbers and grades to students and their work.

I took a constructivist approach to research factors that affect international high school quality. According to Harasim (2012), "The constructivist theory of learning holds that people learn by constructing their own understanding and knowledge of the world through experience and reflecting upon that experience" (p. 12). By taking a constructivism approach, I can build upon knowledge since learning is considered an active process. The need to identify factors associated with school quality of international high schools is now more urgent than it has ever been. ISC Research (2016) reports that while there were fewer than 1,000 international schools 25 years ago, international schools numbered 8,231 as of 2016, and growth is projected to reach 12,334 by 2024 (Clark, 2014). These schools employ 584,839 teachers to educate a total of 6.9 million students worldwide (Clark, 2014). Many new schools are expected to be proprietary and navigating the subsequent increase in the amount of information about international schools will add complexity to the already cumbersome task of evaluating these institutions for parents, teachers, and administrators (Bates, 2010). While most international schools strive to maintain accreditation status, the accreditation visit only reviews school progress, so most international schools can maintain their accreditation status. According to Thompson (2018), "With the huge increase an international education, there is an urgent need for the provision of quality education" (p. 131). School quality factors could help stakeholders gain a better understanding of quality in international high schools.

The values underlying this dissertation originate from the premise that all children deserve access to quality education. The UK Department for International Development attests that "Education benefits not just children, but families and communities, and whole countries. It improves job chances and prosperity; promotes health and prevents disease" (Doney & Wroe, 2006, forward). By meeting these principles, education ensures that people live with dignity and can develop to their fullest potential. Students deserve access to quality education, and this holds true when parents, who are not educators, have enrolled their children in an international school. Access to quality education is essential as the growth of international schools continues to rise steeply and more host national families are turning to international schools for their children (ISC Research, 2016).

As international schools continue to grow throughout the globe, conducting research that can help schools identify factors pertaining to school quality becomes increasingly important.

Statement of Study Purpose

The purpose of this study is to determine school administrators and teacher views on factors influencing the quality of international high schools in the East Asia Regional Council of Schools (EARCOS) region.

Research Questions

The following research questions guide the study:

1. In what ways do administrators and teachers define school quality?

2. What factors do administrators and teachers view as influencing school quality?

Definition of Key Terms

Accrediting Organization: An organization with accreditation authority. Accreditation is the recognition that an institution maintains standards requisite for its graduates to gain admission to other reputable institutions of higher learning or to achieve credentials for professional practice. "The goal of accreditation is to ensure that education provided by institutions of higher education meets acceptable levels of quality" (U.S. Department of Education, Office of Post-Secondary Education, 2016, para. 5).

Assessment: "Refers to the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students" (Assessment, 2016, para. 1).

Collaborative School Culture: In a learning community a sense of trust is developed and implemented by a plan for teachers and administrators to collaborate which allows for collaborative problem solving, empowers teachers to make changes, and encourages teachers to take risks (Waldron & McLeskey, 2010).

East Asia Regional Council of Schools (EARCOS): EARCOS is an organization of 165 member schools in North and Southeast Asia who educate more than 138,212 PreK-Grade 12 students. "EARCOS membership is open to elementary and secondary school in Asia which offer an educational program using English as the primary language of instruction." (EARCOS, 2016, para. 2). There are 152 high schools with EARCOS membership.

Every Student Succeeds Act (ESSA): On October 10, 2015, President Obama signed the ESSA act that included provisions to help ensure success for students and

schools. ESSA's goal is to fully prepare students for college and careers (U.S. Department of Education, 2017).

Expatriate: A person not working and living in one's home country. Often people are on temporary contracts to work and reside abroad.

International School: For the purpose of this study, an international school is a school that delivers a curriculum that is not of the host country. International schools serve both the expatriate and the local population. They are also accredited by an external accreditation agency (Hayden & Thompson, 2013; Nagrath, 2011).

International School Administrator: An administrator who works in an international school who assumes leadership responsibilities. They often work in the areas of head of school, principal, curriculum coordinator, director of learning, and similar roles.

Supportive School Climate: "School climate is based on patterns of people's experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures" (Thapa, Cohen, Guffey, Higgins-D'Alessandro, 2013, p. 358).

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Context of the Study

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This study took place in the East Asia Regional Council of Schools (EARCOS) region in Asia and focuses on externally accredited international high schools in order to identify the factors associated with school quality. The EARCOS organization was formed in December 1968 when a regional workshop for overseas schools was held at The American School in Japan (EARCOS, 2018). During the conference, with 19 schools from Asia, a memorandum was proposed and signed which led to the birth of the

EARCOS organization. The EARCOS organization was founded in response to the need for schools to support and collaborate with one another. The first EARCOS conference was held in November 1969 at Hong Kong International School. The EARCOS conferences were first founded for administrators to collaborate and have since expanded to include two conferences per year; one in October for administrators and one in March for teachers and counselors (EARCOS, 2018). There are currently 165 member schools in the EARCOS region, 152 which have a high school. The EARCOS mission is to "inspire adult and student learning through its leadership and service and fosters intercultural understanding, global citizenship, and exceptional educational practice within our learning community" (EARCOS, 2016, para. 3). Throughout the school year numerous professional growth opportunities are sponsored by EARCOS for both students and educators; they also offer grants for research-based initiatives to help support student learning.

With such rapid expansion in the international school sector in Asia, the issue of school quality becomes increasingly important. The findings of this study can help to illuminate the factors of school quality for international high schools, thus allowing parents, teachers, and administrators to make educated choices as they select schools for their children or teachers to seek employment at an overseas school.

Significance of the Study

In public education worldwide, there are many studies that attempt to investigate school quality. However, the international school sector is an area that has remained mostly untouched. The closet appraisal system apparent in international schools is the accreditation process.

International schools must complete the compulsory accreditation process if they are to obtain and maintain accreditation status. International schools are in different phases of accreditation, and the visiting accreditation teams are primarily looking for improvement from the previous visit. Continuous improvement is an approach to ensure desired outcomes of school quality. The accreditation process does not directly assess school quality; it allows for schools to assess their progress toward teaching and learning outcomes. There are a number of accreditation agencies that accredit international schools. However, research about international schools is lacking in virtually all areas

Theoretical Framework

To frame this study, Spence's (2002) signaling theory is the framework utilized. Spence's theory is used to explain the importance of how signals connect to the factors that influence school quality. Spence's theory emphasizes reducing the variability of information between two parties. In 1972, Spence completed his doctoral dissertation on market signalling at Harvard University. He subsequently completed a book related to market signaling. In the years that followed, many other researchers have applied Spence's (2002) signaling theory to other fields (Karsasek & Bryant, 2012).

Spence (1973) compares the process of employee recruitment to the lottery as once an employee is hired you do not know whether you made a good investment until they are a few months into the position. He identifies that some attributes are fixed, such as gender, race, and other attributes are unalterable; whereas, others are adaptable and are identified signals. These signals can be manipulated but might prove to be costly, and it is up to the company to determine if manipulating the signal is worth the cost for the company (Spence, 1973).

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The timeline from Connelly, Certo, Ireland, and Reutzel (2011), shown in Figure 1, identifies two major factors, the signaler and receiver, along with the signal. "Quality refers to the underlying, unobservable ability of the signaller to fulfill the needs or demands of an outsider observing the signal" (Connelly et al., 2011, p. 43). Connelly et al. recognizes that various researchers in the field of management acknowledged several signals related to quality. These signals of quality can lead to a positive or negative reputation of the organization. Connelly et al. (2011) further ascertain that a signal fit is "the extent to which the signal is correlated with unobservable quality" (p.53). This refers to the relationship between the signal, information available to the public, and the signaler's unobservable quality, information that is kept private. Connelly et al. also claim that organizations are continually evolving and as a result, the information that is signaled is continuously changing.

Signaling Timeline

t = 0	t = 1	t = 2	t = 3
SIGNALER (person, product, or firm) has underlying quality	SIGNAL is sent to receiver	RECEIVER observes and interprets signal. Receiver chooses person, product, or firm.	FEEDBACK is sent to signaler

Signaling Environment
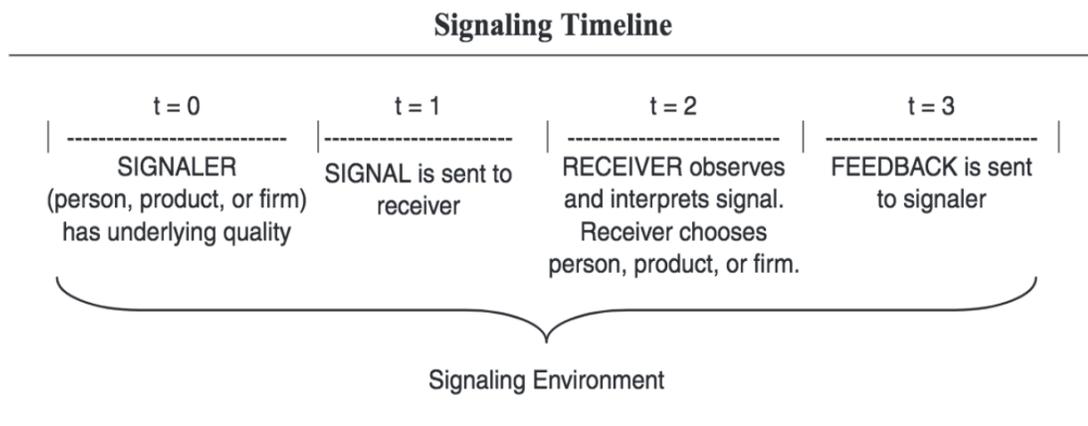
Note: t = time.

Figure 1. Signaling timeline (Connelly et al., 2011, p. 44)

Spence's signaling theory contributes to identifying the factors that influence school quality (Connelly et al., 2011). Using signaling theory, individuals on the inside

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have access to information that has not been made public, and it is up to the discretion of the school to share or withhold this information from the public (Connelly et al., 2011). In order to attract and retain students, international schools may use the information that is positive about their school while withholding information that may hurt their perceived quality. This is especially true today as international schools are more competitive than ever (ISC Research, 2016).

Prospective teachers disclose their level of education to their potential employers upon hiring. This may include degrees obtained, institutions attended, teaching experience, and any other pertinent information required for the teaching position. By disclosing their experience to employers' teachers can signal their strengths and why they would be a good fit for the school. The education level is vital to determine if teachers are hired with a low or high skill set. Potential employers often closely examine the institution where teacher's credentials and degrees are obtained as the name of their alma mater signal quality.

Furthermore, many schools advertise the education levels of faculty members and disclose the teacher's background, including employment history in order to signal quality. Human resource management is an area where signaling theory is used often, and this is true in international schools (Suazo, Martínez, & Sandoval, 2009). In Asia, this is apparent as parents continually want the best for their children and that would include teachers who receive their degrees from prestigious universities and also teachers who hold advanced degrees. Therefore, it is crucial for schools to hire the right teachers to support diverse learners in schools. As the international school sector is flourishing in

Asia, the need for quality teachers has never been more important (Hayden & Thompson, 2013).

According to BliegeBird and Smith (2005), "Signaling theory provides an opportunity to integrate an interactive theory of symbolic communication and social benefit with materialist theories of individual strategic action and adaptation" (p. 221). Connelly et al. (2011) believe that it is up to the profession or in education, schools, to signal or not signal their true quality to customers. Once again, the *better* school will have no problem signaling the qualifications of their faculty; however, the less effective schools may not disclose the exact qualifications of their faculty because they may signal the inverse of what they wish to convey (Connelly et al., 2011). An accreditation visit requires schools to disclose the credentials of all faculty members in the final report; however, it is left to the discretion of the school to make the accreditation report and the visiting team's report available to stakeholders.

Furthermore, signaling is useful when the signaler shares information, both positive and negative, with outsiders. In an educational setting, this would include sharing curriculum documents, assessment practices, facility upgrades, technology enhancements, and other educational improvements that might improve the look, feel, and quality of the school.

Connelly et al. (2011) also discusses the term signal observability, which investigates the extent to which the outsiders notice the signal. If the receiver or outsider do not recognize the signal, then the signal has not done its job. It is crucial that schools ensure that the signals are marketed to the observers in the educational realm that would include the current parents, students, and prospective families. Sending the right signals

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to prospective parents is crucial in a rapidly expanding international school sector where schools are actively trying to attract new clients, the students, to their schools and deter them from choosing a neighboring alternative.

Large multinational groups that manage international schools are purchasing and/or building more international schools than in the past. These companies include: Gems, ESOL, ISS, Cognita, Basis Education, and Nord Anglia (ISC Research, 2016). This commercialization of education is a recent phenomenon and seems to be a successful business model in international schools while causing the smaller schools to struggle in order to compete. According to ISC Research (2016), the international school sector is expected to continue to thrive as many more schools are anticipated to open soon. During 2013 the international school sector generated US$35 billion in annual income (ISC Research, 2016). This level of revenue is very appealing to large multinational groups. However, there is a downside to this shift in governance since many of these new schools are proprietary schools. As the number of proprietary schools continues to swell, the question of school quality may become of greater significance as business models prioritize generating revenue over providing school quality.

Conclusion

The issue of school quality has been a hotly debated topic for the last couple of decades. Educators have been tackling the issue of what factors contribute to school quality in order to better support student learning (Thompson & Hayden, 2015). The massive growth of the international school sector, accompanied by the lack of researched international school quality factors, presents new challenges the academic integrity of international schools. With the rapid expansion of international schools, it is important

for these developing institutions to better understand what constitutes school quality to ensure that all students receive a high quality education.

In this competitive market, international schools need to signal their strengths to prospective families. The use of signaling theory allows international schools the opportunity to share faculty credentials and experience, thus identifying their strengths as a school.

Possible factors related to school quality might include leadership, teacher quality, student-centered pedagogy, multi-faceted assessment practices, professional growth opportunities, and school accountability. These factors along with various other empirical indicators are discussed in greater detail in Chapter Two.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The definition of school quality has long been a researched and contested area (Adams, 1993; Dewey, 1916/1996; DuFour & Marzano, 2015; Harvey & Green, 1993; Hayden & Thompson, 2016). The definition of school quality continues to be elusive. As Sallis (2002) suggests, "While everyone is in favor of providing quality education the arguments start when we attempt to define what quality means" (p. 11).

Often quality has various meanings to different people. This is especially true in education, and it varies significantly from system to system (Harvey & Green, 1993). According to Gibson (1986), "Quality is notoriously elusive of prescription, and no easier even to describe and discuss than deliver in practice" (as cited in Harvey & Green, 1993, p. 10). In the international school context, there have been many attempts to define quality; however, there has again been no consensus as to the definition of quality.

This literature review is divided into two major sections; the focus of the first section is the definition of school quality, and in the second section, the potential factors and related indicators of school quality are explored.

Definitions of Quality

School quality is difficult to define as it is interpreted differently depending on the stakeholder views of quality. Sayed (1997) argues "that the concept of quality in education is elusive and . . . frequently used but never defined" (as cited in Barratt et al., 2006, p. 2). Syed also discusses how the multiple meanings of school quality reflect different ideological, social, and political values (as cited in Barratt et al., 2006). This ambiguity is at the heart of how school quality is difficult to define since it is so often

dependent on the educational context. Digging deeper into what constitutes school quality, one can include elements such as educational pedagogy, cultural values, school governance, and the concept of inclusion (Barratt et al., 2006). In this section, various definitions of school quality are identified.

DeGroot (1983) explains that traditionally many researchers have "limited the quality of education to the quality of the learning results" (as cited in Van Kemenade et al., 2008, p. 176). The learning results refer to what the students are learning and able to do after they have mastered a skill or task (DeGroot, 1983, as cited in Van Kemenade et al., 2008). In education, student learning results are often limited to student scores on standardized tests or state assessments.

Both Garvin (1984) and Harvey and Green (1993) use *value for money* when defining quality. However, Van Kemenade et al. (2008) question who determines the value for money. Is it a high paying job at the end of your education or perhaps is it related to one's happiness? Van Kemenade et al. (2008) believe that in education, the definition of quality is linked to the stakeholders. This focus can prove problematic, as there are many stakeholders in a school setting, such as students, parents, board members, faculty, and the community. Stakeholders' definitions of quality may vary greatly depending on their priorities.

Barratt et al. (2006) take a different view of education, which links quality to certain factors. This refers to what is happening in the classroom, such as student mastery of basic cognitive skills that are crucial for learning. Barratt et al.'s (2006) research focuses on reviewing the literature about school quality. Barratt et al. (2006) uncover that most studies focus merely on the quantitative aspects of education such as test scores and

other numerical measures of success (p. 11). Also, schools are realizing that work habits and behaviors of students, along with cultural awareness, also affect school quality (Barratt et al., 2006). It is these dispositions, that are often difficult to identify and measure, that affect school quality (Barratt et al., 2006).

Hawes and Stephens (1990) explain "that extra quality of inventiveness, stimulation, excitement, concern for others or happiness which is found, but rarely, in schools and teachers" is one component of a quality school (p. 17). When Hawes and Stephens (1990) first began to investigate the effect of happiness they created 'the quality wheel' which highlights conditions needed to determine quality, the goals required for quality, and the general principles of quality such as student-based learning. Hawes and Stephens (1990) outline three strands that are needed to ensure school quality. They are "efficiency in meeting set goals, relevance to human and environmental needs and conditions, and 'something more' concerning the pursuit of excellence and human betterment" (p. 11). Almost 30 years ago, Hawes and Stephens (1990) began to see a need in schools for students to have agency regarding their learning and begin to reflect by setting goals, which imply that school quality may involve many factors and may not be solely based on test scores. Educators now consider personalized learning and choice as essential components for school quality that also align with students having autonomy and agency concerning their education (Fullan, 2007; November, 2012; Pink, 2011).

As the literature suggests, there is not a clearly defined definition of school quality. It seems that quality encompasses many components and that possibly these areas could be weighted. The following section addresses literature pertaining to factors of school quality.

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Factors Associated with School Quality

There have been numerous studies conducted over the years to identify factors of school quality (Barber, Chijioke, & Mourshed, 2010; Barber & Mourshed, 2007; Bernhardt, 2013; Chitty, 2002; Sallis, 2002). Much of the research focusing on school quality highlights the importance of leadership, teacher quality, student-centered pedagogy, multi-faceted assessment practices, professional growth opportunities, and school accountability. In this section, various studies associated with school quality are examined. In addition, six factors linked to school quality are identified, including the indicators that are related with these factors.

Leadership as a Factor of School Quality

Hallinger and Heck (1996) embarked on a 15-year study to identify the principal's role in school effectiveness. After the lengthy study, their findings indicate that "principals do affect student learning if the proper conditions are in place" (p. 37). They continue to elaborate that it is essential for the school processes and norms to be clear and in place. These processes can range from "academic expectations, school mission, student opportunity to learn, instructional organization, and academic learning time" (Hallinger & Heck, 1996, p. 38). Hallinger and Heck (1996) continue to state one variable is identified more often than others: "school goals that are linked with principal leadership" (p. 38). Based on Hallinger and Heck's (1996) study, it is recognized that the school goals need to be focused on student learning. They note that there is a direct positive correlation between school goals and positive student achievement. From Hallinger and Heck's (1996) research, it is apparent that their findings illustrate that the role of the

school leader, the school goals, and the school structure have a direct impact on student learning.

Leithwood, Seashore Louis, Anderson, and Wahlstrom (2004) also address the topic of school leadership and the influence it has on student learning. Their primary claim is that in order to transform education, "effective" reform is crucial (Leithwood et al., 2004, p. 2). After Leithwood et al. (2004) review the literature, three main conclusions surface about leadership and the effects on school quality. First, "there are many labels used to identify the various leadership styles that exist; however, the focus should remain on the importance of successful leadership" (Leithwood et al., 2004, p. 4). Secondly, "there is not much clarity about an instructional leader, and the term has been overused to identify superintendents, principals, and teachers" (Leithwood et al., 2004, p. 4). Finally, "the term distributive leadership needs greater clarification, or it is at risk of being overused and becoming a fad" (Leithwood et al., 2004, p. 5).

Leithwood et al. (2004) identify what they call "a set of basics" for successful instructional leadership (p. 6). They recognize that "setting directions, developing people, and redesigning the organization" are at the heart of successful leaders (p. 6). This implies that the leader is essential for the growth of the school and it is the responsibility of school leaders to ensure that the school is working toward its goals.

According to Leithwood et al. (2004), "We need to be developing leaders with large repertoires of practices and the capacity to choose from that repertoire as needed, not leaders trained in the delivery of one 'ideal' set of practices" (p. 8). The idea of leaders being flexible and adaptable to the situation is a move away from the traditional idea of leaders having certain styles. Leithwood et al. (2004) are inferring that in

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education today leaders need to be adaptable to change based on the situations presented. The world is ever evolving, and administrators need to stay abreast of best practices to ensure that students' needs are met.

School leaders need "to be strong instructional leaders" who guarantee that the school is meeting the needs of all students (Hilliard & Jackson, 2011, p. 2). Effective administrators and teachers need to use data to analyze student progress to determine the next steps to ensure student success. Hilliard and Jackson (2011) identify that leadership is no longer a "lone star" profession and administrators must employ a shared and distributed leadership system working in unison with teachers (p. 2). In this shared leadership model, teachers and administrators build trust and focus on relationships within the school.

Seashore Louis et al. (2010) also conducted a comprehensive study about the effects of leadership and student achievement and conclude that when "instructional leadership, shared leadership, and trust" are working together, there is a positive correlation linked to improved student learning (p. 330). They further argue that shared leadership, which focuses on instruction, is a crucial factor when influencing student learning. However, "influencing student achievement" is more complicated in secondary schools as opposed to an elementary setting (Seashore Louis et al., 2010, p. 330).

Based on their research, Leithwood et al. (2004) identify four common goals that successful leaders need to adopt. They are "creating and sustaining a competitive school, empowering others to make significant decisions, providing instructional guidance, and developing and implanting strategic and school-improvement plans" (p. 10). Based on these goals for successful leadership, Leithwood et al. are able to "demonstrate how

successful leaders influence student learning. Leaders make decisions as to where to position their efforts, which directly affects student learning" (p. 11). Once again, the instructional leader of the school affects school quality. Leithwood et al. (2004) identify that at the classroom level student learning is affected by, "class size, student-grouping practices, the instructional practices of teachers, and the nature and extent of monitoring student progress" (p. 11). These measures are a result of school leadership decisions and thus have an impact on student learning. Additional characteristics such as the "school climate, policies, programs, and professional development opportunities for educators also influence student learning, and school leaders must be cognizant of these forces so that they can be supportive" (Leithwood et al., 2004, p. 11). It is the responsibility of the school leaders to understand the school and know which features of the organization should be a priority in order to create a quality institution.

Leithwood et al. (2004) have little reservation that successful school leaders play a role in student success. They understand that leadership can come at many levels; however, those in formal leadership roles tend to be the most effective. Leithwood et al. (2004) recognize that greater research is needed to understand how leaders prioritize goals for their schools as they continue to explore how leadership is linked to improved student success and, ultimately, school quality.

Hallinger (2005) reviewed the literature on the importance of leadership in quality schools. Seven areas emerge from the study:

- Creating a shared sense of purpose in the school, including clear goals focused on student learning;

- Fostering the continuous improvement of the school through cyclical school development planning that involves a wide range of stakeholders;

- Developing a climate of high expectations and a school culture aimed at innovation and improvement of teaching and learning;

- Coordinating the curriculum and monitoring student learning outcomes;

- Shaping the reward structure of the school to reflect the school's mission;

- Organizing and monitoring a wide range of activities aimed at the continuous development of staff; and

- Being a visible presence in the school, modeling the desired values of the school culture (Hallinger, 2005, p. 233)

These identified areas are pertinent for administrators, as instructional leaders, to ensure that students are successful and supported.

Transformational leadership also plays a vital role in education (Day & Antonakis, 2012; Hallinger, 2003). The scholars most influential in transformational leadership are James MacGregor Burns, Bernard Bass, Brice Avolio, and Ken Leithwood. Burns (1978) is seen as the seminal researcher on transformational leadership. Burns (1978) asserts that transformational leadership must be affiliated with a unified purpose where leaders must be able to make changes based on social changes. He claims, "The transforming leader looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower" (Burns, 1978, p. 4). Based on

his research, Burns asserts that leaders are not born or made; however, leaders emerge from their motivation, values, and goals. The central concept is that transformational leadership is based on relationships.

> It lies in seeing that most powerful influences consist of deeply human relationships in which two or more persons engage with one another lies in a more realistic, a more sophisticated understanding of power, and the often far more consequential exercise of mutual persuasion, exchange, elevation, and transformation—in short, of leadership. (Burns, 1978, p. 11)

Burns, once again, reiterates the need for relationships and a mutually agreed upon purpose or goal.

Transformational leadership can be defined as, "the process whereby a person engages with others and creates a connection that raises the level of motivation and morality in both the leaders and the follower" (Northouse, 2016, p. 162). Genuine transformational leadership is when the leader is concerned about the common good of others (Northouse, 2016). "Authentic transformational leaders, as moral agents, expand the domain of effective freedom, the horizon of conscience and the scope for altruistic intention" (Bass & Steidlmeier, 1999, p. 211). A transformational leader understands the followers and understands their needs so that they can reach their fullest potential (Northouse, 2016). A leader who can inspire and motivate teachers towards school goals is forming a quality school environment. Transformational leaders, who employ shared leadership practices in an educational setting where the community and the school work in unison toward the school goals, are viewed as successful leaders (Barth, 1990; Hallinger, 2003; Lambert, 2002).

Bass (1985) reasons that a transformational leader could motivate its followers beyond expectations. He claims transformational leaders can "inspire followers to understand the importance of the goals of the company, put their own interests aside and focus on the organization, and assist followers to address higher-level needs" (p. 20). In the educational realm, schools have guiding statements that need to be adhered to, and teachers need to support the school (Collins, 2006).

Bass and Avolio (1994) identify four leadership elements that represent transformational leaders: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These four elements are prominent in schools where leaders are needed to be charismatic to motivate teachers so that they are intellectually stimulated and acknowledged for their accomplishments. Northouse (2016) reviews several studies and concludes that when employees are engaged with transformational leaders, they experience higher job satisfaction that results in improved teacher performance.

Griffith (2004) conducts a study of school principal transformational leadership and its relationship to teacher job satisfaction, staff turnover, and overall school performance. His results illustrate that in schools where faculty perceive their principal as transformational, the faculty has higher job satisfaction and lower turnover (Griffith, 2004). Furthermore, those schools where staff have greater satisfaction with their professions, higher student achievement also resulted. Greater teacher productivity and satisfaction transfers to students and their learning, increasing the effectiveness of the school and potentially school quality (Griffith, 2004).

A study conducted on teacher retention in international schools by Mancuso, Roberts and White (2011) uncovers that, "teachers considered school heads effective if they were supportive, gave them respect, worked with them to develop the school's vision, encouraged collaboration among teachers, and worked with staff to meet curriculum standards and to solve school or department problems" (p. 319). Heads of schools who are described as transformational leaders have lower teacher turnover than school heads who employ a different leadership style (Griffith, 2004). Griffith describe transformational principals as leaders who have clear and well-articulated goals, delegate tasks to others, encourage staff to participate in decision-making, incorporate others in problem-solving, treat staff fairly and equitable, and provide staff support in stressful situations. In turn, this led to lower teacher turnover that results in greater teacher satisfaction, which implies more stability for the schools with fewer teachers moving on to other schools.

Kelly's (2014) dissertation on *Factors that Influence Teacher Retention in the United-States Accredited Schools in Columbia* uncovers nine factors that have a significant relationship to teacher retention. Of those nine factors, "seven of the nine factors can be directly related to school leadership" (Kelly, 2014, p. 111). This emphasizes the importance of school leadership when discussing school quality.

Mourshed, Chijioke, and Barber (2011) also identify "the importance of the continuity of the school's leadership" (p. 22). This aspect of leadership cannot be underestimated as schools should have succession plans in place so the direction of the school does not change when the administration turns over. If the school's vision and mission changes with each new administrator, then the school community becomes

confused and cannot advance towards its goals, as they are unclear. Mourshed et al. (2011) found that the "median tenure of an administrator to affect reform is six years" (p. 22). High turnover is problematic in the international school setting if administrators change schools frequently; therefore, not giving ample time to affect change and bring continuity to the school.

Hawley (1994, 1995) dedicated time to studying the turnover rate of international school heads. His study of 196 out of 336 possible respondents showed the average turnover of school administrators is 2.8 years. This high turnover does not allow for any effective change that has been implemented to take effect (Hardman, 2001). Hardman (2001) advocates that for change to be successful a minimum of 3 years is required. Fullan (2007) further argues that a minimum of 5 years is required for substantial change to occur within the school setting. Considering the average turnover of an international school head being 2.8 years and substantial change being implemented by school heads at 5 years, there is a large gap between what can actually be accomplished and what is currently being achieved (Hardman, 2001). Hawley (1994, 1995) researched international school head tenure in the early 1990s. Hawley (1995) cites the number one reason for heads to leave is board governance. He further discovers that school heads remain in schools longer where the boards are elected and had clear policies compared to schools where the boards are appointed and lacked clear policies (Hawley, 1995). This could continue to be a severe concern with international schools as more proprietary schools continue to surface. Many of these *newer* schools lack the governance structure to be a successful school (James & Sheppard, 2014). Non-profit schools are governed very

differently than the proprietary schools that often do not have a board that is trained or board members who are trained in the field of education (James & Sheppard, 2014).

Littlewood (2015) outline the situation of school heads and turnover in the United States and cited that almost 70% of school heads are fired in the United States. The research from Littlewood (2015) also confirms that international school head turnover is linked to the length of term of the Board chair. Heads of schools tend not to stay long when the Board is continuously changing (Littlewood, 2015). The study also outlines that when heads of schools do not stay long teachers also believe that they will outlast the next head, thus, not allowing for quality to surface in such schools (Littlewood, 2015). Research suggests the need to have stability in a head of school position so that change in schools is directly focused on student learning (Fullan, 2007).

The concept of love-based leadership is emerging in literature as an essential element to enhance quality in schools (Määttä & Uusiautti, 2012). In 2011, Uusiautt and Määttä formed a consortium at the University of Lapland in Finland to identify the factors that are important in love-based leadership. Their work is to,

> determine how the select scientific approaches that might be used in elaborating research models for re-thinking and designing a caring working environment, the psychosocial wellbeing of employees and work communities, and for developing the models of decision making for caring leaders. (University of Lapland, 2017, para. 3)

Uusiautti and Määttä (2014) discuss that loved-based leaders are, "enabling the sense of well-being and happiness" (p. 1). The caring leader focuses on the positive attributes of people and creates structures to allow for open communication and trust along with

encouraging a friendly working environment (Uusiautti & Määttä, 2014). The purpose of love-based learning is to enhance the learning; both teachers and leaders can practice this. Uusiautti and Määttä (2014) found that "leaders who are sensitive and responsive to others' needs, and support people's creativity, initiative, and autonomy, and desire to meet new challenges and develop or acquire new skills, can enhance everyone's self-worth and self-efficacy" (p. 2). The premise behind love-based leadership is that the leader is a motivator who allows faculty to take risks and have the autonomy to transfer to students and their learning. Saevi and Eilifsen (2008) conclude that "loved-based leadership in education is considered a working method that involves persistent interest and perseverance to support pupils' learning for the sake of themselves and society" (as cited in Uusiautti & Määttä, 2014, p. 3).

Goddard et al. (2010) identify "linking shared instructional leadership" and encouraging "teacher collaboration" aligns with higher "student academic achievement" (p. 9). The results of the study reveal that when teachers can participate in leadership decisions and collaborate, there is an increase in student achievement in math and reading (Goddard et al., 2010). For teachers to be involved in the leadership of the school, it is the principal who must cultivate a climate for shared leadership. Teachers must be empowered and be given the autonomy to work together and collaborate so that students are successful (Blase & Kirby, 2008). In this open environment, there must also be a level of trust so that teachers feel supported by the principal and other teachers (Tschannen-Moran, 2014). Goddard et al.'s (2010) study reveals that leaders have a direct impact on student achievement when coupled with shared leadership and collaboration. "The more principals monitor instruction, share decision making, and perform as knowledgeable

instructional leaders, the more likely are teachers to collaborate formally, frequently and around instruction" (Goddard et al., 2010, p. 16). This research is unique as it directly links student's achievement to greater collaboration through shared leadership.

The use of collaborative teaming through professional learning communities (PLCs) has begun to emerge in schools across the globe (DuFour & DuFour, 2010; DuFour & Marzano, 2015; Lunenburg, 2010). Hord and Sommers (2008) identify PLCs as, "continuous and intentional staff learning so that staff always are increasing their effectiveness leading to students' increased successful learning" (p. 24). The idea of having high-quality PLCs is at the heart of supporting diverse learners and teachers must understand and use PLCs effectively. Collaborative work between faculty and administration that share a common goal for all students is considered necessary for school quality.

Creating high-quality PLCs allow teachers to work together to ensure that high standards are in place in all subject areas, as well as addressing learner needs (DuFour & Eaker, 2005). By having high-quality PLCs in place, they provide a forum where educators can share best practices, support one another, support learners, plan, and investigate student data. While working as teams, educators can support all learners, engage with students, and demonstrate that they care about them and their learning.

According to Barber and Mourshed (2007), "The top-performing school systems recognize that the only way to improve outcomes is to improve instruction; learning occurs when students and teachers interact, and thus to improve learning implies improving the quality of that instruction" (p. 26). To ensure that students are receiving quality instruction, schools need to be held accountable for the learning.

Hipp and Huffman (2010) believe that "leaders must assess their school context and student data, promote shared decision making across their school community, implement best-practices by mobilizing immediate action, and hold themselves and others accountable for sustaining student success" (p. 1). They reiterate the firm belief that in order to achieve and sustain student success, shared leadership that involves the effective use of PLCs combined with best practices is the key to quality in schools (Hipp & Huffman, 2010). Once again making a case for leadership that allows for collaboration and input from teachers, enabling them to have a voice and participate in the direction of the school.

The importance of educational leadership as a factor of school quality cannot be overlooked. It is the educational leaders who ultimately set the tone of the school and expectations for teachers and students. Hord and Sommers (2008) sum up the importance of the principal as the instructional leader in a school by stating,

> The principal more than any other position in the school identifies,
> models, and brings the policies and procedures to life. The
> principal's actions, not just his or her words, make believers out of
> teachers. Moreover, beyond the principal's actions, it takes the
> actions of the teacher leaders to create inclusive leadership. (p. 29)

Teacher Quality as a Factor of School Quality

According to the McKinsey Report, the quality of the teacher is a primary indicator of student success (Barber & Mourshed, 2007). If a student continues to have "ineffective teachers" year after year the growth of the student is severely affected and may be irreversible (Barber & Mourshed, 2007, p. 12). The schools that attract quality

teachers do so, "by making entry to teacher training highly selective, developing effective processes for selecting the right applicants to become teachers, and paying good (but not great) starting compensation" (Barber & Mourshed, 2007, p. 16). The McKinsey Report suggests that some Asian systems are highly successful due to the "Confucian" beliefs that value education and promote "respect for teachers" (Barber & Mourshed, 2007, p. 16).

How teachers are selected is also crucial to securing effective teachers. The McKinsey Report identifies four key areas: "a high overall level of literacy and numeracy, strong interpersonal and communication skills, a willingness to learn, and the motivation to teach" (Barber & Mourshed, 2007, p. 17). In Singapore, once teacher candidates are identified, they are employed by the government and begin earning a salary. By making the process one that is highly selective and paying appropriate wages, the teaching profession enjoys the elevated status and becomes more competitive. South Korea is another country that attracts high-quality candidates because the teaching profession is highly respected and competitive to enter (Barber & Mourshed, 2007). It is required at most schools for teachers to be certified and have experience, however, at times the qualifications can be overlooked (Nagrath, 2018). When teachers are not qualified and lack experience, one often will see a reduction in school quality.

According to Hanushek (1992), "The estimated difference in annual achievement growth between having a good and having a bad teacher can be more than one grade-level equivalent in test performance" (p. 107). In another study, Rivkin, Hanushek, and Kain (1998) found that teacher quality is one of the most critical factors of school quality. The issue of teacher quality cannot be ignored and needs to be scrutinized.

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Mayer et al. (2000), through an exhaustive research project, determine indicators to monitor school quality and identify four key areas to ensure academic excellence. Teachers should "have high academic skills, be required to teach in a field in which they received their training, have more than a few years of experience (to be most effective), and participate in high-quality induction and professional development programs" (Mayer et al., 2000, p. 5).

Darling-Hammond (2000) conduct an extensive study on teacher quality and student achievement. Her research reveals that if teachers are teaching in their subject area, had master's degrees, and attend professional growth opportunities, the students are more likely to succeed academically (Darling-Hammond, 2000). The research also illuminates that teacher preparation plays a role in student achievement. Evertson, Hawley, and Zlotnik (1985) state, "The available research suggests that among students who become teachers, those enrolled in formal preservice preparation programs are more likely to be effective than those who do not have such training" (p. 8). Mayer et al. (2000) also suggest that students who are taught by experienced teachers also achieve more academically. The research indicates that this is evident among teachers who have taught 3 or more years. Furthermore, in the research by Darling-Hammond (2000), it is apparent that teacher training coupled with a teacher having an advanced degree(s) has a direct impact on student learning, together with the teacher's desire to seek out additional professional growth opportunities.

As schools are transitioning from good schools to great schools, Mourshed et al. (2011) note that the focus is on the teachers by allowing them the autonomy to experiment and collaborate with peers in order to support students and their learning.

This also aligns with the work of Pink (2011) who focuses on the relationship between autonomy and success. Moving from a good school to a great school requires teachers be of high quality and that they are intrinsically motivated to continue on the path of self-improvement. If schools have a collaborative model in place, school improvement becomes a natural process as educators are open to learning from one another and are committed to making the school a better place for its learners. According to Mourshed et al. (2011), "Systems moving from good to great, characterized by higher skilled educators, provide only loose, central guidelines for teaching and learning processes, in order to encourage peer-led creativity and innovation inside schools" (p. 26). Once again, these scholars reiterate the need for self-motivated, quality teachers who thrive on collaboration.

Student-Centered Pedagogy as a Factor of School Quality

Mayer et al.'s (2000) research on quality indicators highlight the importance of student-centered pedagogy to promote student success. There has been a move away from traditional memorization and lectures in classrooms to one that focuses on "application, reasoning, and conceptual understanding" (p. 26). Mayer et al. further state that engaging students in discussion and providing time for group work is essential for learning.

Sallis (2002) studied total quality management (TQM) in education and found that education should be viewed as a service and the customers are the stakeholders—parents, students, and teachers. He addresses the issue that both teachers and students need to be motivated to learn and grow and goes even further to assert that learners need to know that there are clear expectations for their achievement. It is the role of the school

to work with students and teachers to meet the learner's needs, listen to them, and always support them. According to Sallis (2002), "If TQM is to have relevance in education it needs to address the quality of the learners' experience" (p. 29). When using the TQM model in education, it is crucial to understand the learning styles of all students. This involves a great deal of differentiation and individualized learning in classrooms to allow the learners the opportunity to succeed (Sallis, 2002). As a result, schools and educators might require additional training for teachers to ensure that they are prepared to meet the diverse needs of students.

Lunenburg (2010) stipulates that schools need to adopt a mindset that all students can learn. Dweck (2008) introduces in her book, *Mindset: The new psychology of success*, the importance of both the student and educator having a growth mindset. Dweck (2008) advances the theory that a growth mindset focuses on effort and practice which can lead to success, whereas a fixed mindset implies you are born with certain traits that cannot be changed. Many institutions have adopted a growth mindset and educate parents, students, and teachers about the significance of having a growth mindset as compared to a fixed mindset in order to best serve students.

In 2015, Kahn in his TED Talk, "Let's teach for mastery—not test scores," describes how imperative it is for students to master the work before moving on to the next concept. Students need to meet all standards before advancing to the next concept in order to be successful in math (Kahn, 2015). Students cannot be expected to attempt more difficult concepts if they have not mastered the previous concept. Kahn (2015) also argues that in the digital age educators have the means to differentiate for all learners. It is, therefore, the responsibility of educators to ensure that all students are successful

instead of traditionally plodding through curriculum regardless of whether mastery is achieved.

Twenty-nine years ago, Darling-Hammond (1990) noted, "the notion was advanced that the provision of high-quality universal education is linked to the professionalization of teaching" (p. 27). The need to focus on differentiation continues to be relevant in all educational forums as we are continually striving for school quality. As the world of education evolves, understanding learners and how to personalize instruction are important as schools support students to discover their passions.

From a different lens, Chitty (2022) identifies three main goals for school quality. They include human fulfillment, preparation for the world of work, and contributing to social progress and social change. Human fulfillment shows that quality is linked to students feeling part of the education process by having autonomy and decision-making powers regarding their education (November, 2012; Pink, 2011). Chitty (2012) highlights, "if only our schools can successfully educate every individual child in self-confidence, independence, and autonomy, then society can with confidence be left to take care of itself" (p. 2). Taking a holistic view of education and allowing students to be part of the process is becoming more visible in schools today (Tomlinson, 2000a).

Darling-Hammond and Adamson (2010) highlight the need to make changes in the 21st century, as the skills once considered beneficial are no longer applicable in the technological world. In their research, they state, "Instead, schools must teach disciplinary knowledge in ways that also help students learn how to learn so that they can use knowledge in new situations and manage the demands of changing information, technologies, jobs, and social conditions" (Darling-Hammond & Adamson, 2010, p. 2).

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Improving schools to include a student-centered curriculum and pedagogy is a factor necessary for school quality. In Table 1, the differences between personalized learning, individualized instruction, differentiation, student-centered classrooms, and teacher-centered classrooms are outlined.

Multi-Faceted Assessment Practices as a Factor of School Quality

Stiggins (2005) acknowledges that students should no longer be ranked and sorted; instead schools need to provide a place where students can be competent and master the curricular standards. As a result of mastery, schools are adopting standards-based assessment and grading practices. "Standards-based grading is a system of assessing and reporting that describes student progress in relation to standards" (Heflebower et al., 2014, p. 1). For the past 10 years, leading assessment scholars have challenged the traditional assessment model to insist that assessment is authentic, timely, provides clear feedback, and is pertinent to the standards that are being assessed (Marzano, 2007; O'Connor, 2007; Reeves, 2008a, 2008b; Wormeli, 2006).

Standards-based grading separates the product—what the students can do academically—from the process, how they got there (Reeves, 2009). This model focuses on the student's academic ability and does not include elements such as lateness, homework, work habits, and behaviors. It is essential to continue to report on student behaviors; however, the behaviors should not be linked to what students can produce academically.

Table 1

Student-Centered Pedagogy Defined

Pedagogy	Definition	Scholars
Personalized Learning Environments	Personalized learning seeks to accelerate student learning by tailoring the instructional environment—what, when, how and where students learn —to address the individual needs, skills and interests of each student. Students can take ownership of their own learning, while also developing deep, personal connections with each other, their teachers and other adults.	Bill & Melinda Gates Foundation, the Michael and Susan Dell Foundation, and EDUCAUSE (American Institutes for Research, 2016)
	"a collection of tools, brought together under the conceptual notion of openness, interoperability and learner control. As such, PLEs are comprised of two elements – the tools and the conceptual notions that drive how and why we select individual parts" (para. 2)	Siemens (2007)
	Describes the learning environment as an approach, not an application, one that protects and celebrates identity, supports multiple levels of socialising, and encourages the development of communities of inquiry. PLEs affirm the role of the individual in organising, customising and shaping his/her own learning environment.	Downes (2005)
Individualized Instruction	Individualized learning, or individualized instruction, is a method of teaching in which content, instructional technology, and pace of learning are based upon the abilities and interest of each learner. Five steps: • Set clear and specific goals • Make goals challenging and realistic • Make goals dynamic and review regularly • Let students own their progress • Involve parents	Harris (1960)
Differentiation Learning	Teachers make vigorous attempts to meet students where they are in the learning process and move them along quickly and as far as possible in the context of a mixed-ability classroom. Promotes high-level and powerful curriculum for students, but varies the level of teacher support, task complexity, pacing, and avenues to learning based on student readiness, interest, and learning profile.	Tomlinson (2000b)
Student-Centered Classroom	• Constructivism approach • Teacher and students introduce idea, and both offer interpretations of ideas • Teachers and students are part of a community of learners • Students are active participants in learning process • Teacher is seen as facilitator	Jonassen, Davidson, Collins, Campbell, & Haag (1995)
Teacher-Centered Classroom	• Positivism approach • Teacher introduces idea and suggests implication for ideas • Teacher disseminates knowledge and students take notes • Memorization techniques	Kauchak & Eggen (1998)

Despite the traditional belief that standardized test scores are the best indicator of student learning, the current model of standardized testing in high school does not predict a student's academic success, much less how he or she will perform in the professional world (Kohn, 2000). If the value is placed on these standardized test scores, what are the consequences for students who underperform? Kohn (2000) implores schools to rethink the purpose of high stakes tests and consider more meaningful ways to measure success and quality. It is not only grades and testing that potentially harm learners, as they can sort and see where they are, but it is also some traditional grading practices such as the bell curve, the zero, and averaging of grades that students endure in many schools which negatively impacts quality learning (Reeves, 2008a, 2008b). Bonstingl (1992) identifies that the current assessment practices employed in many schools also need to be reconsidered.

DeGroot (1983) explains that traditionally many researchers have "limited the quality of education to the quality of the learning results" (as cited in van Kenenade et al., 2008, p. 176). The learning results refer to what the students are learning and able to do after they have mastered a skill or task. In education, student learning results are often limited to student scores on standardized tests or state assessments.

Kohn (2011) believes that many educators prefer to speak about the "rigor" that schools have created as opposed to addressing the learning that is occurring in classrooms today (p. 8). It is often too easy to focus on raising the bar and academic rigor instead of addressing what measurable learning has taken place in the classroom; as a result, the students are consumed with taking the path of least resistance, and only focus on the components assessed on the test (Kohn, 2011). Kohn (2000) notes the manufacturers of

the standardized tests have a multi-million-dollar industry and continue to fight to keep the tests alive.

As scholars are tackling the concept of school quality, there is a new movement that is shifting away from the scores on mandated high-stakes assessments and towards continuous progress performance assessments (Kohn, 2000). This trend can be found in schools worldwide. Educational reform focused on assessment and standards is taking the front stage and schools across the globe are aiming to understand better what school quality looks like as it relates to assessment practices.

Achieve Inc. (2004) completed a study on high school graduation assessments to see if it is beneficial. The researchers conclude,

> States also will need to move beyond large-scale assessments
>
> because, as critical as they are, they cannot measure everything that
>
> matters in a young person's education. The ability to make effective
>
> oral arguments and conduct significant research projects are
>
> considered essential skills by both employers and post-secondary
>
> educators, but these skills are challenging to assess on a paper-and-
>
> pencil test. (Achieve, Inc., 2004, p. 3)

Once again verifying that in order to deliver quality education, schools must go beyond the traditional pencil and paper assessments that have been the cornerstone of education for decades. The researchers also discover that teachers are becoming accustomed to teaching to the test and felt they are better educators before being immersed in a test-taking culture (Achieve Inc. 2004, p. 5). The type of assessments students take, which

teachers are compelled to deliver, directly impacts the quality of the student-learning experience.

Every 3 years, countries worldwide anxiously await the results from the Organisation for Economic Co-operation and Development's (OECD) Programme of International Student Assessment (PISA) results (Darling-Hammond & Adamson, 2010). The PISA tests are administered to 15 years olds, and the tests assess: reading, math, and science. According to Darling-Hammond and Adamson (2010),

> PISA differs from most tests in the United States, in that most items call on students to write their own answers to questions that require weighing and balancing evidence, evaluating ideas, finding and manipulating information to answer complex questions, and solving problems. (p. 6)

Darling-Hammond and Adamson (2010) argue that schools need to move away from traditional assessments that typically only assess basic thinking skills to include performance assessments where students can demonstrate through various mediums the knowledge that they have acquired.

Darling-Hammond and Adamson (2010) state, "performance assessments can measure students' cognitive thinking and reasoning skills and their ability to apply knowledge to solve realistic, meaningful problems" (p. 7). Using performance assessments, teachers can gather data using various tools to identify the student's progress towards the standards. Using a performance assessment also allows students to be assessed using multiple methods. These performance assessments require students to apply higher-order thinking skills such as analysis, synthesis, and evaluation. This is

again deviating from the lower-level skills that include basic recall and knowledge that can be found on many standardized tests.

Many countries use the PISA results to implement educational reform. The test results are highly anticipated in the hopes of better understanding what their country needs to do to improve their educational system. However, in 2014 some of the world's leading experts on education wrote an open letter to OECD listing many concerns that they have about the validity of the PISA assessments (Andrews et al., 2014). Their top concerns are PISA encourages the use of standardized testing, and the reliance of the validity and reliability of such tests are questionable, and the 3-year cycle has countries focuses on short fixes only to ensure climbing up the rankings. PISA does not assess dispositions and immeasurable objectives such as "physical, moral, civic, and artistic development" (Andrews et al., 2014, para. 5) which narrows the focus of what education should include. The tests do not prepare students to consider personal growth and well-being, and lastly it, "harms our children and impoverishes our classrooms, as it inevitably involves more and longer batteries of multiple-choice testing, more scripted 'vendor'-made lessons, and less autonomy for teachers" (Andrews et al., 2014, para. 9). In turn, this elevates the stress levels of both students and teachers, only so students can score well on the tests. As a result, countries have taken the love, curiosity, and intrinsic motivation of learning away from students and instead focus on a test-taking environment that encourages memorization.

The letter submitted to OECD from educational scholars outlines that the PISA tests conflict with what is considered best educational practice today (Andrews et al., 2014). The authors offer many alternatives to the current multiple-choice test that focuses

only on reading, math, and science. The goal of writing the letter to OCED is to highlight that the current test does nothing more than separate children into categories, there has been no effort to look at other measures to show the growth of children. Finally, the scholars state, "We are deeply concerned that measuring a great diversity of educational traditions and cultures using a single, narrow, biased yardstick could, in the end, do irreparable harm to our schools and our students" (Andrews et al., 2014, para. 21). The list of educational scholars that signed the letter is extremely impressive; however, the OECD continued with the 2015 PISA standardized assessments.

A new movement has begun in both American and international schools which is moving away from grades and traditional transcripts. Mastery Transcript Consortium (MTC, 2019a) began with a small group of schools who felt that traditional methods of assessment and reporting grades are no longer working. In March 2017, they formed a consortium that has gained significant attention in the press both stateside and across the international school circuit. The "Mastery Transcript Consortium (MTC) hopes to change the relationship between preparation for college and college admissions for the betterment of students" (MTC, 2019c, para. 2). The organization is a group of high schools that are looking at alternative models of assessment, which will lead to a different transcript. Many of these schools are going *gradeless* and focusing on student's being able to master the standards using non-traditional assessment methods. MTC (2019a) has agreed on three core principles: consistent transcript format, schools define their own mastery credits, and students will be credited for mastery of content and skills (para. 3). As the MTC is in its beginning stages, they are gaining strength in numbers as more schools are signing on to be part of this movement. As schools join the consortium, they

will explore what a transcript should look like in an environment where conventional grades are no longer received. This move away from traditional assessment practices is transformational and could revolutionize education as more and more schools align with MTC's (2019b) mission.

Professional Growth as a Factor of School Quality

Continuous learning is paramount for quality to prevail in an educational system. Schools need to allocate adequate resources to enable teachers to collaborate effectively; this support can be in the form of materials, time, money, and professional development opportunities. Education is no longer a one-size fits all formula. Schools are looking at methods for students to internalize their learning and means for teachers to differentiate in the classroom (November, 2012; Tomlinson, 2000a, 200b). Teachers must be committed and motivated to engage with students so that all learners can be successful.

Mayer et al. (2000) cite the quality of teachers depends on the professional growth opportunities that are available to teachers. Without quality professional development, teachers are unable to keep abreast of best practices and apply strategies into their classrooms that support learners.

The National Educational Goals Panel (1999) cite several of these elements in its list of "principles of high-quality professional development programs" (Goals 2000, 1999, p. 2). Successful programs:

- Focus on individual, collegial, and organizational improvement,
- Promote continuous inquiry and improvement embedded in the daily life of schools,

- Are planned collaboratively by those who will participate in and facilitate that development,

- Require substantial time and other resources, and

- Are driven by a coherent long-term plan. (as cited in Mayer et al., 2000, p. 15)

Furthermore, Mayer et al. (2000) identify that it is essential for the professional growth opportunities to be linked to the school goals in order to maximize teacher growth and translate into student learning.

The McKinsey report highlights how change must evolve in the classroom so that teachers are reflective, want to improve, commit to putting best practices into action, and are motivated to become better educators (Barber & Mourshed, 2007). Teachers who seek professional growth opportunities and work together in teams can better support the learners in their schools (Barth et al., 2005).

Hirsh (2009) identify that when schools understand the purpose of high-quality professional learning and teaching practices, there is a direct link to student success. She further asserts that "when schools become learning schools," students and teachers benefit from each other's expertise and collaboration (Hirsh, 2009, p. 11). It is through the systems that are set up in schools that help promote student learning and create a culture of learning in the school to ensure success that is linked to school quality.

School Accountability as a Factor of School Quality

Bernhardt's (2013) research took the focus away from schools being compliant and doing what is expected and shifted it towards examining continuous school improvement. Bernhardt's (2013) continuous school improvement cycle includes four

areas: plan, implement, evaluate, and improve. The idea of studying continuous school improvement is linked to school quality. By using school improvement techniques, schools can work toward becoming quality institutions. There are seven areas that continuous school improvement addresses: information and analysis, student achievement, quality planning, professional learning, leadership, partnership development, and continuous improvement and evaluation (Bernhart, 2013, p. 22).

Bernhart's (2013) framework is "helping schools become true learning organizations by moving them from focusing solely on gaps, compliance, and being 'adequate' to becoming learning organizations that create the vision, commitment, and results they want for all their students" (p. 183). This lens is another way to view school quality. The focus is on schools making improvements and supporting students in their learning journey.

The concept of internal and external evaluation of education as it pertains to school quality has been a topic of discussion for many years (Fertig, 2007; Nevo, 2002; Patton, 1999; Scriven, 1981). Evaluation is necessary for all organizations, and this is especially true in education when looking at school quality. Typically, accreditation is secured through a self-study process that schools undertake prior to the accreditation visit where external peers evaluate a school based on the designated accreditation criteria. The goal of the self-study is to be continually reflecting and improving based on research-based best practices (WASC, 2016).

Accreditation is a means to evaluate schools, and the accreditation process is needed in international schools to ensure the education has been vetted and identified as having reached agreed upon standards. Scriven (1981) defines accreditation as:

The accreditation process is the process whereby these organizations determine

eligibility for membership and encourage self-improvement towards achieving or

maintaining that status. The accreditation process has two phases; in the first, the

institution undertakes a self-study and self-evaluation exercise against its own

mission statement. In the second-phase the regional accrediting commission

sends in a team of people familiar with similar institutions, to examine the self-

study and its results, and to look at a large number of particular features of the

institution, using data to be supplied by the institution together with a checklist.

(p. 11)

Even 35 years later, this definition remains mostly unchanged. Not much has evolved

with the way that we view or define accreditation, despite the growing numbers of

schools that are now on the market. With international education continuing to flourish, it

might be time to revisit the purpose and definition of accreditation.

Shufflebeam (1968) addresses the need for educational evaluation and notes that

there is a "lack of trained evaluators, a lack of appropriate evaluation instruments and

procedures, and a lack of adequate evaluation theory" (p. 11). These observations from

1968 reflect many of the current accreditation issues that remain in 2019. In order to

become an accreditation evaluator, many accrediting agencies only provide a one-day or

online training session. As the number of international schools continues to increase the

demand for administrators/educators to serve on accreditation teams has increased

tremendously, but adequate training has not kept up. This is an area of concern as

accrediting agencies move to accredit more schools with less qualified staff. The major

international accrediting agencies such as WASC (2016), NEASC (2019), and MSA-

CESS (2016) attempt to solicit both administrators and teachers to serve on visiting teams, thus the quality of the teams is highly variable. The lack of training is also problematic and will continue to be an issue as international schools grow at an unprecedented rate and agencies struggle to keep pace.

Accreditation for international schools is required if schools are granting high school diplomas. Many universities and colleges will not accept high school diplomas if the school is not fully accredited. The purpose of accreditation is to ensure that certain standards have been met and that the school is open and transparent about its procedures and its operations. The most common accrediting agencies used by international schools are:

- AdvancedED

- Council of International Schools (CIS)

- International Baccalaureate Organization (IBO)

- Middle States Association–Commission on Elementary and Secondary School (MSA–CESS)

- New England Association of Schools and Colleges (NEASC)

- Southern Association of Colleges and Schools (SACS)

- The Office for Standards in Education (Ofsted)

- Western Association of Schools and Colleges (WASC)

Mostly, MSA–CESS (2016), SACS (2016), and WASC (2016) follow similar protocols and standards, which is common practice in many international schools. This consists of completing a self-study followed by an on-site visit by peers in the region (MSA-CESS, 2016; SACS, 2016; WASC, 2016). After the visit, the visiting team writes

a report and recommends the length of accreditation term. Even though the accrediting agencies refer to quality in their documents, a 1-week visit does not allow sufficient time to look deeply for school quality factors. Oftentimes, these visits include a checklist and are rarely looking for learning inside the classrooms. If the process is rushed during the week and the accreditation teams are mixed, with some committed to the process while others are not, how can anyone ensure there is consistency in the accreditation process and make a solid link to school quality?

Fertig (2007) states that schools "have involved some form of internal review or evaluation linked to a degree of external consideration of the nature of the educational processes taking place within the organization" (p. 334). It is agreed that some form of external review must be performed to ensure that there is consistency and that certain educational standards are being met. The degree of school quality can vary from state to state and will also vary significantly from international school to international school. By having an accreditation process in place, there is the hope that certain standards are being met. Therefore, accreditation is a necessary procedure, but cannot guarantee quality control or consistently measure quality. Additionally, once the team has left the school, there are no measures in place to ensure that the school continues the improvement journey. It is not until the next reaccreditation visit, which could be 5– years away, in some cases, that a team is sent to monitor the progress of the school.

Fertig (2007) highlights concerns: "A growing concern for educational quality and for 'quality assurance' reflects the impetus to maximize the degree of transparency and accountability within public institutions" (p. 334). This statement also holds true for private international schools. Different teams may have differing findings, and this can be

problematic. Schools can lack transparency by not being completely honest with their self-study, which is a real issue in the international school world. Fertig (2007) states, "since they operate as free-standing schools not directly tied to any national educational system, international schools that choose the path of accreditation are free to make use of any appropriate accrediting body" (p. 336). Today there are several accrediting agencies from which to choose, allowing for greater competition between the various accrediting commissions. This could potentially put the accreditation agencies at risk, as these agencies may be vying for the business of the new international schools. As a result, one may see a decline in the quality of international schools as accreditation agencies are seeking more schools. The quality of accreditation is in jeopardy since human resources are limited, as there are not enough committed and trained educators to be part of an accreditation team.

In summary, Fertig (2007) discusses the international school sector and accreditation:

> The pace of change has been accelerated by globalization and, for the increasing numbers of parents operating within a global labor market and moving within and between transnational organizations, international school accreditation can offer a degree of reassurance about both the quality of the education offered to their children and the transportability of the educational experiences and qualifications that have resulted from this education. (p. 344)

Parents may see the accreditation stamp as a reassurance that the school has high standards. However, schools rarely disclose the terms of their accreditation especially if

they received probationary status. Should schools only state that they are accredited, or should they be mandated to publish the terms of accreditation? Currently, this remains up to each institution as the accrediting agencies list accredited schools even if they are on probation. In turn, the school can signal to parents that they are in fact accredited despite having serious restrictions attached to their accreditation terms. A potential parent and a recruiting teacher would not be able to discern a different view of quality if a school's website states "WASC accredited" even if the reality is the school has been awarded a probationary status of 1 year while other schools receive full accreditation.

It should also be noted that accrediting agencies charge fees for their services. These fees vary from agency to agency and as the number of international schools explodes the accrediting agencies need to keep up with the high demand. The fees for accreditation are also dependent on the size of the school. Today, with competition for accreditation, the accrediting agencies are not as stringent. You may find multiple accreditation agencies in various regions. This is significant for the growth of international schools since schools might opt for the path of least resistance and choose the accreditation process that is easier or cheaper to ensure that the school receives full accreditation status, and thus potentially lowering the school quality.

The Western Association of Schools and Colleges (WASC, 2016) is the agency that accredits many international schools in Asia and WASC has focused their accreditation on two areas, one is to provide quality assurance whereas the other is focused on whether or not a school is adding value to the experience of children and whether they engage in a school improvement process (WASC, 2015). Since schools undergoing the accreditation process are on a continuum of quality assurance, there is a

great deal of variance from one school to the next even if all are WASC accredited institutions.

Middle States Association–Commissions on Elementary and Secondary School (MSA–CESS, 2016) assert accreditation is an external, objective validation of school quality and student achievement that fosters continuous school improvement. School improvement is at the forefront for MSA accreditation with the hope that it will be a pre-requisite for school quality.

CIS (2003, as cited in Fertig, 2007) state that quality in international schools is, "the school's own claim to excellence, however well justified, will always be open to question in the absence of an objective verification of quality" (p. 340). Fertig (2007) believes CIS, "makes it abundantly clear that these standards 'do not presuppose any specific model of excellence nor do they suggest comparing the characteristics of one school with those of another'" (p. 340). Accreditation in its purest form would look objectively at each institution and focus on the school improvement process while ensuring that quality is at the forefront of each school.

Additional international accrediting agencies include, the New England Association of Schools and Colleges (NEASC) and the Commission on International Education (CIE). According to their website, accreditation by NEASC-CIE (2019) indicates that a school meets high standards of institutional quality through a periodic process of self-study and peer review. NEASC (2019) further asserts that the award of accreditation recognizes the quality of the evaluated school, reassures parents, teachers, universities, and governments and results in sustained school improvement. The self-study process allows the opportunity for schools to investigate all aspects of their school

and create action and/or learning plans, which leads to continuous school improvement. Since this is a self-study review, the primary objective is for schools to demonstrate that they have made strides towards improving as an educational institution.

NEASC-CIE (2019a) has taken accreditation to a new level and has created ACE learning transformative accreditation which consists of Architecture, Culture, and Ecology. The rationale behind departing from the normal accreditation process is NEASC-CIU's (2019a) belief that "Learning remains largely de-personalized, is often confused with high stakes test results, and does not equip our children with the understandings, aptitudes, dispositions, values, and competencies needed to deal with the global dilemma and challenges of our times" (para. 2). This mission statement reflects the educational change and a desire to prepare students for an unknown future. Schools are no longer preparing for a factory model student. Today students must be able to think, collaborate, and solve problems. The paradigm shift of NEASC accreditation attempts to "transform rather than 'improve' schools and reshapes accreditation into an instrument to enable systematic change" (NEASC-CIU, 2019a, para. 3). This transformation should be directly related to factors that represent school quality. NEASC is attempting to turn schools into learning communities that prepare students for the future.

The difference between NEASC accreditation and other accreditation agencies is that NEASC's ACE learning is focused on, "defining, understanding, reflecting on, and embedding 'learning' as its central purpose and goal" (NEASC-CIU, 2019, para. 6). NEASC understands that the policies and procedures play a vital role in the school, however, looking at learning is far more important when on a school visit. When on a NEASC accreditation visit, the team members spend a great deal more time in classrooms

looking for learning, as opposed to the traditional visit, where manuals and unit plans are examined in greater detail. This new model focuses on what is happening at the classroom level and determining whether the students are learning (T. Hibblin, personal communication, August 16, 2016).

NEASC has created 10 learning principles that fit into their learning eco-system. The architecture of learning "defines, what learners learn, why they learn it, how they learn it, and how learning is assessed and communicated" (NEASC-CIE, 2019c, para. 4). The Learning Architecture domain focuses on the learning community and how the members of the community view learning. The Learning Culture domain "defines the community's beliefs about the conditions that underpin effective learning" (NEASC-CIE, 2019c, para. 5). The systems that the school has in place to support learning are highlighted in the cultural domain. The Learning Ecology domain "defines the physical and social/emotional space in which learning occurs" (NEASC-CIU, 2019c, para. 6). For the ecology of learning to be effective, it must align with both the architecture and culture of learning. When the Learning Architecture, Learning Culture, and Learning Ecology domains are in sync, there is a sense that learning is at the forefront of the institution, which could be viewed as school quality. Therefore, NEASC-CIU is transforming the accreditation process so that the focus is on school quality.

Van Damme (2000) researches issues related to quality in higher education institutions, and later Fertig (2007) drew comparisons between higher education institutions and international schools and the absence of quality indicators. One can draw similarities to both higher education and international schools concerning school quality.

While focusing on school quality in international schools, Fertig (2007) touches on the issues that concern higher education institutions. "The first factor focuses on 'concerns for a potential decline in academic standards against a background of the massification of higher education" (Van Damme, 2000, p. 11). "Such concerns can easily be transposed to the international school sector given the rapid growth in schools and student numbers, especially in areas such as China and the Middle East, since the turn of the millennium" (Van Damme, 2000, p. 343). The issue of school quality needs to be addressed as more families are seeking an international education for their children.

Indicators of School Quality

Fitz-Gibbon (1990) defines an outcome indicator, "as an item of information collected at regular intervals to track the performance of a system" (p. 1). She continues to argue that choosing the right indicators is a critical task, just as choosing the wrong indicators could prove problematic. Ensuring that stakeholders are involved is also crucial in the development of school quality.

"Process indicators stand out as being particularly relevant to educational policy and practice because they are seen as malleable characteristics, associated with relatively high educational achievement" (Scheerens, Luyten, & Ravens, 2011, p. 15). Indicators should be used when studying the effectiveness of international schools since they operate at a school level and most institutions do not have a larger district overseeing the school. The indicators can range from teacher-student ratio to allocation of resources; however, international schools have varying degrees of process indicators that are more relevant to their school situation (Scheerens et al., 2011).

School indicators are essential for monitoring and tracking school progress, holding schools accountable, and informing schools about possible improvement plans (Oakes, 1989). Oakes (1989) argue that school indicators are essential for identifying school quality and the resources, policies, structures, and processes that combine to create these environments. These indicators are significant if schools want to make progress on becoming a quality institution. Indicators should be viewed as more than test results and should consider the experiences that students have at school (Oakes, 1989).

In 2015, under former President Obama, the United States adopted the ESSA (U.S. Department of Education, 2017). The ESSA policy outlines five criteria required for student success. They are:

1. The indicator(s) allows for meaningful differentiation in school performance.

2. The indicator(s) must be valid and reliable.

3. The same indicator(s) must be used within each grade level span.

4. The indicator(s) must be comparable and applicable statewide.

5. The indicator(s) must be measured and reported annually for all students and disaggregated by sub-group (Hall, 2017).

The ESSA outlined indicators that pertain to student success, quality educators, and quality schools (National Education Association [NEA], 2019b). The NEA (2019b) identifies the following indicators for quality schools:

"students' access to modern materials, facilities, technology, books, and libraries; students' access to class sizes that allow one-on-one attention; students' access to health and wellness programs, including social and emotional well-being; students access to high-quality early

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education programs; students' access to full-day, five-day-a-week

kindergarten; family and community engagement, students' access and

success in advanced coursework (AP/IB, honors, dual enrolment);

students' access to fine arts, foreign language, daily physical

education, library/media studies, and career technical education. (para.

7)

Gong (2005) identifies the following indicators related to school quality:

performance on assessments, GED completion, high school completion, dropouts, and

commutation, support, and interventions for students. In the Council of Chief State

School Officers' publication, Hall (2017) identifies the following as possible indicators

related to school quality; "school climate and safety, students access to post-secondary

resources/preparation, student engagement, teacher engagement, parent engagement,

quality of instruction, elementary and middle school readiness, post-secondary readiness,

and social and emotional learning persistence" (Table 3, pp. 8-12). It is essential to break

down these broad indicator categories into measurable indicators in order to determine

the criteria for school quality.

Mayer et al. (2000) link school quality indicators to student learning. They

identify those indicators in the school context, pertaining to teachers and classrooms that

enhance student learning. The indicators Mayer et al. (2000) highlight are "school

leadership, goals, professional community, discipline, academic environment, teacher

academic skills, teaching assignment, teacher experience, professional development,

course content, pedagogy, technology, and class size" (p. ii).

The Center on Standards and Assessment Implementation (2016) report reviews school accountability and links indicators to student growth. They identify the following indicators for student growth: "achievement gap reduction, assessment participation rate, attendance rate, college and career readiness, course taking and completion rates, dropout rate, English language learner reclassification rate, and graduation rate" (p. 4). The study further breaks down the indicators utilized in various states so that they could identify the indicators that are best suited for their state.

Previously Greatschools.org focuses exclusively on test scores as a snapshot of preparing students for post-secondary success. Greatschools.org now focuses on how much a school supports a student to improve academically, how well a school helps with students from varying socioeconomic backgrounds, and the extent that a school's attendance and discipline policies disproportionately affect different socioeconomic groups (Greatschools.org, 2017). More specifically, Greatschools.org bases school quality on five indicators that focus on, test scores, student progress, academic progress, college readiness progress, advanced courses, and an equity rating (Greatschools.org, 2017). These indicators are each rated separately and then an overall aggregate rating of these indicators results in showing how the school prepares all its students for postsecondary success. Indicators are quality assurance and accountability measures that support school quality.

Summary

Education as a catalyst for social change is intended to bring about the desired abilities in people so that they can work effectively in an increasingly complex and multicultural era. Education equips "young people with both the ability and determination

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to improve society according to changing needs" (Dewey, as cited in Chitty, 2012, p. 5). With the projected growth of international schools in the next 10 years, it is imperative that schools understand what factors are crucial for school quality, so students receive the education that they deserve.

Tables 2 and 3 identify the critical factors related to school quality from recent studies. In addition, factors suggested by major international accreditation commissions are also presented. The common elements represented in the research studies include teacher quality, common goals, leadership, challenging curriculum, professional learning, accountability, community engagement, and continuous school improvement.

Table 2

Summary of Studies Pertaining to Quality School Factors

Study	Factors
McKinsey Report (Barber & Mourshed, 2007)	• Quality of the teacher • How teachers are selected • Teachers compensated fairly • Shared sense of purpose
McKinsey Report (Barber, Chijioke, & Mourshed, 2010)	• Curriculum and standards • Reward and remuneration structure for teachers and principals • Building technical skills of teachers and principals • Assessing student learning • Utilizing student data to guide delivery • Establishing policy documents and education laws
Total Quality Management in Education (Sallis, 2002)	• Outstanding teachers • High moral values • Excellent examination results • Support of the parents and local community • Plentiful resources • Application of the latest technology • Strong and purposeful leadership • Care and concern for students • Well-balanced and challenging curriculum
Continuous School Improvement (Bernhardt, 2013)	• Information and analysis • Student achievement • Quality planning • Professional learning • Leadership • Partnership development • Continuous improvement and evaluation
Great Public School Initiative (NEA 2019a)	• School readiness of students • Standards and curriculum • Learning environment • Workforce quality • Accountability and assessments • Family and community engagement • School funding
Blue Ribbon Schools Program (U.S. Department of Education, 2016)	• Assessment results • Assessment for instruction and learning and sharing assessment results • School climate/culture • Engaging families and community • Professional development • School leadership
Concepts of Schooling, (Chitty, 2012)	• Schooling as a human fulfilment • Schooling as preparation for the world of work • Schooling as an essential element of social progress and social change

Table 3

Summary of Accreditation Agencies and Factors Relevant for Accreditation

Accreditation Organization	Factors
Western Association of Schools and Colleges (2015)	- Organization for Student Learning - Curriculum, Instruction and Assessment - Support for Student Personal and Academic Growth - School Culture and Environment
Middle States Association–Commission on Elementary and Secondary School (2016)	- Finances - Health and Safety - Student Life and Student Activities - Facilities - Educational Program - School Organization and Staff - Governance and Leadership - School Improvement Planning - Student Services
New England Association of Schools and Colleges (2019)	- School Guiding Statements - Access to Teaching and Learning - Teaching and Learning - Faculty and Support Staff - Governance and Leadership - School Culture and Partnerships for Learning - Operational Systems
Southern Association of Colleges and Schools (2016)	- Mission - Teaching and Learning - Resources and Support Systems - Governance and Leadership - Stakeholder Communication and Relationships
Council of International Schools (2016)	- Purpose and Direction - Governance, Leadership and Ownership - Curriculum - Teaching and Assessing for Learning - The Students' Learning and Well-Being - Staffing - Premises and Physical Accommodation - Community and Home Partnerships
Advanc-ed (2019)	- Clear Direction - Healthy Culture - High Expectations - Impact of Instruction - Resource Management - Efficacy of Engagement - Implementation Capacity

CHAPTER THREE: STUDY DESIGN

Introduction

The purpose of this study was to determine school administrators and teacher views on factors influencing the quality of international high schools in the East Asia Regional Council of Schools (EARCOS) region. The chosen methodology for this study was an explanatory sequential mixed-methods approach in two distinct phases (Creswell & Creswell, 2018). A survey and individual interviews were administered with a specific focus on developing a deeper understanding of the various views of quality of, and within, international high schools in the EARCOS region. The explanatory sequential structure allowed for the collection and analysis of quantitative data followed by the collection and analysis of qualitative data (Creswell & Creswell, 2018). The purpose of using the explanatory sequential method was to integrate the qualitative results with the quantitative data when determining research outcomes (Creswell & Creswell, 2018).

High school administrators' and teachers' views were studied to identify factors influencing the quality of international high schools in EARCOS. For the quantitative phase, a survey was sent to the 152 EARCOS member international high schools (Grades 9–12). At the end of the survey, respondents were invited to participate in a follow-up interview. Participants were randomly selected from differing areas within the EARCOS region and interviewed via Skype. A total of 20 interviews were conducted, 10 with administrators and 10 with teachers.

Statement of Study Purpose

The purpose of this study was to determine school administrators and teacher views on factors influencing the quality of international high schools in the East Asia Regional Council of Schools (EARCOS) region.

Research Questions

The following research questions guided this study:

1. In what ways do administrators and teachers define school quality?

2. What factors do administrators and teachers view as influencing school quality?

Methodology and Methods

Methodology

An explanatory sequential mixed-methods approach is used for this study (Creswell & Creswell, 2018), with two phases. Creswell and Creswell (2018) write: "The core assumption of [mixed methods] inquiry is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone" (p. 4). Patton (2002) indicates, "Because both qualitative and quantitative methods involve differing strengths and weakness, they constitute alternative, but not mutually exclusive strategies for research" (p. 14). In this study, both qualitative and quantitative approaches are utilized in order to strengthen the results of the study.

Quantitative and Qualitative Research Design

In this mixed-methods sequential explanatory design, the study commences with the quantitative research and is followed by a qualitative phase to better understand the

quantitative data and to "understand the story behind the numbers." (Creswell &

Creswell, 2018). It is considered explanatory because the goal is to identify the key

factors associated with school quality. It is considered sequential since the quantitative

phase is followed up by the qualitative phase. Using explanatory sequential mixed-

method allows data collected from both quantitative and qualitative data to be analyzed

separately and then the two data sets are compared and analyzed (Creswell & Creswell,

2018). In the study the research questions were addressed through both quantitative and

qualitative methods, to determine the factors and themes related to school quality in

international high schools.

Quantitative Data Collection

The first phase consisted of a survey sent electronically to school administrators

of EARCOS member high schools. A copy of the survey is in Appendix A. Creswell and

Creswell (2018) stress that the quantitative survey phase with a large population is then

followed up with fewer participants in the qualitative phase in order to obtain specific

views, in the current study those views were about international high school quality. The

quantitative and qualitative phases were linked together where the quantitative phase is

informing the qualitative phase. The online survey was created using Qualtrics through

the University of Minnesota. The benefit of using an online survey included the ability to

distribute the survey quickly to a large population and results can be generated in a

spreadsheet format so that the data can be analyzed (Creswell & Creswell, 2018). School

administrators subsequently delivered the survey via email to high school teachers at their

schools. The survey contained questions pertaining to school quality, and participants

used a 4-point Likert-type scale to identify how important each item is with regards to

school quality. The items included were based on a literature review on school quality. A pilot survey was first completed, in the spring of 2018, where the survey instrument was sent to high school administrators and teachers in a region outside of EARCOS to ensure its validity and reliability. Upon completion of the pilot, adjustments were made to the survey instrument. Using this approach to data collection allowed for a deeper understanding of the factors associated with school quality in international high schools in EARCOS.

After completion of the survey, results were analyzed for demographics to identify trends and outliers. During this process, factors emerged pertaining to teacher and administrator views of school quality.

Qualitative Data Collection

Silverman (2015) asserts, "One real strength of qualitative research is that it can use naturally occurring data to find the sequences ('how') in which participants' meanings and practices ('what') are deployed" (p. 18). Upon completion of the quantitative phase, a qualitative phase consisting of individual interviews was conducted. Respondents of the quantitative survey were asked to volunteer for the interview phase. In order to ensure all areas of EARCOS were represented, interviews were conducted throughout the region via Skype. Ten administrators and 10 teachers were selected to participate in this second phase. Interview participants were selected based on gender, school location, and size of the school to ensure that an extensive range of views were obtained on school quality. The advantages of this two-pronged approach were that the qualitative phase allowed for more in-depth analysis and greater insight into views revealed in the quantitative surveys (Creswell & Creswell, 2018; Maxwell, 2013).

The qualitative research phase consisted of structured individual interviews. A copy of the structured interview questions are in Appendix B. At the beginning of each interview, time was spent developing a rapport with respondents to create trust so participants would be more likely to be open in their responses (Patten, 2017). During the interviews, all participants were asked the same questions and encouraged to elaborate on each question throughout the interview process.

Research Population

This study took place in the EARCOS member region within East Asia and focused on externally accredited international high schools in order to identify factors associated with school quality. There are currently 152 member high schools in the EARCOS region. The EARCOS mission is to "inspire adult and student learning through its leadership and service and fosters intercultural understanding, global citizenship, and exceptional educational practice within our learning community" (EARCOS, 2016, para. 3).

The population selected for this study was administrators and teachers within EARCOS affiliated international high schools located in East Asia during the spring of 2018; these schools were identified through the EARCOS membership directory for 2017-18. The list of 152 schools included international schools with different curricula. The benefits of being an EARCOS member school is that it promotes collaboration within EARCOS member schools, allowing for collaboration between schools for professional growth is essential as schools do not belong to a district. In addition, EARCOS also develops educational partnerships within the region in order to access greater educational expertise. In accomplishing its mission and vision, EARCOS plays a

prominent leadership role throughout the global educational community. Participants were limited to high school administrators and teachers; support staff and additional faculty were excluded. Administrators at schools were contacted via email with the surveys and given the option to forward the survey to their administrators and teachers. Surveys were sent to all EARCOS member schools, representing a single stage sample design (Creswell & Creswell, 2018). Copies of the invitations to participate in the study are in Appendices C and D. Copies of the informed consents for the survey and the interviews are in Appendices E and F.

For the qualitative phase of data collection, participants were asked to volunteer for follow-up interviews at the completion of the survey. Interviews took place with both administrators and teachers via Skype. The interviews were conducted over the period of a month and included 20 interviews, 10 administrators and 10 teachers. At the onset of the interviews, it is made clear that school names would not be disclosed for interviewees.

Sampling

Cooperation was obtained from Dr. Richard Krajczar, the Executive Director at EARCOS, to perform this study, and he agreed to send emails introducing the study to heads of international schools in the EARCOS region. A copy of Dr. Krajczar's letter of support is in Appendix G. With this cooperation in place, out of 152 international schools in the EARCOS region, 72 schools responded, a 47.4% response rate. Appendix H displays the schools where the respondents are employed. All participants during both the quantitative and qualitative phases were full-time employees at an EARCOS member school during the 2017-18 school year.

Research Instrument

Since the current study is an attempt to review the factors associated with school quality in international high schools, previous research focused on school quality was reviewed (Bonstingl, 1992; Fitz-Gibbon, 1990; Hall, 2017; Mayer et al., 2000; Sallis, 2002; Thompson, 2018; U.S. Department of Education, 2017). The literature was used to help design a quantitative survey instrument with the greatest potential to address factors that influence school quality in international high schools. In the absence of a valid and reliable survey instrument a survey was created based on existing surveys and research pertaining to school quality. The survey is comprised of 46 items, 32 close-ended questions and 14 demographic questions. The 32 closed-ended questions utilized a 4-point Likert-type scale that asked respondents to indicate the extent to which they agree the statement contains an important factor that contributes to a high-quality international high school. The demographic questions were either short answer or multiple-choice items. The demographic questions focused on teacher and administrator backgrounds, experience, and credentials. After completing the survey, participants were asked if they would be willing to participate in the qualitative individual interview phase to solicit participants' views in greater depth (Creswell & Creswell, 2018).

A pilot survey was conducted on a small sample population (Creswell & Creswell, 2018) to ensure reliability. "Trying out the first draft of items before using them in the main study usually will improve the questionnaire and, thus, the validity of the results" (Patten, 2017, p. 55). The pilot was conducted during the winter of 2018 to allow for time to adapt the survey depending on the results from the pilot. For the pilot survey, 48 administrators and teachers not located in the EARCOS region were asked to

comment on the survey instrument to determine if the questions were appropriate for soliciting information regarding factors associated with school quality (Patten, 2017). Upon completion of the pilot, adaptations were made to the survey to ensure the questions were valid and reliable. The final survey included 32 closed-end items focused on identifying school quality factors in international high schools. The coefficient alpha was 0.85, indicating a reliable survey. University student statisticians assisted with analyzing the data gathered during the quantitative phase.

The follow-up individual interviews were conducted with 10 administrators and 10 teachers in the EARCOS region. The same 10 questions were posed to all participants and respondents were encouraged to expand on their views about high school quality. Rev.com was used to transcribe the recordings of each interview, and the data was coded into key themes using Quirkos software.

Patten and Newhart (2017) note that "a distinctive feature of quantitative research is that researchers gather data in such a way that the data are easy to quantify, allowing for statistical analysis" (p. 20). For qualitative research, "researchers gather data that must be analyzed through the use of informed judgment to identify major and minor themes expressed by participants" (Patten & Newhart, 2017, p. 20). Patten (2017) affirms that interviews in the qualitative phase "yield direct quotations from people about their experiences, opinions, feelings, and knowledge" (p. 68), thus allowing participants to express their ideas and feelings about the subject matter in depth through the individual interview process.

During the integration of data, the quantitative and qualitative data were synthesized, and findings were extrapolated (Ivankova, Creswell, & Stick, 2006). After

integration of the quantitative and qualitative findings, six school quality characteristics emerged.

Data Analysis

The research procedure employed in this study was a mixed-methods analysis (Creswell & Creswell, 2018). After completion of the quantitative phase, the qualitative individual interviews gave an opportunity to solicit participants' views in greater detail.

When analyzing the quantitative data, item analysis, factor analysis, and *t*-tests were performed to identify the key factors associated with school quality in international high schools. Nominal data were also reported in order to determine the demographics of the participants. Upon completion of the quantitative and qualitative phases, factors and themes were grouped and coded so that school quality characteristics could emerge.

Data analysis included evaluating the demographic profiles of the schools that participated in the study. Responses to the 32 statements in the survey instrument were entered into R and evaluated with item analysis and exploratory factor analysis. Items were then ranked in order of importance using a 4-point Likert-type scale.

One of the primary purposes of factor analysis was to help determine how many latent variables underlie a set of data (Kim & Mueller, 1978). Based on the 32 closed-end questions in the online survey instrument, a factor analysis was conducted to identify which factors emerged from the data. A factor analysis was completed for all respondents $n = 375$, a factor analysis was completed for administrators $n = 93$, and a factor analysis was completed for teachers $n = 282$.

Individual interviews were recorded, and recordings were sent to Rev.com for transcription. Randomly selected transcribed interviews were reviewed to ensure the

accuracy of the transcription service. Once the interviews were transcribed, the data was coded using Quirkos software, which allowed common patterns to be identified from the individual interviews and pinpoint emergent trends. Qualitative data were coded for analysis to determine key themes that emerged from the individual interviews; without coding, it can be difficult to sort through interview findings due to the dense nature of interview data (Creswell & Creswell, 2018).

Quirkos is a software package founded in Scotland in 2013 and made available for public use in 2014. It allows for the qualitative analysis of text data by using a graphical interface in which themes are represented by bubbles. The data were encrypted through a password protected system thus allowing for an added layer of security.

The data for both the quantitative and qualitative phases was stored on a computer, encrypted, and password protected to ensure safety and privacy. The data were also backed up to an external hard drive that was encrypted and password protected to protect results in the event of a loss or damage. Additionally, data were backed up with Backblaze, a company that backs up data and employs a two-factor authentication process to retrieve it. All files that were backed up to Backblaze were encrypted and transferred over a secure SSL (https) connection to the Backblaze data center. Participants remained anonymous throughout the study; however, the interviewer knew the identity of the interview participants.

<div align="center">**Summary**</div>

Through the survey and further insight through the individual interviews, this mixed-methods approach allowed key factors of school quality be identified in international high schools in the EARCOS region. Ivankova et al. (2006) state,

"Qualitative data and their analysis refine and explain statistical results by exploring participants' views in more depth" (p. 5). Through the analysis of both quantitative and qualitative data school quality characteristics emerged for EARCOS member high schools. The findings from both the quantitative and qualitative data were synthesized were presented in Chapter Four.

CHAPTER FOUR: FINDINGS

The purpose of this study is to determine school administrators and teacher views on factors influencing the quality of international high schools in the East Asia Regional Council of Schools (EARCOS) region. Data collection for the study is both quantitative and qualitative. A survey and individual interviews were conducted over 2 months. The findings are organized by research question. In this chapter, the findings are presented from the survey and individual interviews that address the two research questions:

1. In what ways do administrators and teachers define school quality?

2. What factors do administrators and teachers view as influencing school quality?

Profile of Participants

The participants in this study were high school administrators and teachers who worked at an EARCOS member school during the 2017-18 school year. Survey participants volunteered to participate in the individual interview portion of the study.

Respondents were invited to participate in an online survey comprised of 46 items, 14 demographic questions and 32 close-ended questions. High school teachers represent 75.2% ($n = 282$) and administrators represent 24.8% ($n = 93$) of those who completed the online survey, for a total of 375 survey participants. There are a total of 152 EARCOS member high schools, 72 schools responded, indicating a 47.4% response rate for schools participating in the study.

Table 4 shows the number and percentage of the gender and role of the respondents (self-reported). There are more male participants, 57.9% ($n = 217$), than female participants, 40.5% ($n = 152$). Teachers represent 75.2 % ($n = 282$) and reflect a

higher percentage of participants compared to administrators who represent 24.8% (n = 93).

Table 4

Survey Respondents by Gender and Role (Self-Reported)

	Male		Female		Other		Total	
Role	#	%	#	%	#	%	#	%
Teacher	154	41.1	123	32.8	5	1.3	282	75.2
Administrator	63	16.8	29	7.7	1	0.3	93	24.8
Total	217	57.9	152	40.5	6	1.6	375	100.0

Table 5 indicates the respondents' years of working internationally along with the racial and ethnic background of respondents. These data were self-reported in the survey. As the table indicates, there is a wide variance from the years of working internationally from respondents in their first year to some working over 31 years internationally. The majority of high school administrators and teachers are Caucasian/White representing 79.5% of the total respondents (n = 298). The second largest category is Asian, 10.4% (n = 39) which may represent the local Asian faculty, since the study took place in Asia. These data are representative of the teacher and administrator make up in international schools.

Table 6 outlines the type and size of the schools that responded. The schools are divided into four different categories: non-profit, proprietary, non-profit faith-based, and unreported. These data were obtained from the 2017-18 EARCOS directory. The majority of the respondents are from a non-profit school (81.6%; n = 306).

Table 5

Survey Respondents Years of Working Internationally and Background (Self-Reported)

Demographics	#	%
Years		
6-10 years	96	25.6
0-5 years	86	22.9
11-15 years	81	21.6
16-20 years	54	14.4
21-25 years	43	11.5
26-30 years	7	1.9
31+ years	5	1.3
Unreported	3	0.8
Total	375	100.0
Background		
Caucasian/White	298	79.5
Asian	39	10.4
Other	12	3.2
Multiracial	8	2.1
Hispanic	6	1.6
Latino	5	1.3
Black	4	1.1
Missing	3	0.8
Total	375	100.0

Table 6

Type and Size of Schools Responding

Demographics	#	%
School Type		
Non-Profit	306	81.6
Proprietary	50	13.3
Non-Profit Faith-based	7	1.9
Unreported	12	3.2
Total	375	100.0
School Size		
Medium	124	33.1
Small	120	32.0
Large	119	31.7
Small	120	32.0
Unreported	12	3.2
Total	375	100.0

Note. Large School: 1,201+ students; Medium School: 501-1,200 students; Small School: 0-500 students.

The respondents from proprietary schools represent 13.3% (*n* = 50). Schools that identify as both a non-profit and faith-based school represent 1.9% (*n* = 7). The data obtained to determine the size of the school was acquired from the 2017-18 EARCOS school directory.

Large schools denote schools with 1,201 or more students; medium schools have 501-1,200 students; and small schools have an enrollment of less than 500 students. The

number of large schools responding represent 31.7% ($n = 119$); medium schools consist

of 33.1% ($n = 124$); and small schools equal 32.0% ($n = 120$). The representation of the

size of school appears to be equally distributed so that one size of school is not overly

overrepresented.

Interview participants were recruited from a question on the online survey asking

if they would be willing to participate in an individual interview. Of the 375 respondents,

198 participants agreed to volunteer for an individual interview, resulting in a response

rate of 52.8%. Emails were sent to 33 high school teachers requesting an interview; only

10 responded and they were subsequently interviewed. An additional 20 emails were sent

to administrators requesting an interview and the first 10 who responded were

interviewed. After contacting the willing participants, a total of 20 individual interviews

were conducted.

Table 7 shows the breakdown of interview participants by gender and role. Male

teachers represent 50% ($n = 5$) and female teachers denote 50% ($n = 5$) of all

interviewees. Male administrators represent 70% ($n = 7$) and female administrators

embody 30% ($n = 3$) of the administrators interviewed. Males represent 60% ($n = 12$)

and females embody 40% ($n = 8$) of all the individual interviews conducted. During the

individual interview process no one that identified as other was interviewed.

Table 8 identifies the size of the school and the role of the interview respondent.

Teachers from large schools represent 20% ($n = 4$); teachers from medium schools

represent 25% ($n = 5$); and teachers from small schools embody 5% ($n = 1$).

Administrators from large schools denote 15% ($n = 3$); administrators from medium

schools represent 20% ($n = 4$); and administrators from small schools denote 15% ($n =$

3). For all individual interviews, there are four small school interviewees, nine medium school interviewees, and seven large school interviewees.

Table 7

Interview Respondents by Gender and Role

	Male		Female		Total	
Role	No.	%	No.	%	No.	%
Teacher	5	25	5	25	10	50
Administrator	7	35	3	15	10	50
Total	12	60	8	40	20	100

Table 8

Interview Respondents by Size of School and Role

	Small		Medium		Large		Total	
Role	School	%	School	%	School	%	#	%
Teacher	1	5	5	25	4	20	10	50
Administrator	3	15	4	20	3	15	10	50
Total	4	20	9	45	7	35	20	100

Note. Large School: 1,201+ students; Medium School: 501-1,200 students; Small School: 0-500 students.

The interviewees type of school and role is represented in Table 9. The type of schools includes non-profit, proprietary, or non-profit faith-based of interviewee schools. Teacher interviewees from non-profit schools represent 30% ($n = 6$); proprietary schools embody 10% ($n = 2$) of the teachers; and non-profit faith-based schools denote 10% ($n = 2$). Administrator interviewees from non-profit schools represent 35% ($n = 7$);

proprietary schools denote 5% (*n* = 1); and non-profit faith-based schools characterize 10% (*n* = 2). There were 13 interviewees from non-profit schools, three interviewees from proprietary schools, and four interviewees from non-profit faith-based.

Table 9

Interview Respondents by Type of School and Role

Role	Non-Profit	%	Proprietary	%	Non-Profit Faith-Based	%	Total #	%
Teacher	6	30	2	10	2	10	10	50
Administrator	7	35	1	5	2	10	10	50
Total	13	65	3	15	4	20	20	100

The individual interviews were conducted in a structured manner, and each participant was asked the same set of 10 questions. The interviewer set the tone at the beginning of the interview by developing a rapport with each interviewee for the interviewee to feel at ease during the interview process. The total amount of time for interviews ranged from a low of 28 minutes to a high of 78 minutes.

The shorter interview time was because the interviewees, who are non-native English speakers, did not elaborate on their answers. The interviews were recorded and transcribed by an outside transcription service, Rev.com. The transcripts were checked for accuracy, and any discrepancies were made to the transcripts. After the transcripts were verified for accuracy, they were loaded into Quirkos to identify common themes pertaining to school quality.

Descriptive Findings

After reviewing the survey instrument results, it is important to identify the items that administrators and teachers viewed as very important when examining school quality in international high schools. The descriptive findings for administrators and teachers, as rated very important, are listed in Table 10.

Table 10

Descriptive Findings from Administrators' and Teachers' Survey

Item	%
School community supported by leadership and parents	88.3
Teachers have clear expectations and providing feedback to students	81.6
Cultural sensitivity of the student body	74.9
School head has strong leadership and communication skills	74.4

Upon analysis of the items based on the gender of all participants, certain items emerged as being perceived as very important to males and females. Table 11 highlights the percentage of all participants, both school administrators and teachers, who identify the item as very important.

Table 11

Gender Differences: Descriptive Findings from Administrators' and Teachers' Survey

Item	Female %	Male %
School community supported by leadership and parents	95.4	82.9
Cultural sensitivity of the student body	83.6	80.6
Teachers have clear expectations and provide feedback to students	83.6	71.4
School head has strong leadership and communication skills	77.6	69.6

81

The descriptive findings listed in Table 12 for school administrator only responses identify four items as being very important.

Table 12

Descriptive Findings from Administrators' Survey

Item	%
Teachers have clear expectations and provide clear feedback to students	88.2
School community supported by the leadership and parents	87.1
Cultural sensitivity of the student body	80.7
School head has strong leadership and communication skills	78.5

After identifying what the school administrators perceive as very important, the data are further analyzed to compare the male and female administrator responses. Table 13 highlights the percentage of school administrators who identify the survey item as very important separated by gender.

Table 13

Gender Differences: Descriptive Findings from Administrators' Survey

Item	Female %	Male %
School community supported by leadership and parents	96.6	90.5
Cultural sensitivity of the student body	89.7	82.5
Balanced assessment system that includes formative and summative	86.2	76.2
School head has strong leadership and communication skills	86.2	76.2
Teachers have clear expectations and provide feedback to students	82.8	74.6

Based on the data, it appears that female administrators are more unified on what items constitute school quality as the percentage of female respondents is higher than male respondents for items that have the highest percentage of respondents who identify the item as very important.

From the teachers' perspectives, shown in Table 14, the descriptive results highlight the top four items rated as very important.

Table 14

Descriptive Findings from Teachers' Survey

Item	%
School community supported by leadership and parents	88.7
Teachers have clear expectations and provide feedback to students	79.4
Cultural sensitivity of the student body	73.0
School head has strong leadership and communication skills	73.0

The survey items that teachers rate as very important are listed in Table 15 by gender. They are broken down into the percentage of teachers who identify the item as very important and separated between male and female participants. Both male and female teachers identify the same four items as very important. It is important to note that almost all, 95.1%, of female teachers believe the school community needs to be supported by the leadership and parents.

Table 15

Gender Differences: Descriptive Findings from Teachers' Survey

Item	Female %	Male %
School community supported by leadership and parents	95.1	83.1
Teachers have clear expectations and provide feedback to students	83.7	76.6
Cultural sensitivity of the student body	82.1	70.1
School head has strong leadership and communication skills	75.6	66.9

Coefficient Alpha of the Instrument

To determine the internal consistency and reliability of the instrument based on the survey data, a coefficient alpha was determined. The coefficient alpha measures how closely related the question results are across each respondent of the survey. The coefficient alpha of the instrument for all respondents, administrators and teachers, was .85; the coefficient alpha of the instrument for administrator respondents was .82; and for teacher respondents the coefficient alpha for the instrument was .86. For all three groups, it was determined that the coefficient alpha is strong enough to legitimate the use of this instrument for the study indicating its high reliability. Since the inclusion of all survey items resulted in a high coefficient alpha, it was decided to not eliminate any items from the survey instrument and all 32 items were used in the analyses.

Factor Analysis and Individual Interview Results

The upcoming sections address the factors and themes that emerged as a result of the quantitative and qualitative analyses. The results from the 32-question closed-ended survey instrument were analysed using item analysis, factor analysis, and *t*-tests. A

correlation matrix is in Appendix I showing the relationship among the 32 items on the

survey. The quantitative analysis identified common factors for all participants, high

school administrators, and high school teachers. After the analysis of the qualitative data

from the 20 individual high school administrator and teacher individual interviews, clear

themes emerged. In addition, the quantitative data and qualitative data were integrated to

identify similarities and difference between factors and themes. Finally, the factors and

themes were synthesized and identify six school quality characteristics.

Findings Related to Research Question 1

In what ways do administrators and teachers define school quality?

Through the individual interviews, a better and deeper understanding of school

quality in international high schools is gained. Harvey and Green (1993) assert that the

definition of school quality is elusive and often has different meanings for varying

audiences. During the individual interviews with high school administrators and teachers,

seven themes relating to the interviewees' views of school quality emerged: collaborative

school culture, supportive school climate, quality teachers, effective school leadership,

articulated cohesive curriculum, students engaged in the learning process, and

credentialed school administrators and teachers.

The theme of collaborative school culture emerges as the first theme that

administrator and teacher interviewees identify as important for international high

schools.

Walter, an administrator, states:

We focus pretty heavily on 21st century skills, so we're looking at kids who can

collaborate and kids who are prepared, not just with having knowledge, but being

able to know how to use knowledge, being able to use information, being able to

solve problems, being able to work with others well, collaboratively.

Walter's quote highlights the importance of having a collaborative school culture that is

not only collaborative for faculty but also allows for collaboration amongst students.

Peter, a teacher, also stresses the importance of collaboration: "So really that word

collaboration is important, because sometimes at our international schools we have

outliers that are not collaborating and on the same team."

Charles, an administrator, also identifies that, "the most important thing is having

an informed, internationally-minded faculty that is collaborative and aware of what's

going on in the world, and also being abreast of the latest teaching practices." In addition,

Charles also stresses that teachers need to be an informed and internationally-minded

faculty who collaborate and adhere to best practices.

The second theme that emerges from the individual interviews of administrators

and teachers focuses on schools having a supportive school climate. This theme

highlights the importance of supporting all learners at school as well as supporting the

faculty. Interviewees reinforce that supporting students by being inclusive, as well as

encouraging others to be risk takers, is important for school quality. The following

statements by school administrators advocate the importance of a supportive school

climate.

Charles, an administrator, asserts that:

when you develop a culture where people look around and see what's going on,

and then adopt practices that are highly effective within the culture of the school

that effectively address student needs within the school, I think that's a really critical piece.

An administrator, Daniel states:

an inclusive and culturally responsive school in the sense that it serves the community to the best of its ability, it's not exclusionary, and it really understands kind of its place in the greater community such that it can respond and engage in that community.

Patrick, an administrator, shares, "I think the work environments could be enhanced. What I mean by that is making sure that there's a vibrant school community where people feel safe and connected and professionally supported, able to grow." Walter, an administrator, also states: "We encourage risk-taking. We encourage trying stuff out, doing what's right for kids, and we don't worry too much about it if it doesn't work because we just try something else." Kathy, a teacher, identifies, "What makes a good school is how they treat the students. I think it's more important actually than academics in the beginning. How they treat the children and how the children are valued [at school]."

Through the individual interviews of both administrators and teachers, it became apparent that teacher quality is another important theme for international high schools. Having quality teachers as part of the school faculty is a theme that resonates with many interviewees. Recruiting quality faculty who are engaged and want to grow and learn as educators is an apparent theme amongst high school administrators and teachers. It also appears that teachers prefer to work with other quality teachers so they could learn from one another.

The following statements support the teacher quality theme: Jennifer, a teacher, states, "I think first and foremost is the quality of the instruction and the quality of the teachers matter the most because without quality committed adults, nothing else is going to happen in the school." Mak, a teacher, asserts, "You're just surrounded by people who already know how to teach and so it just creates a great learning, high quality environment where you can get awesome ideas from everyone." Charles, an administrator, argues, "If you've hired high quality, international school teachers that are present and aware, and engaged, and involved with the school and with the world, they're going to get done what they need to get done." Jill, an administrator, believes, "I think quality teachers are going to be part of school quality." Frank, an administrator, further states:

> sustaining really good faculty and making sure that you're hiring the right people
> is absolutely the most important, so continuing to go out and be a great talent
> scout and bring in the best teachers that you can find that are very, very particular
> to your unique organization is a really important component.

Leadership appears to be a theme that several administrators and teachers acknowledge as an important theme for school quality. Sallis (2002) highlights that "without leadership at all levels of the institution the improvement process cannot be sustained" (p. 66). The following statements support the effective school leadership theme:

> Sue, a teacher, identifies, the importance of having an effective head of school,
> Their big job of hiring, perhaps, the head of the school, that they're finding
> someone who's got the vision that matches with what the school's trying to do, or

who's willing to take the steps to get the school on the right vision and not be

afraid of stepping on what's traditionally been done or things like that.

Jack, a teacher, states that leadership is a crucial attribute for school quality, "Leadership,

where they've created the mission and are following through and helping to realize that

as much as possible through everything from program development to curriculum

development to staffing, hiring, motivation, inspiring faculty."

Administrators and teachers want to discern that school leadership is effective and

the leaders are capable in areas such as communication, creating a sense of trust,

curriculum development, staffing, motivating faculty, and leaders have a progressive

vision. It appears that effective school leadership is important for school quality in

international schools.

An articulated cohesive curriculum emerges as an important theme for

administrators and teachers in international schools. For quality education, Sallis (2002)

indicates that "a well-balanced and challenging curriculum" needed to be in place (p. 2).

Many administrators and teachers highlight the need to have an articulated cohesive

curriculum in place in international schools. The following statements support the

articulated cohesive curriculum theme. Peter, a teacher, argues, "For a high quality

international high school, I would say their curriculum is organized so you have

something to guarantee. It is also organized that it is supported, so it can be made viable."

John, an administrator, asserts that:

> your curriculum has to be really clear with what you expect to do. I would say
>
> here, we talk a lot about when you're looking at standards, there's the beginning
>
> and the end, like a freeway, but you can move between the lanes and have some

creativity. You want creativity from your teaching staff; however, you can't do

your own program.

Mak, a teacher, believes:

what I think is really important for a school, is that it has some component in its

curriculum for developing what they see as whole people, people that are human

beings that have compassion and grit and gratitude and not just caring about the

grades 24-7.

Ensuring that international high schools have an articulated cohesive curriculum

is also identified as a theme perceived for school quality for high school administrators

and teachers. Interviewees stress the importance of why the curriculum needs to be

articulated and aligned, so that teachers understand the curricular expectations. It is

important to note interviewees indicate that schools also need to include soft and essential

skills such as compassion, grit, and gratitude into the school curriculum.

Several administrators and teachers highlight the importance of having students

engaged in their learning journey. The following statements support the theme of students

being engaged in the learning process. Sue, a teacher, identifies:

I would also say allowing more educational opportunities, different kinds of

classes, like I said, psychology is new and I have three sections of it for next year,

and I think that there are other teachers that want to teach classes that students are

interested in, but we have been so scared to do that because of scores or whatever,

so making sure we're providing the opportunities that students want.

Charles, an administrator, asserts that:

> [students] can go experience and do something that they've never done before,
> that maybe they're in the design technology class, but they want to go and do
> some cooking or they want to go and work on a project in the maker space, that is
> not really for any school project per se, but because they'll have the chance to
> explore and do that.

Jack, a teacher, believes, "Personal interests that are not necessarily being measured or explicitly taught but rather that the student's pursuing something just because they want to."

The final emergent theme from both high school administrators and teachers is, having school administrators and teachers that are credentialed. Both administrators and teachers highlight the importance of having credentialed and licenced administrators and teachers is important for school quality.

Teachers feel passionate about working with other teachers who are credentialed and having administrators who are credentialed is important for school quality in international high schools. Jack, a teacher, states, "Faculty as far as being qualified, wanting to be there, being excited to teach, passionate about their subject matter [need to be part of the school]." Mak, another teacher, also agrees, "it's really important to have educated and qualified administrators as part of the faculty." Kat, a third teacher, reiterates, 'I would say qualified teachers and qualified administrators who understand and can deal with a variety of people from other cultures are important for school quality." Patrick, an administrator believes, "Quality leaders, who are credentialed, is

essential for school quality." These statements identified that both administrators and teachers stressed the need to have credentialed administrators and teachers on the faculty.

Seven themes emerge through the individual high school administrator and teacher interviews relating to their views of school quality: collaborative school culture, supportive school climate, quality teachers, effective school leadership, articulated cohesive curriculum, students engaged in the learning process, and credentialed school administrators and teachers. In the upcoming sections, the administrator individual interview findings are separated from the teacher individual interview findings.

Administrator Interview Results

Upon completion and analysis of the individual interviews, six themes emerge from the 10 international high school administrators. The themes are collaborative school culture, multiple service-learning opportunities, quality teachers, retaining and attracting quality teachers, supportive school climate, and creating a strong school community.

The majority of high school administrators identify the importance of having a collaborative school culture in schools. The following statements support the collaborative school culture theme. Sally asserts, "The collaboration and teamwork, and all of those sorts of things have always been important but are going to be even more so."

Patrick states, "I would also add there's a spirit of being eager to help each other and work together." John argues that, "Having aligned academics with teachers that are collaborating in buildings similar lessons, common assessments." Jose believes, "At whatever level or however you divide these teams you've got to have some collaborative teams. And they've got to be able to work at a teacher level."

High school administrators identify that having a strong collaborative school culture is a theme for school quality. Creating a collaborative school culture is also viewed as important to build and maintain the collaborative school culture that administrators perceived as affecting school quality.

Several administrators note that having a service-learning program is important for school quality. The following statements support the multiple service-learning opportunities theme. Walter states:

> We look to make sure kids are going out to the community, whether it's locally here, whether it's serving our own school or in the local community, or outside large areas of China having kids be out there doing stuff, supporting others.

Daniel discusses:

> I think there has to be a service component somewhere, some part of the curriculum, whether it's built in or just a robust voluntary system, where students are getting access to the community. It is an interface with whatever the context of the school is in that culture, that students immersed in.

Deborah identifies, "I would say that high quality would also put in some kind of giving back, of community service, of making the world a better place." Sally states, "I would hope that an important component of a high-quality international school would be that service learning is integrated within the curriculum, and it is sustainable within the curriculum."

Many international schools in Asia are located in countries with an abundance of service-learning opportunities. Often international schools partner with local

organizations to work on service projects. Administrators identify that having a service-learning component within the school's curriculum is important for school quality.

Many high school administrators indicate quality teachers is also an important component for quality schools. The following statements support the quality teacher theme: Charles asserts, "If you've hired high quality, international school teachers that are present and aware, and engaged, and involved with the school and with the world, they're going to get done what they need to get done." Frank states, "The most important component of school quality would be the teachers, of course." Patrick confers, "Start with the quality of the teachers at the school is going to be the number one factor." Jill maintains, "I think then quality teachers are going to be another part of school quality." Jose acknowledges, "You can't offer that quality education to kids if you don't have the teachers, if you don't have the money for professional development, if you don't have the money for whatever online tools that you need, or whatever platforms."

Administrators identify that having quality teachers in the classroom is an important factor for school quality. Students deserve the best education and administrators understand that having quality teachers in front of students helps achieve student success.

With the relatively high teacher turnover in an international school setting, it is not surprising that the theme of retaining and attracting quality teachers is a theme. Many school administrators hire teachers via Skype and through attending job fairs. The following statements support the theme of the retaining and attracting quality teachers: Walter specifies, "Having to find people and the amount of time it takes to recruit and find qualified people who are willing to come for what we're willing to pay them is a

challenge that makes it tough." Frank acknowledges, "The ability to retain or attract good staff is also truly important." Charles confers, "I think getting people and retaining high quality staff is important." Patrick states:

> There is a lot of communication that goes into explaining the nature of the school and maybe the city and the country and the living situation. A lot of time goes into finding not just someone who is a quality teacher in the classroom, but who also fits well in that particular context.

Frank asserts:

> sustaining really good faculty and making sure that you're hiring the right people is absolutely the most important, so continuing to go out and be a great talent scout and bring in the best teachers that you can find that are very, very particular to your unique organization is a really important component.

Administrators recognize the need to retain and attract quality teachers. With the competitive nature of international schools, it is becoming more challenging to attract and retain quality faculty; therefore, this theme important for administrators.

Many high school administrators identify that having a supportive school climate is an important theme. The following statements reinforce the supportive school climate theme: Sally suggests, "A high quality international high school would be one that challenges students academically, and has a really rigorous program, while also meeting the students where they're at." John indicates, "We are spending the next year, maybe two, evaluating our graduation pathways, and trying to decide where there's room to leverage more creativity, do some different things for kids while still maintaining the quality, core programs." Deborah believes, "High quality to me means that we are also

meeting the needs of our students and not putting them into a box, so that they all look the same, and I think that's actually a struggle at international schools." Daniel states:

> What are our systems in the regular education classroom, and out of the regular education classroom, so that we can keep ramping up the support, so we do whatever it takes to help a kid? And I think that's something that we need to get more aligned. I think our systems are strong, but we need to align in that RTI kind of approach to intervention and support for kids.

Sally believes:

> I think just the positive school culture would be that the people are taking risks and feel safe in doing so. That you can see that in the classroom when students are volunteering and answering, and obviously aren't sure, but putting themselves out there and taking a risk to try and further their learning and their understanding.

Jill asserts that:

> Just a positive community, whether it's parents, students, teachers, support staff, everyone around there, that I think really are an important part of ensuring that there is a quality school. I think that they are going to be focused on ensuring that students understand the content, then are able to access that content, whether it's within a particular language, that both students and teachers understand and agree what is at stake and what is being shared with them, I think it is really an important part of school quality.

The theme of a supportive school climate resonates with several high school administrators to ensure that students are supported throughout their learning journey.

Communities are essential in an international school setting as they are often the focal point for international schools. The following statements support creating a strong school community theme. Charles believes:

We really want to have people that are invested in the community, it is a really lovely, small community school so having those teachers that don't invest in that at all, they stick out and it actually can cause tensions or things like that within the community, or at least within the faculty.

Walter suggests:

I see an international school as being part of the community that interacts with the neighborhood, that's not just isolated by itself, but then sees itself as serving the place that they are. We're always trying to serve that culture, serve that community, so we want to be seen as important to the rest of the community.

Patrick identifies, "strengthening community connections so that teachers feel like they're a part of something larger than themselves in the classroom. Developing and strengthening the community can be a positive feedback cycle in the development of the school." Creating a strong community theme is apparent with administrators in international schools as they often navigate personal issues with students, teachers, and parents as local support is not readily available.

Finally, an additional outlier quoted from Deborah, an administrator, highlights the fact that many international schools are locked into schedules that dictate student offerings. Deborah states:

The number one key factor is blowing up the schedule. Schedules dictate everything, and it's so frustrating when we're stuck in these increments of 80

minutes, or 90 minutes, or 75 minutes, and then and every single core subject sees the exact same amount of time, and this is what it looks like.

It is common that school leaders continue to let their schedules dictate their offerings and programs for students. Deborah articulates, "We should stop having the schedule as the focal point and begin to look at creative ways to support students so that their needs are being met not restricted by the school schedule." This idea of being locked into schedules has held high schools hostage for many years. Deborah believes educators should address creative ways to create schedules so that student learning is at the forefront.

These six themes emerge from the individual high school administrator interviews and they attempt to identify what administrators view as school quality in international high schools. In the following section, the views of school quality from the teachers' individual interviews are explored.

Teacher Interview Results

Five themes emerge related to school quality through the individual interview process with high school teachers. The themes are: quality teachers, collaborative school culture, supportive school climate, creating a positive school climate, and effective school leadership.

Many teachers identify quality teachers as a major theme for school quality in international high schools. The following statements support the quality teacher theme. Jen acknowledges, "I think first and foremost, is the quality of the instruction and the quality of the teachers that matters the most because without quality committed adults, nothing else is going to happen in the school." Kat states, "I would say teachers who have good knowledge of the subject content that they're teaching." Jack believes, "I think

when you wind up with strong quality faculty, it winds up making such a huge difference at school." Lin asserts, "I would say that a high-quality international school should have experienced and specialized educators."

Throughout the interviews it becomes apparent that international high school teachers consider working alongside quality teachers as necessary for school quality. Teachers also recognized that a quality teacher is someone who is knowledgeable in their subject area. Teachers believe that quality teachers are also committed to education and enjoy working with other quality teachers.

Furthermore, many teachers also find that having a collaborative school culture is an important theme for school quality. The following statements support the collaborative school culture theme: Jack said, "Working together as much as possible, collaboration, not existing in silos where you do your own thing." Peter indicates, "So really that word cohesion is important, because sometimes at our international schools we have outliers that are not collaborating on the same team." Mak agrees, "The willingness of people from the school to work with each other, from different departments." Sue asserts:

> I like to go and observe other teachers a lot, so in my off blocks this year I went and saw 17 different teachers, and I thought that was really great that the teachers were so open to letting me come in there and then I got to learn a lot of new things, but it's not the norm there at all.

Teachers view having a collaborative school culture as a theme for school quality. Teachers want the opportunity to collaborate with other colleagues, including working with faculty that are not in their department. It is also important to note that according to Sue, teachers want opportunities to visit and observe other teachers while teaching in

order to learn from their colleagues. A collaborative school culture is an important theme for school quality for high school teachers.

Several teachers acknowledge that having a supportive school climate is another theme for school quality. The following statements support the supportive school climate theme: Jim identifies, "Polling students to find out where their passions and interests lie and then address those needs or those interests." Jack states, "Personal interests that are not necessarily being measured or explicitly taught but rather that the student's pursuing just because they want to." Sue asserts:

> I would say that [the school] provides students a chance to take leadership roles to really find what they're passionate about, and if the school doesn't offer that, allow them a chance to set that up. So, if a student knows right off the bat that they want to be in nursing, how do we help them in their classes that they're taking, kind of explore that a little bit better?

These statements illustrate that teachers recognize that schools need to provide a supportive school climate for students to pursue their passions and interests.

Teachers, during the interview process, also highlight the importance of creating a positive school climate in schools is a key theme. The creating positive school climate theme is supported by the following statements: Jen believes, "What sets this school apart from anything else is relationship building between students and faculty and actually between faculty and faculty as well." Kat recognizes, "Incorporating different aspects of cultures into the school to make everyone feel comfortable and building relationships."

Joe acknowledges:

> I would say that first and foremost for quality would be relationship building, and
> I think that's such an important part of the teacher-student relationship. I think it's
> essential to that learning process, that teacher-student relationship. When students
> actually care what they're doing, they can tell that a teacher cares about what
> they're doing, that's when things happen.

Teachers clearly identify that creating a positive school climate in international schools is an important theme for school quality.

A subsequent theme that emerges from the teacher interviews is teachers view having effective school leadership as important for school quality. The following statements support the effective school leadership theme: Jack specifies, "It's sort of a leadership kind of issue. Either the absence of leadership or an ineffectual type. So, I think having administrators who are very positive." Jen agrees, "Leadership teams in high schools have to be strong in the sense that they have a really strong vision." Jim believes, "Having an administration that is open to feedback and clearly articulates that ethos where reflective practices are the norm." Kat conveys, "How the head of school relates with the teachers, the students, also the community. I think that's huge." These statements show the importance of having school effective leadership in place.

Teachers through the individual interview process acknowledge that effective school leadership is important in schools. In international schools, both administrators and teachers tend to move from school to school frequently. Teachers want to know that their leadership team is effective and can support the school and its vision. Teachers see effective school leadership as a theme for school quality.

Through the individual interviews, what constitutes school quality in international high schools is identified. Table 16 highlights the key themes that emerge from the individual interviews and outlines the components that administrators and teachers perceive to be associated with school quality in international high schools.

Table 16

Major Themes from the Interviews

Key Themes Based on Individual Interviews		
All Participants	Administrator	Teacher
Collaborative school culture	Collaborative school culture	Collaborative school culture
Quality teachers	Quality teachers	Quality teachers
Supportive school climate	Supportive school climate	Supportive school climate
Credentialed school administrators and teachers	Retaining and attracting quality teachers	Creating a positive school climate
Effective school leadership	Multiple service-learning opportunities	Effective school leadership
Articulated cohesive curriculum	Creating a strong school community	
Students engaged in the learning process		

In summary, both administrators and teachers clearly identify that a collaborative school culture, quality teachers, a supportive school climate, credentialed school administrators and teachers, effective school leadership, an articulated cohesive curriculum and students engaged in the learning process are the most important common themes. These themes denote what school administrators and teachers view as school

quality. In the upcoming section, the factors that emerged from the factor analysis are discussed. In addition, similarities and differences between administrator and teacher views of school quality in international high schools are identified.

Findings Related to Research Question 2

What factors do administrators and teachers view as influencing school quality?

With this question, the aim is to better understand what constitutes school quality from both the administrator and teacher respondents' perspective. The survey instrument results show the importance of each item through the views of both high school administrators and teachers. Through the factor analysis, factors emerge indicating what respondents believe to constitute school quality.

While there were many factor combinations that could be employed from the factor analysis based on all 375 participants, it was determined that the best model is a seven-factor model. Table 17 shows the seven factors perceived to be associated with school quality in international high schools for all participants. The items that related to the various factors are highlighted under each factor label. The factor loading associated with each item is listed in the table and indicates the strength of the relationship of the item to the factor.

The factor loading cut-off was set at .30 since the sample size is 375 respondents (Hair, Tatham, Anderson, & Black, 1998). Hair et al. (1998) identify the factor loading required by the sample size that is needed for significance. For all participants, 375 respondents, the loading was set at .30 due to the larger sample size.

Significance testing was also performed to determine the importance of the factors for all participants as well as administrators and teachers only. For the

significance testing, Tukey's honest significant differences method was employed. Using

Tukey's method allowed the significance of the factors, when comparing all the factors

together, to be identified.

Table 17

Factor Analysis of Data for both Administrators and Teachers (N = 375)

Factor	Factor Loading
1: Supportive school climate, mean: 3.79	
School community supported by leadership and parents	.72
Cultural sensitivity of the student body	.48
Teachers have clear expectations and provide feedback to students	.34
2: Multiple student learning opportunities, mean: 3.30	
Multiple and diverse service-learning opportunities	.47
A STEAM or STEM program is offered	.38
Inclusive philosophy of education	.38
Balanced assessment system that includes formative and summative	.37
3: Competent school leaders, mean: 3.27	
Data driven school improvement plan in place	.59
School leaders well versed in research-based curriculum and instruction	.57
School Head has strong leadership and communication skills	.50
Student-centred pedagogy in place to set student learning outcomes	.48
Principal is the instructional leader	.44
Professional learning communities in place	.35
4: Credentialed school administrators and teachers, mean: 3.24	
Administrators have valid credentials	.87
Teachers have up to date credentials	.72
5: Effectively managed school operations, mean: 2.75	
Small class sizes of 15-20 students	.59
The School Board includes teachers, parents, and community members	.55
School has an endowment fund in excess of three million dollars	.49
Physical facilities are state of the art	.48
Teachers and local faculty receive equitable salary and benefits	.38
School provides laptops for each student	.31
6: Shared school and community leadership, mean: 2.52	
Parents involved in decisions related to student learning	.62
School has a zero-reject policy for students with special needs	.35
Board plays a key role in leadership, policy, and management	.34
Students are involved in leadership, policy, and governance decisions	.33
7: High school performance on standardized assessment, mean: 2.06	
Students are accepted into top tier universities	.74
Students performance in math and science matches scores in top Asian countries	.61
Scores on standardized tests are the best indicator of performance	.60

Note. Items with factor loadings < .3 are deleted; 28/32 items remain.

Tukey's method compares the difference between each pair of means identifying the importance of the factors (Garson, 2012). Tukey's method "estimates the power to which items in a set would need to be raised in order to be additive" (Garson, 2012, p. 51). By utilizing Tukey's method, a researcher can limit the Type 1 error rate to 0.05 for all tests. Using Tukey's method, the importance of each factor was revealed for each group of participants.

Upon completion of the factor analysis for all participants, seven factors clearly emerge. The factors are supportive school climate; competent school leaders; credentialed school administrators and teachers; multiple student learning opportunities; effectively managed school operations; shared school and community leadership; and high school performance on standardized assessment. They are listed in order of importance in Table 17. There are four factors that appear to be of greater importance as they related to high school quality; supportive school climate, competent school leaders, credentialed school administrators and teachers, and multiple student learning opportunities. The last three factors are not as important as the means for the factors are significantly lower, thus implying they are not as important for school quality.

Of the seven factors that emerge from the factor analysis for all participants, administrators, and teachers, the first factor is labelled supportive school climate. The components that contributed to a supportive school climate are, the school community is supported by leadership and parents, there is cultural sensitivity towards the student body, and teachers have clear expectations and provide feedback to students. This factor is the significantly most important factor, the mean of items related to the factor is 3.79.

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The second factor identified for all participants is competent school leaders. The following are the components of the second factor: a data driven school improvement plan is in place at the school, school leaders are well versed in research-based curriculum and instruction, the School Head has strong leadership and communication skills, student-centered pedagogy is in place to set student learning outcomes, the principal is the instructional leader, and professional learning communities are in place at the school. The factor of competent school leaders has a mean of 3.30 for all items pertaining to competent school leaders.

Credentialed school administrators and teachers is the third most important factor. The components associated with credentialed school administrators and teachers included administrators have valid leadership credentials and teachers have valid and up-to-date teacher credentials. The mean for the items associated with credential school administrators and teachers is 3.27.

The fourth factor is labelled multiple student learning opportunities. The components that contributed to multiple student learning opportunities are multiple and diverse service-learning opportunities, a STEAM or STEM program is offered, an inclusive philosophy of education, and a balanced assessment system that includes formative and summative assessment is in place. The mean of the questions pertaining to the factor of multiple student learning opportunities is 3.24.

Effectively-managed school operations is identified as the fifth factor. The components associated with the factor of effectively-managed school operations include small class sizes of 15-20 students; the School Board included teachers, parents, and community members; the school has an endowment fund in excess of $3 million;

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physical facilities are state of the art; and teachers and local faculty receive equitable salary and benefits. This fifth factor has a mean of 2.75 for items associated with the factor of effectively-managed school operations.

The sixth factor that surfaced is shared school and community leadership. The items that related to shared school and community leadership included parents involved in decisions related to student learning; the school has a zero-reject policy for students with special needs; the School Board plays a key role in leadership, policy, and management; and students are involved in leadership, policy, and governance decisions. This sixth factor has a mean of 2.52 for the items associated with shared school and community leadership. This factor is the second least important factor.

The seventh factor and least important factor is high school performance on standardized assessment. The items linked to the use of high school performance on standardized assessment include students are accepted into top tier universities, students' performance in math and science matches scores in top Asian countries, and scores on standardized tests are the best indicator of performance. This factor has a mean of only 2.06 for items relating to the factor, indicating that it is considerably lower than the other six factors.

Factor Analysis Findings from Administrator Data

The administrator findings from the survey instrument highlight the factors that pertain to high school administrators' views influencing school quality. Upon completion of the factor analysis of the administrator responses, it is determined that the seven-factor model is the best fit. Table 18 shows the seven factors perceived to be associated with school quality in international high schools, based on the survey of international school

administrators. The items associated with each factor are listed under the factor label. The factor loadings for each item is also listed in the table. The factor loadings identify the strength of the relationship of the item to the factor.

The factor analysis identifies seven emergent factors for the administrator participants. As there are only 93 administrator respondents for the survey, the factor analysis did not have as many responses to analyze. The seven factors for administrators include: collaborative school culture; credentialed school administrators and teachers; effective school leaders and quality teachers; multiple student opportunities and community involvement; multiple student learning opportunities; high school performance on standardized assessment; and effectively managed school operations. The factors are listed in order of importance in Table 18. Collaborative school culture, credentialed school administrators and teachers, and effective school leaders and quality teachers are significantly more important based on the mean of the factors and suggest that administrators view these factors to be more important for school quality.

Creating a collaborative school culture is the most important factor according to high school administrators. The items associated with collaborative school culture included the School Head has strong leadership and communication skills, teachers participate in school decision making, professional learning communities are in place, and the school community is supported by the leadership and parents. This first factor has a mean of 3.58 for the items relating to the factor, highlighting that a collaborative school culture is the most important factor for administrators.

Table 18

Factor Analysis of Administrator Data (N = 93)

Factor	Factor Loading
1: Collaborative school culture, mean: 3.58	
School Head has strong leadership and communication skills	.76
Teachers participate in school decision making	.56
Professional learning communities in place	.37
School community supported by leadership and parents	.32
2: Credentialed school administrators and teachers, mean: 3.43	
Teachers have up to date credentials	.95
Administrators have valid credentials	.78
College counselor assists students with college process	.53
3: Effective school leaders and quality teachers, mean: 3.38	
Principal is the instructional leader	.66
School leaders well versed in research-based curriculum and instruction	.50
Balanced assessment system that includes formative and summative	.50
Teachers have clear expectations and provide feedback to students	.48
The School Board includes teachers, parents, and community members	-.31
4: Multiple student opportunities and community involvement, mean: 2.67	
Parents involved in decisions related to student learning	.66
Students are involved in leadership, policy, and governance decisions	.66
School has a zero-reject policy for students with special needs	.52
Board plays a key role in leadership, policy, and management	.49
Multiple and diverse service-learning opportunities	.36
5: Multiple student learning opportunities, mean: 2.65	
A STEAM or STEM program is offered	.67
Inclusive philosophy of education	.50
Physical facilities are state of the art	.48
School provides laptops for each student	.32
Western trained teachers on staff	.30
6: High school performance on standardized assessment, mean: 2.56	
Students performance in math and science matches scores in top Asian countries	.63
Students are accepted into top tier universities	.62
Scores on standardized tests are the best indicator of performance	.53
Cultural sensitivity of the student body	.37
7: Effectively managed school operations: mean: 2.11	
School has an endowment fund in excess of three million dollars	.72
Small class sizes of 15-20 students	.46
Schools offers the IB Diploma program	.44

Note. Items with factor loadings < .3 are deleted; 29/32 items remain.

The second most important factor for administrators is having credentialed school administrators and teachers. The items associated with this second factor include teachers have valid and up-to-date teaching credentials, administrators have valid administrative credentials, and the college counselor assists students with the college process. The mean for the second factor is 2.43 for its related items.

Effective school leaders and quality teachers is the third factor for school administrators. The items related to this factor are the principal is the instructional leader, school leaders are well versed in research-based curriculum and instruction, a balanced assessment system that includes formative and summative assessment, teachers have clear expectations and provide feedback to students, and the School Board includes teachers, parents, and community members. The mean for the third factor is 3.38 for the items related to effective school leaders and quality teachers.

The fourth factor for administrators is multiple student opportunities and community involvement. There are five items linked with this factor. They included parents are involved in decisions related to student learning; students are involved in leadership, policy, and governance decisions; the school has a zero-reject policy for students with special needs; the Board plays a key role in leadership, policy, and management; and multiple and diverse service-learning opportunities. The fourth factor has a mean for its survey items of 2.67.

The fifth factor identified by administrators is multiple student learning opportunities. The items related to factor five include a STEAM or STEM program is offered, an inclusive philosophy of education, physical facilities are state of the art, the

school provides laptops for each student, and Western trained teachers are on staff. The mean for factor five is 2.65 based on the items related to the factor.

For administrators, the next factor is high school performance on standardized assessment. The items associated with high school performance on standardized assessment are students' performance in math and science matches scores in top Asian countries, students are accepted into top tier universities, scores on standardized tests are the best indicator of performance, and cultural sensitivity toward the student body. The mean for factor six is 2.56 for the items associated with high school performance on standardized assessment.

Effectively-managed school operations is the seventh factor. The items for factor seven include the school has an endowment fund in excess of $3 million, small class sizes of 15-20 students, and the school offers the IB Diploma program. The seventh factor has a mean of for its survey items of 2.11 and is the least significant factor for school administrators regarding school quality.

Factor Analysis Findings from Teacher Data

To understand the factors that teachers view as influencing school quality, a factor analysis is conducted on the teacher survey findings. After completing the factor analysis, it is once again determined that the seven-factor model is most appropriate. Table 19 shows the seven factors associated with high school quality in international schools as determined by teachers. The table shows the seven factors and the items related to each factor are outlined under the factor name. The strength of the relationship of the item to the factor is listed under the factor loadings.

Table 19

Factor Analysis Teacher Data (N = 282)

Factor	Factor Loadings
1: Supportive school climate, mean: 3.38	
School community supported by leadership and parents	.81
Cultural sensitivity of the student body	.46
Teachers have clear expectations and provide feedback to students	.34
Schools offers the IB Diploma program	.31
2: Competent school leaders, mean: 3.24	
School Head has strong leadership and communication skills	.65
Data driven school improvement plan in place	.49
School leaders well versed in research-based curriculum and instruction	.41
Student-centred pedagogy in place to set student learning outcomes	.40
Professional learning communities in place	.33
Principal is the instructional leader	.32
3: Multiple and inclusive student learning opportunities, mean: 3.24	
Multiple and diverse service-learning opportunities	.67
College counselor assists students with college process	.38
A STEAM or STEM program is offered	.35
Students are involved in leadership, policy, and governance decisions	.33
Inclusive philosophy of education	.31
4: Credentialed school administrators and teachers, mean: 3.19	
Administrators have valid credentials	.80
Teachers have up to date credentials	.72
5: Effectively managed school operations, mean: 3.08	
Small class sizes of 15-20 students	.54
Physical facilities are state of the art	.46
Balanced assessment system that includes formative and summative	.38
The School Board includes teachers, parents, and community members	.34
School provides laptops for each student	.31
6: Parental involvement in school decisions, mean: 2.36	
Parents involved in decisions related to student learning	.53
School has a zero-reject policy for students with special needs	.48
7: High school performance on standardized assessment, mean: 2.04	
Students are accepted into top tier universities	.77
Scores on standardized tests are the best indicator of performance	.64
Students performance in math and science matches scores in top Asian countries	.62
School has an endowment fund in excess of three million dollars	.33

Note. Items with factor loadings < .3 are deleted; 28/32 items remain.

The factor analysis results for teachers reveals seven factors: supportive school climate, competent school leaders, multiple and inclusive student learning opportunities, credentialed school administrators and teachers, effectively-managed school operations, parental involvement in school decisions, and high school performance on standardized assessment. The factors are listed in order of importance in Table 19. The first four factors are significantly more important than the remaining three and indicate teachers believe that these factors are of greater importance for school quality.

Based on the factor analysis, the first factor and most important factor for teachers is having a supportive school climate. There are four items related to a supportive school climate and they include the school community is supported by leadership and parents, there is cultural sensitivity towards the student body, teachers have clear expectations and provide feedback to students, and the school offers the IB Diploma Program. Supportive school climate is the most important factor related to high school quality and has a mean of 3.38 for all items related to this factor.

Competent school leaders are identified as the second most important factor for teachers. The items associated with the second factor is the School Head has strong leadership and communication skills, a data-driven school improvement plan is in place, school leaders are well versed in research-based curriculum and instruction, student-centered pedagogy is in place to set student learning outcomes, professional learning communities are in place, and the principal is the instructional leader. The second factor has a mean of 3.24 for the items related to the competent school leader factor.

Multiple and inclusive student learning opportunities are identified as factor three. The items related to factor three included multiple and diverse student learning

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opportunities; a college counselor that assists with the college process; a STEAM or STEM program is offered; students are involved in leadership, policy, and guidance decisions; and the school has an inclusive philosophy of education. The items linked to factor three have a mean of 3.24.

Credentialed school administrators and teachers is recognized as factor four. The items related to factor four include administrators have valid leadership credentials and teachers have valid and up-to-date teaching credentials. This fourth factor has a mean of 3.19 for related items in the survey instrument.

Effectively-managed school operations are identified as the fifth factor. There are five items attached to the factor of effectively-managed school operations. They include small class sizes of 15-20 students; physical facilities are state of the art; there is a balanced assessment system that includes formative and summative assessment; the School Board includes teachers, parents, and community members; and the school provides laptops for each student. The survey items related to factor five has a mean of 3.08 and this factor is ranked the fifth most important factor.

Parental involvement in school decisions is factor six for teachers and there are two items linked to this factor. The items include parents are involved in decisions related to student learning and the school has a zero-reject policy for students with special needs. Parent involvement in school decisions is the second least important factor for teachers as it has a mean of 2.36 for related items.

The least important factor for teachers, factor seven, is high school performance on standardized assessment. The items of high school performance on standardized assessment include students are accepted into top tier universities, scores on standardized

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tests are the best indicator of performance, students' performance in math and science matches scores in top Asian countries, and the school has an endowment fund in excess of $3 million. The mean for the items pertaining to factor seven is 2.04, indicating that it is the least important factor for teachers.

The teachers highlight the seven factors that relate to high school quality in international high schools. In the following section, the similarities and differences of the factors and themes between high school administrators and teachers are examined.

Differences Between Administrator and Teacher Views on School Quality

After completing the factor analysis and conducting the individual interviews, the factors and themes from both administrators and teachers were compared to identity if there is a difference between administrator and teacher views of school quality. In addition, *t*-tests were utilized to determine if there is a significant difference between administrator and teacher views.

When applying *t*-tests to the administrator and teacher responses to the 32 questions in the survey instrument, the Bonferroni method is used and the alpha level was changed. Changing the alpha level from 0.05 to 0.05/32 is required as there are 32 *t*-tests to complete. After performing the *t*-tests, it is determined that there are eight questions that differed significantly from administrator and teacher views as shown in Table 20. The *p*-value indicates there is a significant difference in what administrators and teachers view as school quality.

The mean and difference between means for each question for both administrators and teachers are identified in Table 20. The question with the highest variance between administrators and teachers is, the School Board includes teachers, parents, and

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community members. Teachers state having a School Board with all stakeholders is more important than administrators. Teachers believe that having small class sizes of 15-20 students is more important to them than administrators. Teachers believe schools offering an IB Diploma Program is more important than administrators. Teachers recognize the school having an endowment fund in excess of $3 million is more important than administrators. Teachers rate having state of the art physical facilities as more important than administrators. Finally, teachers identify that teachers and local faculty should receive equitable salary and benefits is more important to them than administrators.

Administrators state that having a data driven school improvement plan in place statement is more important than teachers. In addition, the principal as the instructional leader statement is more important to administrators than teachers.

Administrators rate the following statements as being significantly more important than teachers:

- The principal is the instructional leader.
- A data driven school improvement plan is in place at the school.

Teachers rate the following statements as being significantly more important than administrators:

- The school has small class sizes of 15-20 students.
- The physical facilities are state of the art.
- The school offers the IB Diploma Program.
- The School Board includes teachers, parents, and community members.
- The school has an endowment fund in excess of $3 million.
- Teachers and local faculty receive equitable salary and benefits.

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Table 20

Questions Significantly Different between Administrators and Teachers Based on T-tests

Item	*p*-value	Admin μ	Teacher μ	Diff
Small class sizes of 15-20 students	4.2e-06	2.9	3.4	0.5
Physical facilities are state of the art	2.8e-05	2.5	2.9	0.4
Schools offers the IB Diploma program	5.4e-04	1.8	2.2	0.4
Principal is the instructional leader	3.4e-07	3.3	2.8	0.5
Data driven school improvement plan in place	3.7e-09	3.4	2.8	0.5
The School Board includes teachers, parents, and community members	3.8e-11	2.3	3.2	0.9
School has an endowment fund in excess of $3 million	2.2e-04	1.7	2.1	0.4
Teachers and local faculty receive equitable salary and benefits	1.1e-03	3.0	3.3	0.4

Note. Confidence level is > 0.99.

Table 21 highlights the school quality factors identified through the factor analysis

for school administrators and teachers. There are both similarities and differences between

the factors identified with administrators and teachers. Both administrators and teachers

understand the need for credentialed and quality administrators and teachers. This factor

appears to resonate with both administrators and teachers. Effectively managed school

operations is important for school quality for both administrators and teachers. Multiple

student learning opportunities are important to both administrators and teachers. Teachers

also note that inclusive learning opportunities is also important for school quality.

Table 21

Factors: A Comparison of Administrators and Teachers

Key Factors Based on Survey Analysis	
Administrator	Teacher
Collaborative school culture	Supportive school climate
Credentialed school administrators and teachers	Credentialed school administrators and teachers
Effective school leaders and quality teachers	Competent school leaders
Multiple student opportunities and community involvement	Multiple and inclusive student learning opportunities
Effectively managed school operations	Effectively managed school operations
High school performance on standardized assessment	High school performance on standardized assessment
Multiple student learning opportunities	Parental involvement in school decisions

High school performance on standardized assessment to assess students is important for both administrators and teachers; however, the factor is ranked lower than other factors indicating a lower importance. It is apparent from the data that both administrators and teachers identify school culture as important. Administrators believe a collaborative school culture is important for school quality and the teachers believe that a supportive school climate needs to be in place for school quality.

Overall, the factors identified from both the administrators and teachers are more similar than divergent. Both administrators and teachers recognize important factors include school culture, credentialed school personnel, multiple student learning

opportunities, effectively-managed schools, and high school performance on standardized assessment.

After reviewing the comprehensive transcripts from the individual interviews six themes emerge for high school administrators and five themes emerge for high school teachers; they are illustrated in Table 22.

Table 22

Major Themes from the Interviews

Key Themes Based on Individual Interviews	
Administrator	Teacher
Collaborative school culture	Collaborative school culture
Quality teachers	Quality teachers
Supportive school climate	Supportive school climate
Retaining and attracting quality teachers	Creating a positive school climate
Multiple service-learning opportunities	Effective school leadership
Creating a strong school community	

There are three themes that emerge that are similar for both administrators and teachers. Quality teachers, collaborative school culture, and supportive student culture are identified as the most common themes.

The administrators believe that creating a strong school community is an important theme. Since many international schools are often seen as the community center, where families and teachers live amongst one another, having a strong school community is considered important for international high school quality. During the

teacher interviews, teachers did not identify that creating a strong school community is a theme.

Teachers view creating a positive school climate as an important theme for school quality. Teachers want to know they are valued and appreciated in their roles. Creating a positive school climate is important for teachers which also includes support for students. The theme of creating a positive school climate is not a key theme for administrators during the interviews.

Administrators employ teachers for international schools and they collectively agreed that an important theme for school quality is retaining and attracting quality teachers. With the transition of teachers moving from school to school, administrators believe retaining and attracting teachers to their school is an important theme for school quality. As the international school sector is expanding, it is easier for teachers to move from school to school. Often, administrators have a difficult time recruiting and retaining quality teachers. This theme did not emerge in the individual interviews with teachers.

Teachers view effective school leadership as a theme for school quality. With the vast number of administrators in international education, there is no standard certification or licensure for international administrators. There is variance from state licences to international certificates and as a result there is an inconsistency of what is viewed to be an effective administrator in international schools. From the interviews, it seems that teachers want to work with effective school leaders, so they are supported in their roles as teachers. Administrators did not identify effective school leadership as a theme for school quality during the interviews.

In international schools, there has been an increase in service-learning opportunities and administrators view having multiple service-learning opportunities as a theme for school quality. International schools are located in areas where service-learning opportunities are plentiful, thus allowing schools to partner with local organizations to support initiatives. These partnerships, with a service-learning component, are a key theme for administrators. Teachers did not focus on service-learning as a theme for school quality.

In summary, the similarities from the factor analysis for both administrators and teachers show that school culture and climate, credentialed school personnel, multiple student learning opportunities, effectively-managed schools, and high school performance on standardized assessment support school quality. The common themes from the individual interviews of administrator and teachers include quality teachers, collaborative school culture, and supportive school climate.

Summary

By combining the quantitative and qualitative results, a deeper understanding of the research questions posed (Creswell & Creswell, 2018). Through the survey instrument results, factors are identified and through the individual interviews, themes emerge for all participants—both administrators and teachers. In this section, the quantitative data is integrated with the qualitative data to identify similarities and differences.

While completing the synthesis of the data simultaneously, the two streams of data were compared to identify common themes which emerged from the survey of all participants and individual interviews. Through the analysis of both quantitative and

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qualitative results, seven factors and seven themes associated with school quality were identified and are shown in Table 23.

Table 23

Factors and Themes Related to School Quality—All Participants

Key Findings Based on Surveys and Interviews for Administrators and Teachers	
Factors	Themes
Supportive school climate	Supportive school climate
Competent school leaders	Effective school leadership
Credentialed school administrators and teachers	Credentialed school administrators and teachers
Shared school and community leadership	Quality teachers
Effectively managed school operations	Articulated cohesive curriculum
Multiple student learning opportunities	Students engaged in the learning process
High school performance on standardized assessment	Collaborative school culture

When comparing the factor analysis and themes resulting from the individual interviews, it appears there are some common views that emerge. All participants acknowledge that having a supportive school climate is important for school quality as well as credentialed school administrators and teachers. Respondents recognize that effective and competent school leaders are essential for school quality. Having multiple student opportunities and students engaged in their learning is identified as a factor related to school quality.

The remaining factors identified from the survey include having shared school and community leadership, effectively-managed school operations, and various student

measures and they do not converge with the themes that emerged in the interviews. Throughout the individual interviews it is apparent that both quality teachers and having a collaborative school culture are identified as the most important by both school administrators and teachers.

There were 375 international high school administrators and teachers that responded to the survey on factors related to school quality. High school teachers account for 75% of the responses and the remaining 25% are high school administrators. The findings were reported based on the factors that surfaced through the survey instrument and themes that emerged from the individual interviews. The results were analyzed for all participants and subsequently broken out and analyzed into administrator and teacher findings.

In this chapter, the findings are presented that highlight factors and themes related to international high school quality. The analysis and synthesis are presented and highlighted with the commonalties and differences of both the factors and themes. Additionally, the comparison of the factors influencing administrator and teacher views are discussed.

After synthesizing the findings from all respondents, it appears there are a number of commonalities originating from the results. By interpreting the findings from all participants as to what constituted international high school quality, the following six characteristics emerged as the most important:

- Supportive school climate
- Collaborative school culture
- Quality teachers

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- Multiple student learning opportunities

- Effective and competent school leaders

- Credentialed school administrators and teachers

All of these characteristics are discussed in greater detail in Chapter Five along with the implication for high school quality in international education.

CHAPTER FIVE: DISCUSSION

Introduction

The focus of this study is on factors influencing school quality of international high schools in the EARCOS region. It is my desire to highlight the findings in order to make a contribution to international education that focuses on international school quality. The alignment of the findings with Spence's (2002) signaling theory and the literature review is followed by sections for future research and limitations.

Summary of the Study Purpose

The primary purpose of this study was to determine school administrators' and teachers' views of factors influencing the quality of international high schools in the EARCOS region. Participants were initially surveyed and subsequently, 20 respondents were interviewed individually to gain a better understanding of their views influencing school quality.

Implications of the Study

This was one of the first studies associated with the quality of international high schools. In this study, the emergent factors and themes for school quality were identified by high school administrators and teachers. The findings are presented for international high schools' leaders to better understand what administrators and teachers view as school quality. When the findings were synthesized, six school quality characteristics emerged that pertained to all participants. By focusing on the characteristics associated with quality international schools, international school leaders will have data to better understand how to improve the quality of their school.

Review of Procedures

Participants completed an online survey and indicated the extent to which they agreed the statement contained an important factor which contributed to a high quality international high school. Follow-up individual interviews of both high school administrators and teachers were conducted in an attempt to gain a deeper understanding of what constitutes school quality to the respondents.

The study used the findings from both the survey instrument and individual interviews to answer the following research questions:

1. In what ways do administrators and teachers define school quality?

2. What factors do administrators and teachers view as influencing school quality?

Using an explanatory sequential mixed-methods approach, the study integrated the qualitative results with the quantitative results to determine research outcomes (Creswell & Creswell, 2018). Both the high school administrators and teachers who agreed to participate in the study were asked to complete the online survey. Follow-up individual interviews were conducted after the surveys were completed. The survey and individual interviews were conducted over a 2-month period from May 2018–July 2018. The school administrators and teachers were surveyed from a pool of 152 EARCOS schools—72 schools responded. A total of 375 participants responded to the survey and 20 people were interviewed, 10 administrators and 10 teachers. Through the survey and individual interviews, factors and themes emerged that underscore the views of international high schools' quality by administrators and teachers.

Discussion of Research Findings

After analyzing the data for all participants from both surveys and individual interviews, the following six characteristics emerged as the most important: supportive school climate, collaborative school culture, quality teachers, multiple student learning opportunities, effective and competent school leaders, and credentialed school administrators and teachers. In the following sections, the six school quality characteristics are illuminated and are linked to the literature review as well as to Spence's (2002) signaling theory.

Supportive School Climate

The characteristic of supportive school climate was evident in both the factors and themes for administrators and high school teachers. Most participants identified that they believe that supportive school climate is important for school quality. Sally, an administrator said:

> As the last couple weeks get stressful, but we have a lot of laughter just in our faculty meetings, in our admin meetings. I think with the kids as well. I think when you have laughter in the classroom, and obviously have laughter on the playground, and that it's just that that can just be one really easy indicator of a positive culture, is how many places and how often you hear people laughing.

As Sally stated, a key element of having laughter and support for faculty and students is linked to a supportive school climate where everyone is enjoying themselves which helps promote the importance of having a supportive school climate.

Leithwood et al. (2004) identified the importance of providing a supportive school climate. They highlight that a supportive school climate stems from the leadership at the

school who must set the tone for the school while providing support for all stakeholders. Hallinger (2005) acknowledged that leaders are responsible for creating the school culture and the school culture helps to support students and their learning, once again highlighting the importance of a supportive school climate.

Creating a supportive school climate can also be found in a distributive leadership model where school personnel share the responsibility for decision-making. The results include a faculty that is empowered to make school change. "Principals support the development of distributed leadership by being explicit regarding their willingness to share leadership responsibilities with others and by empowering others to share in decision making regarding substantive issues (Waldron & McLeskey, 2010, p. 66). The premise of creating a supportive school climate is important for school quality so that faculty and students feel supported to grow and learn together. It is significant to note that the supportive school climate requires additional support from the school leadership.

When a school accepts a student, it is important that they have systems in place to support that student's unique needs. Many international schools have begun accepting students who require additional support. Next Frontier Inclusion (n.d.) is a new company that is partnering with international schools and providing support and training for faculty. This allows schools to be prepared to accept students with unique needs. Through Next Frontier Inclusion training, as well as several regional conferences designed to support students with learning needs, schools are supportive of their faculty and students.

The components, based on the survey, that support having a supportive school climate include; the school community is supported by school leadership and parents, there is cultural sensitivity toward the student body, teachers have clear expectations, and

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teachers provide feedback to students. These four components of supportive school climate highlight the importance of school leaders, parents, and teachers are to the quality of the school.

Finally, international schools are often viewed as the community center for families and faculty. In the absence of immediate family, the school serves as a surrogate family to celebrate and comfort. Many staff and students live in communities that revolve around the activities at the international school. Administrators identify that creating a supportive environment is essential for school quality. It is common that holidays, such as Thanksgiving and Christmas, are spent with other expatriates. In an international setting, many teachers and families live near one another and creating a supportive school climate helps educators feel that they are not alone. It is apparent that all participants identified the importance of having a supportive school climate as it related to school quality.

Collaborative School Culture

Collaborative school culture emerges as another characteristic related to international school quality. Patrick, an administrator, highlights, "I would also add there's a spirit of being eager to help each other and work together." The spirit of working together in schools is seen as crucial for school quality. Hord and Sommers (2008) identify the need for professional learning communities in schools. It is clear that collaboration and common goals between faculty members are needed for student success. Teachers can no longer work in silos, there must be a shared sense of purpose and a collaborative environment that allows for sharing amongst the faculty.

The use of Professional Learning Communities (PLCs) in schools provides a forum for teachers to share research-based best practices and better understand their students while discovering avenues of student support (DuFour & Eaker, 2005). Through collaborative teams, teachers can support learners together and work to find ways to ensure that students are successful in schools. The result of having a collaborative school culture is for teachers to work together to support all learners in their school.

Additionally, the collaborative school culture characteristic is also important for students. Charles, an administrator, believes, "It's having teachers establish situations where students are able to collaborate and work with each other." The importance of students collaborating cannot be overlooked and needs to be addressed thoughtfully in schools. There needs to be a purpose for students to work together, as they prepare to enter an unknown future, the skill of collaboration will become even more essential.

The characteristic of collaborative school culture is an important facet for school quality; however, it also requires support for it to be implemented effectively in schools. Time needs to be allocated for teachers to collaborate and likewise, students need authentic opportunities during the school day to collaborate with their peers. Collaboration also makes a case for leadership to drive collaborative efforts in schools. If leadership support is not present, collaboration might not happen or may be sabotaged.

The characteristic of collaborative school culture also emerges from individual interviews as a very important theme. The collaborative school culture characteristic cannot be ignored as many interviewees stress the importance of collaboration in schools.

Quality Teachers

Mourshed et al. (2011) state that schools moving from good to great have highly qualified educators, provide general guidelines for teaching, and encourage creativity and innovation. Quality teachers play an important role in school quality. Charles, an administrator, believes:

> when you develop a culture where people look around and see what's going on, and then adopt practices that are highly effective within the culture of the school and that effectively address student needs within the school, I think that's a really critical piece [of school quality].

The literature indicates that teacher quality is a primary indicator of student success (Barber & Mourshed, 2007). The McKinsey Report highlights that if a student continues to have ineffective teachers year after year, student learning is significantly affected (Barber & Mourshed, 2007). These data cannot be overlooked, and it became apparent in the individual interviews that teacher quality is linked to school quality. Most interviewees stress the importance of teacher quality in schools.

Jack, a teacher, states: "I think when you wind up with strong quality faculty, it winds up making such a huge difference at school." Teachers feel the need to surround themselves with other quality teachers so they can learn and grow from one another. Oftentimes, having an underperforming teacher can be deadweight at schools and teachers do not want to work with him or her while administrators try to hide the teacher in a position that will not significantly affect student learning.

Jim, a teacher, states:

> Teaching and learning is probably most important and what that looks like at a
> school, what are students achieving, what a typical classroom looks like if you're
> just to do a quick walkthrough, what kind of engagement level students are at
> identifies school quality.

Jim acknowledges the importance of quality teaching and learning while aligning with what is actually happening in the classroom. He discusses the engagement level of students in the classroom, understanding that student achievement is also linked to student engagement.

Teachers also want to surround themselves with likeminded educators where they can learn and grow together. Mak, a teacher, identifies, "You're just surrounded by people who already know how to teach and so it just creates a great learning, high quality environment where you can get awesome ideas from everyone." Mak reiterates the importance of teachers collaborating with other quality teachers. It allows for an environment where teachers can learn and share with one another. This idea of learning from other quality teachers is even more important in an international setting as the number of professional growth opportunities are limited and many schools rely on professional development opportunities conducted by teachers at their schools. Jennifer, a teacher, explains: "I think filling the school with teachers who are also lifelong learners, and willing to change and adapt as things go on is important for school quality." This mindset is crucial for international schools who have limited opportunities outside their school for professional development.

"The recruiting season for international teachers is starting earlier every year and schools are hiring teachers prior to January" (Thompson, 2018, p. 68). If international schools do not recruit before January, they are at risk of not securing quality teachers. Schools often find themselves with a much more limited pool of quality teachers if they wait too long to hire. Additionally, some schools also struggle with the salary and benefits package and if the school does not offer a competitive package, this is often one more obstacle for the school to overcome when trying to attract quality professionals (Thompson, 2018).

The case for quality teachers needs to be stressed in international settings. With the rapid expansion of international schools and the perceived threats and safety in some countries and regions, it is becoming increasingly more difficult to attract quality teachers to international schools, thus making the case of hiring quality teachers even more important (ISC Research, 2016). In the absence of school unions, it is easy for ineffective teachers to move from school to school. The survey instrument did not directly address the question of quality teachers; however, it is important to note that both school administrators and teachers, through the individual interviews, highlight the importance of having high quality teachers as part of the faculty.

Multiple Student Learning Opportunities

The characteristic of providing multiple student learning opportunities is supported by both administrators and teachers throughout the surveys and individual interviews. Meyer and Rowan (1977) state it is important to engage students in their learning, allowing them time to discuss learning and time to work in groups. Walter, an administrator, articulates, "Get kids using their hands, get kids applying the math, using

problem-solving skills, . . . and using that stuff to make whatever." Walter realizes the importance of students doing different things to learn.

Sallis (2002) through TQM in education addresses the need for educators to understand learners. By understanding student needs, teachers should differentiate for learners so all learners can succeed. Jack, a teacher, states, "student's personal interests, that are not necessarily being measured or explicitly taught, but rather that the student is pursuing something just because they want to, is important for school quality." Allowing students multiple chances to pursue learning opportunities sets students up for success. If all students are required to complete the same tasks, teachers are not permitting student choice. As a result, this can result in students becoming disinterested. Allowing students more opportunities leads to greater student success.

Providing students multiple learning opportunities also aligns with Chitty's (2012) work on school quality. Chitty (2012) illuminates that human fulfillment is linked to students having autonomy and decision-making powers about their education. By allowing students greater choice in their education, it would allow for greater student success. These student learning opportunities, driven by student choice and passion, are important for school quality. Frank, an administrator, said, "There are a lot of other things that you really have to do to support students who are going out and finding their own pathways to success." These pathways are different for each student and schools should look at providing multiple learning opportunities for students.

Based on the survey instrument results, there were four components that aligned with multiple student learning opportunities. They included multiple and diverse service-learning opportunities; a STEAM or STEM program is offered, an inclusive philosophy

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of education is in place, and a balanced assessment system that includes formative and summative assessment is in place. These components identify the importance of offering multiple learning opportunities for students to be successful.

The characteristic of providing multiple student learning opportunities highlights the needs for schools to identify students' passions and allow for choice when designing learner outcomes. Multiple learning opportunities, such as online classes, internships, independent studies, are clearly needed for high school quality. It is also important to highlight that allowing for multiple learning opportunities for students is not possible without the support of the school leadership.

Effective and Competent School Leaders

A characteristic of school quality includes effective and competent school leaders. The 15-year study by Hallinger and Heck (1996) acknowledges that "if the proper conditions are in place, the school administration does affect student learning" (p. 37). Both administrators and teachers indicate, through the surveys and individual interviews, effective and competent leaders are a necessary component of school quality.

Jim, a teacher, states, "What's the mission and vision? How well are they embedded in the culture of the school?" This is an important component related to school quality since administrators in international schools are responsible for ensuring they have a living school vision and mission. Is the administration ensuring that the mission and vision are clear to the greater school community? Hallinger and Heck (1996) hold that when the school's mission and vision are linked to student learning there is a higher chance of student success. The leaders of the school should promote the mission and vision to ensure it is at the forefront of the school.

Leithwood et al. (2004) recognize that "setting directions, developing people, and redesigning the organization" are at the heart of successful leaders (p. 6). During the interviews Jack, a teacher, commented on school leaders: "When [school leadership] has created the mission and are following through and helping to realize that as much as possible through everything from program development to curriculum development to staffing, hiring, motivation, inspiring faculty is important for school quality." Jack's comments get at the heart of the complexity of being a school leader and the importance of the leader being well-versed in all aspects of school leadership. Leithwood et al. (2004) continue to reiterate that leaders need to be adaptable and flexible so they can lead based on the conditions presented. In international schools, the situations often vary from year to year as the faculty is transient and turnover in international schools can be quite high (Thompson, 2018).

Hilliard and Jackson (2011) identify that shared or distributive leadership is becoming more important in education as school administration is no longer a "lone star" profession (p. 2). Charles, an administrator, set up a distributive leadership model in his previous school and hopes if he is to return, he would see the distributive leadership model thriving. Charles states:

> I think that distributive leadership is important. I'd be interested to see in 3 to 5 years if I were to be able to go back and see what was happening at the school, and if there was still that ethos going on, and people were taking responsibly across a broad spectrum of decision making at the school.

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Through the distributive leadership model administrators are working together with teachers, to build trust and work together building relationships throughout the school. This model also aligns with the supportive school climate characteristic.

Using the survey instrument responses, six components linked to leadership are identified: a data driven school improvement plan in place, school leaders are well versed in research-based curriculum and instruction, the School Head has strong leadership and communication skills, a student-centered pedagogy is in place to set student learning outcomes, the principal is the instructional leader, and PLCs are in place at the school. These components underscore the importance of having effective and competent leaders in international schools.

Seashore Louis et al.'s (2010) research on the effect of leadership on student achievement is clear: "when instructional leadership, distributive leadership, and trust work together there is a positive correlation linked to improved student learning" (p. 330). The research further emphasizes the importance of effective and competent school leaders making it a school quality characteristic (Seashore Louis et al., 2010).

Credentialed School Administrators and Teachers

The characteristic of credentialed school administrators and teachers is relevant in an international setting as many administrators and teachers are not credentialed or licenced. When residing and teaching overseas, the rules are not as clear cut as in North America. There have been numerous times that non-credentialed administrators and teachers have been working in an international school. This is often due to the increasing demand in international schools and finding qualified teachers and administrators. As a result, some international schools offer teaching contracts to applicants who speak

English, but just because you can speak English does not imply you can teach or be a school administrator. The rules are much more relaxed in foreign countries and oftentimes teachers are promoted to an administrative position without any training or credentials (Thompson, 2018).

Darling-Hammond's (2000) research on teacher quality and student achievement indicates that teachers who teach in their credentialed area, have a master's degree, and continue to pursue professional growth opportunities have more successful students in their classrooms. This illuminates the importance of having appropriate credentials and a mindset to continue to grow as an educator through pursing higher education and attending additional professional development opportunities.

Evertson et al. (1985) acknowledge that teachers who have formal teacher programs tend to be more effective teachers. As teaching preparation programs are moving to online platforms with little to no face-to-face instruction, education is at further risk of not sufficiently preparing future teachers.

Teachers who are motivated to grow and learn as educators have a direct impact on student learning (Darling-Hammond & Adamson, 2010). Jack, a teacher, states, "Faculty as far as being qualified, wanting to be there, being excited to teach, and passionate about their subject matter is important for school quality." Jack stresses that not only are teacher qualifications important, but also the teachers' desire to teach and their passion in regard to their subject matter. The importance of having motivated and credentialed teachers cannot be overlooked.

The importance of a school head cannot be underestimated in international schools. If school heads are not effective there is often little that can be done to replace

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them. Many international schools are not part of a larger system and as a result there tends to be lower accountability with administrators (ISC Research, 2016). Depending on the school type, often administrator credentials are not verified, and schools can obtain an administrator who is not qualified for the position.

In the international school setting, assuring that both teachers and administrators have valid credentials is seen as a characteristic related to school quality. The importance of credentials is often overlooked in international schools as the pool of candidates is becoming more limited (ISC Research, 2016).

The Case for Leadership

It is apparent that the six characteristics of school quality for international high schools are contingent upon the leadership of the school. Having a strong leadership team in place at international schools appears to be the common element for school quality. The characteristics of having a supportive school climate, creating a collaborative school culture, having quality teachers on staff, and providing multiple student learning opportunities is not possible without effective, competent, and credentialed school leaders. Since many international schools are independently owned and operated, the school leadership is even more critical because of lack of accountability in international schools.

Implications for Theory

As previously discussed in Chapter One, the theoretical framework employed for this study is Spence's (1973) signaling theory. Utilizing this framework, emphasis is placed on school quality characteristics for international high schools. A signal is any observable indicator of something with unobservable quality (Spence, 1973). In the

following paragraphs, a review of signaling theory and integration of the key findings is presented.

With the rapid growth of international schools, coupled with the highly competitive nature of international schools, signaling theory could help explain school quality (Lofgren et al., 2002; Spence, 1974). When school leaders better understand better what constitutes quality, they have an opportunity to signal these characteristics to teachers, students, and parents.

Schools who signal they have a supportive school climate will be able to share with teachers and families that they have a strong new teacher and new family orientation program that supports integrating members into the school community. These orientation programs are instrumental in ensuring that newcomers feel welcome and know that they will be supported at school. Oftentimes, international schools have welcome teams to provide resources for new teachers and new families so that they know where they can seek support if needed. These programs are instrumental and help newcomers know where to find doctors, dentists, grocery stores, and even learn some key phases in the local language.

In addition, international schools can provide a supportive school climate by offering cultural sensitivity lessons to new families and teachers, so they are aware of the cultural differences. Frequently, international schools plan and celebrate both international and local holidays together, through signaling the cultural awareness of the international school, the school is highlighting the importance of being a supportive school to all its families.

An international school that creates a collaborative school culture focuses on providing opportunities for faculty to collaborate. Many schools have adopted the model of PLCs. These PLCs are often the springboard for teachers to talk with other teachers about students and their learning. Though the use of collaborative PLCs, teachers can integrate four questions to understand student learning better.

- What do we expect our students to learn?

- How will we know they are learning?

- How will we respond when they don't learn?

- How will we respond if they already know it? (Dufour & Eaker, 2005).

These four questions set the groundwork for ensuring that all students are learning and being supported. Collaborative conversations are crucial for student learning and the sharing that ensues from a collaborative team meeting will effectively support learners. By signaling to prospective families and teachers that the school has a collaborative school culture, it highlights the importance of teachers working together to support students.

Signaling theory is potentially most useful when applied to signaling quality teachers in their school. With the growth of international schools, especially in Asia and the Middle East, the competition for students in international schools is more intense (Hayden & Thompson, 2013). Connelly et al. (2011) state schools should signal their quality to their customers, potential families. However, schools can also choose not to signal the quality of their teachers by concealing their teachers' backgrounds. Signaling the quality of teachers is beneficial to both new families and new teachers and it might be cause for concern if the school omits teachers' background details on the school profile.

Providing students with multiple learning opportunities has skyrocketed in the international school arena in recent years. Personalized learning is a theme at many international schools as they are trying to nurture student passions and provide multiple opportunities for students to discover their own pathway to success. November (2012) believes that when students own their learning and have more input into their choices at school, it will result in greater success.

Inclusion and differentiated learning have also become themes at many international schools. International schools are beginning to accept students that have more severe learning needs. These inclusive practices are a big change from 20 years ago when international schools were primarily exclusive schools. Through the use of signaling theory, schools can signal that they have the support systems to support all learners.

School leaders are a critical component of international schools. The administrator is often the first face of the school for many prospective families and for future teachers. Using signaling theory to promote school leaders as effective and competent is an approach to attract both new families and quality teachers. Through signaling theory, schools can share the leader's years as a school administrator, advanced degrees, and their university alma mater. In addition, leaders who attend workshops, keep up-to-date in research-based best practices, and present at conferences are all signals that lead to school quality.

The need for credentialed teachers and administrators in international schools is more evident now with the increasing number of international schools (ISC Research, 2016). With the number of international teachers that will be required in the next 10

years, ensuring that teachers and administrators are credentialed and licenced is pressing. With the competition of schools in many cities, signaling theory is very important when it comes to signaling the credentials of faculty.

With the continued expansion of international schools, what schools decide to signal is crucial. The six school characteristics identified through the survey instrument and individual interviews highlight the importance of school quality.

Limitations

This explanatory sequential mixed-methods study employed both quantitative and qualitative data to identify school quality factors in international high schools. The use of a self-generated survey was employed to obtain the quantitative data on administrators and teachers views of school quality. The survey was self-created based on the literature review which focused on school quality; as a result, this might be a potential limitation.

The distribution of the survey was a challenge as the survey was sent to the EARCOS head office, in Manila, Philippines, and was distributed electronically to high school administrators who were subsequently requested to email the survey to high school teachers. It was up to the discretion of the administrators to forward the survey to high school faculty. As a result, all possible respondents may not have received the online survey. This is seen as a limitation to the study as the survey may not have been disseminated to all the international high school administrators and teachers. In addition, since the survey was sent electronically, email addresses may not have been up-to-date, once again not reaching all the possible participants. Since it is unknown exactly how many people received the survey, it is therefore, impossible to identify the total response rate.

Creswell and Creswell (2018) highlight that "the core assumption of [mixed methods]is that the combination of qualitative and quantitative approved provides a more complete understanding of a research problem than either approach alone" (p. 13). The individual interviews are used to get at the heart of what constitutes school quality. The interview questions were structured; the same questions were asked to all interviewees. The interviewees were allowed to elaborate on their answers; however, no probing questions were asked. This is a serious limitation to the study and more probing questions should be asked during the interview process.

Another limitation was that the interviewees were self-selected as emails were sent to potential interviewees but not all respondents responded promptly. Interviewees were interviewed once they responded to the email requesting their participation.

The curriculum of international schools varies from school to school, the survey was sent to all EARCOS schools, which are comprised of many international systems, such as American, British, International Baccalaureate, Singaporean, and Canadian. A possible limitation was that the different systems differ with their curricular materials, assessment practices, and teaching techniques. As a result, this may affect the survey results as the definition of school quality might vary.

These limitations are considered; however, there was significant data obtained from both the survey instrument and individual interviews.

Recommendations for Future Research

Through this study, an attempt was made to fill a gap pertaining to teacher and administrator views of international high school quality. Using research that was predominantly North American centric, the key factors pertaining to the quality of

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international high schools in the EARCOS region was highlighted. Based on the current literature and key findings of the study, there are several directions for future research that could provide additional information and insights on the topic of international high school quality.

Leithwood et al. (2004) state school leaders have a direct impact on student learning. They highlight that in order to transform education, "effective" reform is critical (p. 2). They further assert that the focus of leadership needs to remain on the importance of successful leadership (p.4). They recognize that "setting directions, developing people, and redesigning the organization" are at the heart of successful leaders (Leithwood et al., 2004, p. 6), recognizing that the leader is at the heart of a successful school. However, in an international school setting, how do you ensure school success when leadership changes on average every 2.8 years (Hawley, 1994, 1995)? Hardman (2001) identifies that this high turnover does not allow for any effective changes to be fulfilled.

Hardman (2001) supports that for change to be successful, a minimum of three years is required. Fullan (2007) further claims a minimum of five years is required for substantial change to occur within the school setting. Considering the average turnover of an international school head being 2.8 years and substantial change being implemented by school heads at five years, there is a large gap between what can actually be accomplished and what is currently being achieved. Greater research pertaining to what elements constitute effective and competent school leaders in an international setting would be an addition to the current research on school leadership.

PLCs have gained popularity in international schools recently. Hord and Sommers (2008) highlights PLCs as "continuous and intentional staff learning so that staff always

are increasing their effectiveness leading to students' increased successful learning" (p. 24). Having functioning PLCs should be essential for schools and should be supported by the administration. However, with the transient teacher and administrator population with faculty moving every 2-5 years, how do schools maintain high quality PLCs to support students and their learning? What are some ideas and techniques to sustain a collaborative school culture given the high teacher and administrator in international schools? This could be an area for future research on international schools.

There has been a movement from traditional classrooms to an education system that focuses on "application, reasoning, and conceptual understanding" (Mayer et al., 2000, p. 26). The definition of personalized learning is not clear in education. Downes (2005) describes a personalized learning environment as an approach that protects and celebrates identity, supports multiple avenues of socializing, and encourages the development of communities of inquiry. Downes (2005) further asserts that a personalized learning environment affirms the role of the individual in organizing, customising, and shaping his or her own learning environment.

Further investigation into the nature of personalized learning and the constraints upon teachers, especially considering high student and teacher turnover, would be an area worthy of future study. In addition, greater research could be spent on how a school would measure the effectiveness of personalized learning. The concept of personalized learning has great merit, however, future study regarding implementation and effectiveness needs to be conducted.

Hanushek (1992) states, "The estimated difference in annual achievement growth between having a good and having a bad teacher can be more than one grade-level

equivalent in test performance" (p. 107). Hanushek underscores the importance of having quality teachers in classrooms in all schools. As the number of international schools continues to expand, the international schools are projected to reach 12,334 schools by 2024 (Clark, 2014). These data from Clark also include employing approximately 584,839 teachers in international schools across the globe (Clark, 2014). With such rapid growth in the international school sector, it will become more challenging to employ quality teachers in international schools. In addition, there are volatile and unsafe parts of the world further complicating the ability to entice quality teachers to leave their home countries. More research that focuses on attracting quality teachers to international schools would be beneficial for the future.

Conclusion

Mourshed et al. (2011) note that schools moving from good to great have highly qualified educators, provide general guidelines for teaching, and encourage creativity and innovation. School quality is often difficult to define. Sallis (2002) argues "the complexity of education and the importance of values in education makes the motives for taking a quality stance more complicated and diverse" (p. 3). The concept of quality depends on many variables and circumstances and differs depending on what outcome is desired and the cultural lens being employed. Often school quality is illusive as it is dependent on such diverse stakeholders in widely varying contexts.

With the dramatic expansion of international schools across the globe, the need to understand more deeply what constitutes school quality has never been more important (ISC Research, 2016). By understanding the factors that contribute to school quality, school leaders can set strategic action plans and goals to ensure a high-quality education

for all students and prepare these students for a rapidly changing, complex, multicultural

world.

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APPENDICES

Appendix A: School Quality Survey

Q1 The purpose of this survey is to help understand what educators and administrators believe are important factors contributing to a high quality international high school (Grades 9-12). Please consider each of the statements in the following survey. Using the scale provided, indicate the extent to which you agree the statement contains an important factor which contributes to a high quality international high school. Please indicate at the bottom of the survey if you are willing to participate in a follow-up interview.

	Very Important (1)	Important (2)	Somewhat Important (3)	Not Important (4)
1. Teachers participate in the development of decision-making within the school.	○	○	○	○
2. School leaders are well versed in contemporary research-based curriculum and instructional practices.	○	○	○	○
3. Small class sizes, no more than 15-20 students, at the high school level are key to student achievement.	○	○	○	○
4. The physical school facilities are state of the art that support student learning.	○	○	○	○
5. Teachers are predominantly trained in Western education pedagogy.	○	○	○	○
6. The school provides each student with a laptop or tablet for use in the classroom.	○	○	○	○

7. Student scores on standardized tests are the best indicators of school performance.

○ ○ ○ ○

8. Students are accepted into top tier universities (e.g. Ivy League) worldwide.

○ ○ ○ ○

9. Teachers have valid and up-to-date teaching credentials.

○ ○ ○ ○

10. The administrators have valid leadership credentials.

○ ○ ○ ○

11. Teachers, non-teaching staff, and students feel supported and respected by the school leadership and the parent community.

○ ○ ○ ○

12. The school personnel demonstrate cultural sensitivity to the nationalities represented in the student body.

○ ○ ○ ○

13. A professional learning community model for staff development is in place for teachers.

○ ○ ○ ○

14. Teachers set clear student objectives, monitor student progress, and provide feedback to students.

    ○   ○   ○   ○

15. Parents are actively involved in decisions related to student learning.

    ○   ○   ○   ○

16. The school offers the International Baccalaureate (IB) Diploma program.

    ○   ○   ○   ○

17. A STEM (Science, Technology, Engineering, Math) or STEAM (Science, Technology, Engineering, Art, Math) curriculum is offered to all students.

    ○   ○   ○   ○

18. Students have multiple and diverse service-learning opportunities.

    ○   ○   ○   ○

19. Students are involved in school leadership, policy, and governance decisions.

    ○   ○   ○   ○

20. The school has a college counselor to assist students with the college search and application process.

    ○   ○   ○   ○

21. The school has a zero-reject admission policy for students with special education needs.

    ○   ○   ○   ○

22. The principal's primary role is that of instructional leader.

    ○   ○   ○   ○

23. The Board plays a key role in leadership, policy decisions, and management of the school.

    ○   ○   ○   ○

24. An inclusive philosophy of education is a key feature of the vision and mission of the school.

    ○   ○   ○   ○

25. Teachers use a balanced assessment system that includes both formative and summative assessment measures in order to monitor student achievement.

    ○   ○   ○   ○

26. Student performance in math and science matches that of the performance of students in the countries of Singapore, Hong Kong or China on the PISA (Programme for International Student Assessment) tests.

   ○   ○   ○   ○

27. The Head of School or School Superintendent demonstrates strong managerial leadership skills, instructional leadership skills, and communication skills.

   ○   ○   ○   ○

28. A data driven school improvement plan is developed and implemented, and the results are evaluated on an annual basis.

   ○   ○   ○   ○

29. The School's Board includes teachers as well as parents and members of the external school community.

   ○   ○   ○   ○

30. The school has an endowment fund in excess of three million US dollars.

   ○   ○   ○   ○

31. All teachers, including host country nationals, receive equitable salary and benefits.

   ○   ○   ○   ○

32. A student-centred pedagogy is in place where students and teachers work together to set student learning outcomes.

   ○   ○   ○   ○

Q2 School Name:

_____

Q3 What is the approximate student-teacher ratio at your school?

_____

Q4 I am a(n):

○ Administrator (1)

○ Teacher (2)

Q5 My role at the school is:

_____

Q6 Highest degree obtained?

_____

Q7 How many years have you been a teacher?

_____

Q8 How many years have you been an administrator?

_____

Q9 How many years have you worked internationally?

_____

Q10 How many years have you been at your current school?

_____

Q11 For administrators: Do you hold a current administrative credential?

○ Yes (1)

○ No (2)

Q12 For teachers: Do you hold a current teacher credential?

○ Yes (1)

○ No (2)

Q13 From what country is your credential?

_____

Q14 Please indicate your gender identity?

○ Male (1)

○ Female (2)

○ Non-binary, third gender (3)

○ Other (4)

Q15 Please indicate your racial or ethnic background?

○ Arab (1)

○ Asian (2)

○ Pacific Islander (3)

○ Black (4)

○ Caucasian/White (5)

○ Hispanic (6)

○ Latino (7)

○ Multiracial (8)

○ Other (9)

Q16 I am willing to participate in the follow-up interview process, my email address is:

_____

Q17 I would like to see the results of the survey, please send a copy to my school.

○ Yes (1)

○ No (2)

End of Block: School Quality Factors

Appendix B: Structured Interview Questions

Factors Associated with Quality in International High Schools in EARCOS

Objective: To determine factors associated with school quality in international high schools in the EARCOS region.

Interviewer: Heather Naro

Interview Questions:

1. How do you characterize a high quality international high school?

2. Please describe what you believe to be the most important components of a school in order for it to be considered a "quality" international high school?

3. What are the desired teaching and learning outcomes in a high quality international high school?

4. What are the major challenges for developing a high quality international high school?

5. What are the major challenges at your school?

6. In what ways could the quality of international high schools be enhanced?

7. In what ways could the quality be enhanced at your school?

8. What other programs (e.g. after school activities, drama, art, PE, STEM/STEAM, ESL, inclusion and learning support, etc.) do you feel schools should offer outside the regular academic program to support a high quality international high school?

9. In what ways can the School Board help enhance school quality?

10. If you were an international consultant hired to design a high quality international high school, what would be the key factors of the school design?

Appendix C: Invitation to Participate in the Study

April 2018

Dear School Head and High School Principal,

As part of a doctoral study at the University of Minnesota, I am conducting a survey on factors associated with school quality. The purpose of this study is to determine factors contributing to the quality of international high schools in the East Asia Regional Council of Schools (EARCOS). Assessing school quality is difficult, often contradictory, depending on the school and/or country.

As a member school of the East Asia Regional Conference of Overseas Schools (EARCOS) you and your high school staff can participate in this study. EARCOS is supporting this study as it is important to the future of international schools and what constitutes school quality.

This is one of the first international studies identifying factors associated with school quality in international high schools. The online survey format creates an efficient and easy method to collect data.

High school administrators and teachers in your school can participate by accessing an electronic link and completing an online survey in the attached email. All responses are anonymous and strictly confidential. This is an effective way to help with data gathering and understanding while acquiring compelling data on factors associated with school quality.

Your school's participation is invaluable. You only have to forward the email and survey link to all high school administrators and teachers, whose responses are then recorded anonymously through the online survey site.

There will be a request for participation in a follow-up interview for those who would like to be part of additional questions.

Thank you for your assistance,

Heather Naro
University of Minnesota
Doctoral Candidate

Appendix D: Invitation to International School Participants

April 2018

Dear International School Colleague,

I am conducting a survey on factors associated with school quality. The purpose of this study is to determine factors contributing to the quality of international high schools in the East Asia Regional Council of Schools (EARCOS). Assessing school quality is difficult, often contradictory, depending on the school and/or country.

Your School Head and Principal have graciously agreed to have your school participate. Your help is appreciated. The data collection is anonymous and strictly confidently. The survey should take no more than 20 minutes and is electronic. There will be the option of participating in a follow up interview as well; you may indicate your desire to participate at the end of the survey.

Please click on the link below to begin the survey. Thank you for your support.

Sincerely,

Heather Naro
University of Minnesota
Doctoral Candidate

Appendix E: Informed Consent for Survey Participants

May 2, 2018

Informed Consent for Survey Participants

Dear Survey Participant,

As part of a doctoral study at the University of Minnesota, I am conducting a survey on factors associated with school quality. The purpose of this study is to determine factors contributing to the quality of international high schools in the East Asia Regional Council of Schools (EARCOS). Assessing school quality is difficult, often contradictory, depending on the school and/or country.

As a member school of the East Asia Regional Council of Overseas Schools (EARCOS) you can participate in this study. EARCOS is supporting this study as it is important to the future of international schools and what constitutes school quality.

This is one of the first international studies identifying factors associated with school quality in international high schools. The online survey format creates an efficient and easy method to collect data.

You can participate by accessing the electronic link and completing an online survey in the email. All responses are anonymous and strictly confidential. I anticipate over one hundred schools to participate in the study and no school or individual will be identified. Collecting information on your views on school quality factors in international high school will have a great impact on the future of what constitutes quality in an international high school. Your school's participation is invaluable.

There will be a request for participation in a follow-up interview for those who would like to be part of additional questions.

No risk is anticipated in the study outside of the normal risks associated with your typical duties. By clicking on and following the survey link below, you give consent for your data to be included in the study.

Your views are valuable, and I appreciate your time and assistance. Thank you for your support.

Heather Naro
University of Minnesota - Doctoral Candidate

Appendix F: Informed Consent for Interview Participants

Consent to take part in research:

• I _____voluntarily agree to participate in this research study.

• I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.

• I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.

• I have had the purpose and nature of the study explained to me and I have had the opportunity to ask questions about the study.

• I understand that participation involves sharing my views of school quality.

• I understand that I will not benefit directly from participating in this research.

• I agree to my interview being audio-recorded.

• I understand that all information I provide for this study will be treated confidentially.

• I understand that in any report on the results of this research my identity will remain anonymous.

• I understand that disguised extracts from my interview may be quoted in the dissertation.

• I understand that signed consent forms and original audio recordings will be retained on the researcher's computer and backed up and will be kept for a period of one year.

• I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.

• I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Signature of research participant

_____   _____

Signature of participant   Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study.

                                                                   May 24, 2018

_____   _____

Signature of researcher   Date

Appendix G: EARCOS Letter of Support

East Asia Regional Council of Schools

Executive Director
Richard T. Krajczar, Ed.D.

February 23, 2018

Dear EARCOS Colleagues,

This is a letter of support for a dissertation study being conducted in the EARCOS region. Heather Naro is the former Superintendent and Elementary Principal at the International School Eastern Seaboard and is a doctoral candidate at The University of Minnesota under the advisement of Dr. Deanne Magnusson and Dr. Gerald Fry. Heather Naro is conducting a study that will involve EARCOS high school administrators and teachers. The study will examine the factors associated with school quality in international high schools in the EARCOS region.

EARCOS Heads of Schools and High School Principals will be first asked to give approval for their teaching faculty to participate. Once permission has been granted, a follow up email will be sent to participating teachers, along with study information.
At EARCOS we support relevant and practical research that enhances the work we do as a regional council.

Heather Naro will share her findings with all participating schools in the EARCOS region. Thank you for supporting one of your colleagues and administrators. If you have any questions about the study you may also contact Dr. Deanne Magnusson at magnu002@umn.edu or Dr. Gerald Fry at gwf@umn.edu.
Thank you for your support.

I confirm that the above information is accurate and as an authentication, I am providing my email address and an electronic signature certifying that each of the states above is true.

Dr. Richard T. Krajczar
EARCOS Executive Director
dkrajczar@earcos.org

Appendix H: Survey Respondents School Name (Self-Reported)

	School	Frequency	Percent
Valid	Seoul International School	27	7.2%
	International School Kuala Lumpur	25	6.7%
	Brent International School Manila	18	4.8%
	Cebu International School	17	4.5%
	International School Beijing	15	4.0%
	Singapore American School	15	4.0%
	International School Yangon	14	3.7%
	International School of Tianjin	12	3.2%
	Saint Maur International School	12	3.2%
	Vientiane International School	12	3.2%
	KIS International School	11	2.9%
	Shenzhen College of International Education	11	2.9%
	International School Manila	10	2.7%
	Global Jaya School	10	2.7%
	International School Bangkok	10	2.7%
	Hong Kong International School	9	2.4%
	International School Eastern Seaboard	8	2.1%
	QSI Shenzhen	8	2.1%
	British School Manila	7	1.9%
	Aoba Japan International School	6	1.6%
	United World College	6	1.6%
	United World College - East	6	1.6%
	ISS International School	5	1.3%
	Bali Island School	4	1.1%
	Busan Foreign School	4	1.1%
	Canggu Community School	4	1.1%
	NIST International School	4	1.1%
	Teda International School	4	1.1%
	Tianjin International School	4	1.1%
	America Pacific International School	4	1.1%
	Xiamen International School	4	1.1%
	Ruamrudee International School	3	0.8%
	International School of Qingdao	3	0.8%
	Chang Mai International School	3	0.8%
	Berkeley International School	3	0.8%
	Canadian International School of Hong Kong	2	0.5%
	Harbor school	2	0.5%
	Hsinchu International School	2	0.5%
	Korea International School	2	0.5%
	Kyoto International School	2	0.5%
	Osaka International School	2	0.5%
	Thai Chinese International School	2	0.5%

	Western Academy Beijing	2	0.5%
	Wuhan Yangtze International School	2	0.5%
	Yongsan International School Seoul	2	0.5%
	Access International Academy Ningbo	1	0.3%
	Alice Smith School	1	0.3%
	American International School of Guangzhou	1	0.3%
	American International School Hong Kong	1	0.3%
	American School Bangkok	1	0.3%
	American School in Taichung	1	0.3%
	ASSA	1	0.3%
	Bangdung Alliance Intercultural School	1	0.3%
	Brent International School Subic	1	0.3%
	Chadwick International School	1	0.3%
	Christian Academy Japan	1	0.3%
	Concordian International School	1	0.3%
	Daegu International School	1	0.3%
	Dalat International School	1	0.3%
	Dwight School Seoul	1	0.3%
	Hangzhou International School	1	0.3%
	International School Ho Chi Minh City	1	0.3%
	Kunming International Academy	1	0.3%
	Lanna International School Thailand	1	0.3%
	Mont Kiara International School	1	0.3%
	Morrison Academy	1	0.3%
	North Jakarta International School	1	0.3%
	Raffles American School	1	0.3%
	Reagan International School	1	0.3%
	Seoul Foreign School	1	0.3%
	Yew Chung International School Shanghai	1	0.3%
	YK Pao School Shanghai	1	0.3%
Missing	System	10	2.7%
	Total	375	100.8%

Appendix I: Correlation Matrix

	Q1_1	Q1_2	Q1_3	Q1_4	Q1_5
Q1_1	1.000000000	0.20772892	1.097844952	1.20522971	-0.0024631999
Q1_2	0.207728915	1.00000000	0.039294349	0.25023180	0.1006827986
Q1_3	0.097844952	0.03929435	1.000000000	0.31096292	0.0360239007
Q1_4	0.205229714	0.25023180	0.310962924	1.00000000	0.1102804774
Q1_5	-0.002463200	0.10068280	-0.036023901	0.11028048	1.0000000000
Q1_6	0.085187289	0.14041953	0.205045180	0.30827897	0.1337474970
Q1_7	-0.019824530	0.09816926	-0.021765497	0.18132280	0.1693982546
Q1_8	-0.014351086	0.07486027	0.063316591	0.24108247	0.1776820255
Q1_9	0.010547846	0.22254676	-0.005734212	0.14871794	0.1729229278
Q1_10	0.037158823	0.24432303	0.0695384710	0.22216438	0.0802203743
Q1_11	0.260740886	0.24215481	0.102495831	0.20309479	0.0631026096
Q1_12	0.146171062	0.33530040	0.035240921	0.14707426	0.0477466988
Q1_13	0.186153280	0.41068229	-0.002056419	0.20923178	0.0134815109
Q1_14	0.085644915	0.33709672	-0.029606714	0.05538099	0.0897399188
Q1_15	0.174071318	0.13792228	-0.23725351	0.11399059	-0.0269453450
Q1_16	-0.033654159	0.07722536	0.187482350	0.17995616	0.0009530628
Q1_17	0.017804897	0.10542026	0.165861191	0.26652418	0.1119716658
Q1_18	0.088193698	0.23784571	0.155413886	0.21198433	0.0894733572
Q1_19	0.206089605	0.17650905	0.098204199	0.09664837	-0.0274437373
Q1_20	-0.032303473	0.19645926	0.081156549	0.21937465	0.2441252872
Q1_21	0.128391272	0.23620906	0.133151601	0.17775847	-0.0032504707
Q1_22	0.127692960	0.36410538	-0.047434469	0.11258259	0.0210599849
Q1_23	0.114735380	0.10113039	0.038896467	0.23981994	0.0011847392
Q1_24	0.134816472	0.32581170	0.157728551	0.25453437	0.0925214109
Q1_25	0.035337789	0.30996924	-0.120820819	0.02411812	0.1695047590
Q1_26	-0.002393538	0.12662217	-0.057670627	0.17210154	0.2068221626
Q1_27	0.263201932	0.34219060	0.008832906	0.20910708	0.0225459153
Q1_28	0.096218554	0.35524670	-0.090126815	0.07376339	0.0722883896
Q1_29	0.228805513	0.04950735	0.314409477	0.29356355	-0.0226627784
Q1_30	0.060260817	0.12235137	0.275872627	0.27187621	0.0732557207
Q1_31	0.191615919	0.16915478	0.186880730	0.24415186	-0.0308918791
Q1_32	0.317333278	0.42144647	0.083366293	0.17544876	0.0295163573

Matrix Continues.

	Q1_6	Q1_7	Q1_8	Q1_9	Q1_10
Q1_1	0.085187289	-0.019824530	-0.014351086	0.010547846	0.03715882
Q1_2	0.140419525	0.098169263	0.074860270	0.222546764	0.24432303
Q1_3	0.205045180	-0.021765497	0.063316591	-0.005734212	0.06538471
Q1_4	0.308278972	0.181322798	0.241082469	0.148717939	0.22216438
Q1_5	0.133747497	0.169398255	0.177682025	0.172922928	0.08022037
Q1_6	1.000000000	0.078575621	0.152679285	0.128893900	0.12680735
Q1_7	0.078575621	1.000000000	03480322208	0.191530041	0.12364570
Q1_8	0.152679285	0.480322208	1.000000000	0.222077145	0.15072072
Q1_9	0.128893900	0.191530041	0.222077145	1.000000000	0.62947969
Q1_10	0.126807349	0.123645702	0.150720725	0.629479692	1.00000000
Q1_11	0.119131775	-0.036986771	0.002730667	0.128771177	0.17322578
Q1_12	0.058432296	-0.047299033	0.011403468	0.154878433	0.21543675
Q1_13	0.101858056	-0.005367565	0.096887282	0.229956761	0.22541642
Q1_14	0.063953073	0.033322474	0.044985236	0.162010619	0.13698157
Q1_15	0.178683761	0.167148242	0.220887645	0.112626859	0.12322710
Q1_16	0.123191590	0.197521744	0.263082203	0.131023069	0.11948580
Q1_17	0.213999513	0.144774651	0.240729217	0.182245640	0.20746296
Q1_18	0.176238357	0.049628599	0.078009782	0.206929009	0.22398376
Q1_19	0.176829139	0.036586650	0.088320379	0.105496426	0.10507284
Q1_20	0.109123018	0.171499096	0.219891385	0.254664359	0.24895776
Q1_21	0.230313888	0.057635947	0.037092613	0.185803276	0.18007872
Q1_22	0.022349478	0.114128785	0.132180266	0.136565539	0.24205452
Q1_23	0.098122833	0.202415806	0.185931876	0.225724807	0.17276034
Q1_24	0.221393927	0.048088274	0.026129993	0.260832446	0.27128896
Q1_25	0.038268653	0.019043908	0.090056324	0.226462458	0.11464474
Q1_26	0.101205538	0.355033977	0.483190287	0.156668725	0.13999684
Q1_27	-0.019082996	-0.010124873	0.026134520	0.136028256	0.24699138
Q1_28	0.007269135	0.283473345	0.238782601	0.259537544	0.18890600
Q1_29	0.246062990	-0.025816453	0.054010590	0.085625262	0.09399036
Q1_30	0.223224228	0.152086027	0.204467494	0.114132465	0.12940921
Q1_31	0.172664734	-0.044662909	0.087073450	0.111664861	0.18938767
Q1_32	0.122659362	-0.016973767	0.012168339	0.091971203	0.10834370

Matrix Continues.

	Q1_11	Q1_12	Q1_13	Q1_14	Q1_15
Q1_1	0.260740886	0.146171062	0.186153280	0.08564491	0.17407132
Q1_2	0.242154812	0.335300399	0.410682294	0.33709672	0.13792228
Q1_3	0.102495831	0.035240921	-0.002056419	-0.02960671	-0.02372535
Q1_4	0.203094792	0.147074256	0.209231777	0.05538099	0.11399059
Q1_5	0.063102610	0.047746699	0.031481511	0.08973992	-0.02694534
Q1_6	0.119131775	0.058432296	0.101858056	0.06395307	0.17868376
Q1_7	-0.036986771	-0.047299033	-0.005367565	0.03332247	0.16714824
Q1_8	0.002730667	0.011403468	0.096887282	0.04498524	0.22088765
Q1_9	0.128771177	0.154878433	0.229956761	0.16201062	0.11262686
Q1_10	0.173225777	0.215436751	0.225416415	0.13698157	0.12322710
Q1_11	1.000000000	0.492913489	0.243595702	0.34134108	0.06108990
Q1_12	0.492913489	1.000000000	0.325018915	0.30304376	0.19339729
Q1_13	0.243595702	0.325018915	1.000000000	0.28780003	0.23239100
Q1_14	0.341341079	0.303043763	0.287800031	1.00000000	0.16487382
Q1_15	0.061089901	0.193397294	0.232390996	0.16487382	1.00000000
Q1_16	-0.087656267	-0.038339654	0.100095704	0.02283134	0.17871512
Q1_17	0.125147575	0.194059900	0.206970311	0.08166854	0.16632204
Q1_18	0.191930860	0.303179040	0.386896343	0.21798569	0.15225987
Q1_19	0.128907950	0.211669591	0.293654905	0.08426408	0.29420425
Q1_20	0.206449675	0.158036278	0.143460482	0.17628372	0.01602987
Q1_21	0.105104931	0.147527169	0.219663616	0.05565310	0.20338433
Q1_22	0.175100926	0.196170809	0.261547715	0.18190961	0.20670937
Q1_23	0.024218203	0.101458727	0.162374235	0.08374371	0.31394874
Q1_24	0.194797522	0.312693011	0.306362234	0.26372889	0.25854801
Q1_25	0.311044878	0.252748043	0.331271463	0.40417316	0.09343117
Q1_26	0.021880727	0.009634541	0.112876493	-0.02676678	0.22437461
Q1_27	0.302856629	0.300219432	0.360270029	0.32199681	0.02712173
Q1_28	0.088341253	0.125990212	0.270703938	0.26249572	0.15535819
Q1_29	0.214258046	0.103405056	0.242003027	0.03868750	0.12844159
Q1_30	0.053234203	0.054536061	0.110024464	0.03155072	0.09541615
Q1_31	0.261758122	0.225262142	0.205095593	0.17098282	0.06202391
Q1_32	0.272381855	0.374095810	0.334121291	0.22465240	0.22022123

Matrix Continues.

	Q1_16	Q1_17	Q1_18	Q1_19	Q1_20
Q1_1	-0.0336541592	0.01780490	0.08819370	0.20608960	-0.03230347
Q1_2	0.0772253562	0.10542026	0.23784571	0.17650905	0.19645926
Q1_3	0.1874823500	0.16586119	0.15541389	0.09820420	0.08115655
Q1_4	0.1799561581	0.26652418	0.21198433	0.09664837	0.21937465
Q1_5	0.0009530628	0.11197167	0.08947336	-0.02744374	0.24412529
Q1_6	0.1231915896	0.21399951	0.17623836	0.17682914	0.10912302
Q1_7	0.1975217437	0.14477465	0.04962860	0.03658665	0.17149910
Q1_8	0.2630822025	0.24072922	0.07800978	0.08832038	0.21989139
Q1_9	0.1310230688	0.18221456	0.20692901	0.10549643	0.25466436
Q1_10	0.1194857967	0.20746296	0.22398376	0.10507284	0.24895776
Q1_11	-0.0876562668	0.12514757	0.19193086	0.12890795	0.20644968
Q1_12	-0.0383396540	0.19405990	0.30317904	0.21166959	0.15803628
Q1_13	0.1000957044	0.20697031	0.38689634	0.29365491	0.14346048
Q1_14	0.0228313355	0.08166854	0.21798569	0.08426408	0.17628372
Q1_15	0.1787151223	0.16632204	0.15225987	0.29420425	0.01602987
Q1_16	1.0000000000	0.23112680	0.15945063	0.07351668	0.12613117
Q1_17	0.2311267989	1.00000000	0.37836466	0.16522603	0.19343908
Q1_18	0.1594506288	0.37836466	1.00000000	0.35246941	0.25986175
Q1_19	0.0735166790	0.16522603	0.35246941	1.00000000	0.15070289
Q1_20	0.1261311713	0.19343908	0.25986175	0.15070289	1.00000000
Q1_21	0.2019173658	0.21538053	0.24006551	0.28685497	0.03103390
Q1_22	0.0167920154	0.08784118	0.20302871	0.14331634	0.08997668
Q1_23	0.2052600559	0.15973042	0.18527484	0.17356555	0.10265276
Q1_24	0.1683667502	0.31224431	0.36399341	0.21162196	0.14006312
Q1_25	0.0628146886	0.14525997	0.24739817	0.15098311	0.21114267
Q1_26	0.2683194571	0.28198366	0.12937297	0.13959672	0.16226275
Q1_27	-0.0290048851	0.16211884	0.23965076	0.11080981	0.20836910
Q1_28	0.0851285811	0.13231757	0.12040190	0.15577906	0.13284497
Q1_29	0.1378356712	0.14898860	0.16590969	0.19469379	0.12266585
Q1_30	0.2968189187	0.24756142	0.13152138	0.17446914	0.22503949
Q1_31	0.0956791002	0.13533984	0.20925370	0.19382219	0.11707797
Q1_32	0.1105361586	0.15898686	0.24476334	0.31131573	0.13415629

Matrix Continues.

	Q1_21	Q1_22	Q1_23	Q1_24	Q1_25
Q1_1	0.128391272	0.12769296	0.114735380	0.13481647	0.03533779
Q1_2	0.236209055	0.36410538	0.101130390	0.32581170	0.30996924
Q1_3	0.133151601	-0.04743447	0.038896467	0.15772855	-0.12082082
Q1_4	0.177758467	0.11258259	0.239819943	0.25453437	0.02411812
Q1_5	-0.003250471	0.02105998	0.001184739	0.09252141	0.16950476
Q1_6	0.230313888	0.02234948	0.098122833	0.22139393	0.03826865
Q1_7	0.057635947	0.11412879	0.202415806	0.04808827	0.01904391
Q1_8	0.037092613	0.13218027	0.185931876	0.02612999	0.09005632
Q1_9	0.185803276	0.13656554	0.225724807	0.26083245	0.22646246
Q1_10	0.180078724	0.24205452	0.172760342	0.27128896	0.11464474
Q1_11	0.105104931	0.17510093	0.024218203	0.19479752	0.31104488
Q1_12	0.147527169	0.19617081	0.101458727	0.31269301	0.25274804
Q1_13	0.219663616	0.26154772	0.162374235	0.30636223	0.33127146
Q1_14	0.055653100	0.18190961	0.083743706	0.26372889	0.40417316
Q1_15	0.203384327	0.20670937	0.313948739	0.25854801	0.09343117
Q1_16	0.201917366	0.01679202	0.205260056	0.16836675	0.06281469
Q1_17	0.215380532	0.08784118	0.159730420	0.31224431	0.14525997
Q1_18	0.240065507	0.20302871	0.185274841	0.36399341	0.24739817
Q1_19	0.286854975	0.14331634	0.173565546	0.21162196	0.15098311
Q1_20	0.031033896	0.08997668	0.102652760	0.14006312	0.21114267
Q1_21	1.000000000	0.20785227	0.206021192	0.39675734	0.10982906
Q1_22	0.207852273	1.00000000	0.099928068	0.22260658	0.23853133
Q1_23	0.206021192	0.09992807	1.000000000	0.25720169	0.07223027
Q1_24	0.396757337	0.22260658	0.257201693	1.00000000	0.27268813
Q1_25	0.109829055	0.23853133	0.072230267	0.27268813	1.00000000
Q1_26	0.134382470	0.16593280	0.221429833	0.07050368	0.15791822
Q1_27	-0.011118515	0.29882191	0.158328252	0.18006060	0.29992443
Q1_28	0.097644633	0.31301790	0.147765646	0.18391479	0.26427304
Q1_29	0.221080381	0.02976638	0.227151279	0.20602344	-0.01602964
Q1_30	0.137719946	0.08870990	0.087438130	0.11570045	0.02965453
Q1_31	0.178425272	0.13090697	0.174273146	0.21490226	0.06386143
Q1_32	0.292643035	0.25575144	0.165800735	0.34045725	0.20763735

Matrix Continues.

	Q1_26	Q1_27	Q1_28	Q1_29	Q1_30
Q1_1	-0.002393538	0.263201932	0.096218554	0.22880551	0.06026082
Q1_2	0.126622173	0.342190598	0.355246703	0.04950735	0.12235137
Q1_3	-0.057670627	0.008832906	-0.090126815	0.31440948	0.27587263
Q1_4	0.172101540	0.209107077	0.073763394	0.29356355	0.27187621
Q1_5	0.206822163	0.022545915	0.072288390	-0.02266278	0.07325572
Q1_6	0.101205538	-0.019082996	0.007269135	0.24606299	0.22322423
Q1_7	0.355033977	-0.010124873	0.283473345	-0.02581645	0.15208603
Q1_8	0.483190287	0.026134520	0.238782601	0.05401059	0.20446749
Q1_9	0.156668725	0.136028256	0.259537544	0.08562526	0.11413247
Q1_10	0.139996839	0.246991381	0.188905998	0.09399036	0.12940921
Q1_11	0.021880727	0.302856629	0.088341253	0.21425805	0.05323420
Q1_12	0.009634541	0.300219432	0.125990212	0.10340506	0.05453606
Q1_13	0.112876493	0.360270029	0.270703938	0.24200303	0.11002446
Q1_14	-0.026766784	0.321996810	0.262495716	0.03868750	0.03155072
Q1_15	0.224374613	0.027121734	0.155358189	0.12844159	0.09541615
Q1_16	0.268319457	-0.029004885	0.085128581	0.13783567	0.29681892
Q1_17	0.281983660	0.162118835	0.132317570	0.14898860	0.24756142
Q1_18	0.129372970	0.239650762	0.120401896	0.16590969	0.13152138
Q1_19	0.139596719	0.110809808	0.155779058	0.19469379	0.17446914
Q1_20	0.162262749	0.208369096	0.132844972	0.12266585	0.22503949
Q1_21	0.134382470	-0.011118515	0.097644633	0.22108038	0.13771995
Q1_22	0.165932797	0.298821909	0.313017898	0.02976638	0.08870990
Q1_23	0.221429833	0.158328252	0.147765646	0.22715128	0.08743813
Q1_24	0.070503684	0.180060596	0.183914787	0.20602344	0.11570045
Q1_25	0.157918219	0.299924435	0.264273036	-0.01602964	0.02965453
Q1_26	1.000000000	0.093146455	0.260371918	0.03007305	0.29235258
Q1_27	0.093146455	1.000000000	0.286978562	0.12062242	0.07974766
Q1_28	0.260371918	0.286978562	1.000000000	-0.03061442	0.18195056
Q1_29	0.030073049	0.120622420	-0.030614416	1.00000000	0.29437619
Q1_30	0.292352582	0.079747655	0.181950558	0.29437619	1.00000000
Q1_31	0.065861808	0.196722229	0.039476398	0.34569222	0.22279251
Q1_32	0.032798281	0.339060747	0.248449582	0.23611494	0.19848495

Matrix Continues.

	Q1_31	Q1_32
Q1_1	0.19161592	0.31733328
Q1_2	0.16915478	0.42144647
Q1_3	0.18688073	0.08336629
Q1_4	0.24415186	0.17544876
Q1_5	-0.03089188	0.02951636
Q1_6	0.17266473	0.12265936
Q1_7	-0.04466291	-0.01697377
Q1_8	0.08707345	0.01216834
Q1_9	0.11166486	0.09197120
Q1_10	0.18938767	0.10834370
Q1_11	0.26175812	0.27238186
Q1_12	0.22526214	0.37409581
Q1_13	0.20509559	0.33412129
Q1_14	0.17098282	0.22465240
Q1_15	0.06202391	0.22022123
Q1_16	0.09567910	0.11053616
Q1_17	0.13553984	0.15898686
Q1_18	0.20925370	0.24476334
Q1_19	0.19382219	0.31131573
Q1_20	0.11707797	0.13415629
Q1_21	0.17842527	0.29264303
Q1_22	0.13090697	0.25575144
Q1_23	0.17427315	0.16580074
Q1_24	0.21490226	0.34045725
Q1_25	0.06386143	0.20763735
Q1_26	0.06586181	0.03279828
Q1_27	0.19672223	0.33906075
Q1_28	0.03947640	0.24844958
Q1_29	0.34569222	0.23611494
Q1_30	0.22279251	0.19848495
Q1_31	1.00000000	0.34824606
Q1_32	0.34824606	1.00000000