Spring 2-13-2019

Community College Instructors Perception of the Influence of Online Best Teaching Practices on Student Outcomes

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Doctorate of Education Program

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A Qualitative Case Study of How Community College Instructors Perceive the Influence of Online Best Teaching Practices On Student Outcomes

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Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

Higher Education

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Concordia University–Portland

2019

Abstract

The purpose of this descriptive case study was to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. Teaching in an online environment is different than a traditional face-to-face environment. The instructors develop different techniques and strategies to reach and deliver understandable content to the student. This is being done as distance education continually evolves and as instructors deploy new techniques to provide an effective learning environment to the student. As this delivery method continues to grow in popularity institutions can review and understand how do faculty really perceive this phenomenon and how does this impact student outcomes? This qualitative research answered how do community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The four major themes identified within the study were pedagogy, content knowledge, student perception, and technology. The study also identified some emerging themes such as a majority of the semistructured interviewees believe face-to-face outcomes have better success than online courses, faculty, and administrators believe students have a substantial influence on their own individual outcomes.

Keywords: community college faculty perception, qualitative case study, student outcomes.

Dedication

Wow, where to begin. I thank God every night for the family he has provided, the ability and means to complete this journey. It has been quite a journey, one which I could not have begun or made without the love and support of my wife Nicole and my boys, Sam and Jonah. The immeasurable hours of working in the dungeon, hotel rooms and countless midnight sessions. I do not know how to ever repay all of you for your love and support throughout this journey, for without you this is all meaningless. I love all of you very much, you are my pride and joy.

Thank you!

Acknowledgements

There are many people to acknowledge, my dissertation committee first and foremost, Dr. Nicholas Markette, without your guidance and support I would not have gone as far as I have. I am and forever will be grateful for your mentorship.

Dr. Calabro, I really appreciate all of the help and support you have provided. Your valuable feedback was most welcome and greatly appreciated, more than you could know. Dr. Carlton, thank you for your guidance and support.

Finally, I have to thank all of my friends, family and colleagues who have supported and encouraged me while I worked on my doctorate, thank you!

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Chapter 1: Overview of the Problem

Introduction to the Problem

This study explored how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. As community colleges continue to embrace online education, offer additional courses, and experience online courses growth (Straumsheim, 2016), faculty will have to utilize new technology, implement new pedagogical techniques and transition from a traditional face-to-face format to an online environment (Alexander-Bennett, 2016). This transition forces faculty to embrace new technology and techniques for teaching in a digital environment (Brown, 2015). Administrators identify the additional effort faculty need to deliver online course as a barrier to online education (Allen & Seaman, 2015) and administrators identify that only 28% of their faculty believe in the faculty accept the "value and legitimacy of online education" (p. 6). In addition, Allen and Seaman (2015) identified that faculty members do not believe in the value or legitimacy of online education. This means as online education continues to grow in acceptance by administrators, faculty members' perception is primarily unfavorable.

Faculty perception is an important catalyst in course success (Bailey & Card, 2009, Cherry & Flora, 2017; Ezzeldin & Nadir, 2017; Otter, et al., 2013; Schwartz, 2010; Twila, et al, 2011). As such, it is necessary to comprehend faculty perception to positively impact the quality and success of each course. Faculty perception is an important driver in higher education (Ezzeldin & Nisar, 2017). Faculty have a significant impact on pedagogical strategy, how and what technology is utilized and the autonomy or academic freedom to teach (Curran, 2008; Ezzeldin & Nisar, 2017). In addition, faculty perception can facilitate and improve the quality of

education, communication, institutions values, mission statement and ethos (Curran, 2008; Ezzeldin & Nisar, 2017). Faculty perception also influences professional development by identify gaps which can help guide administration in designing faculty development for effective online education (Elliott, 2017).

Background, Context, History, and Conceptual Framework for the Problem

Online education has completely changed the higher education landscape and has brought many challenges and innovations (Gaytan, 2015). Faculty are being asked to develop new approaches to teaching methods, utilize technology, pedagogy and to deliver content knowledge in an online classroom (Ouyang & Scharber, 2018). As the popularity of online courses has grown, so has the need for educators to comprehend and utilize new technology, implement new pedagogical techniques and transfer content knowledge from an instructor-led environment to an online environment (Alexander-Bennett, 2016). According to the *Distance Education Enrollment Report* by Allen and Seaman (2017), "online course enrollment has been increasing year over year, with over 6 million students taking at least one online course in 2015" (p. 2). As today's academic environment evolves, new technologies are being created as students and teachers are becoming more technologically savvy (Holzweiss, Joyner, Fuller, Henderson, & Young, 2014; Keengwe & Kidd, 2010; Mork, 2011).

A faculty's position within online education can be categorized in different roles when compared to a traditional face-to-face classroom environment (Keengwe & Kidd, 2010). Koehler and Mishra (2009) discussed the difficulties faculty will have in developing a course structure within an online environment and identified three interrelated categories faculty for online education. They are "technology, pedagogy and content knowledge" (TPACK) (p. 742). Those roles can be grouped by management and teaching styles, delivery of material, technology

usage and communication (Keengwe & Kidd, 2010). Keengwe and Kidd (2010) identified that faculty have new accountability for defining guidelines and developing interaction and communication within an online environment.

In addition, researchers are identifying new methods and practices for faculty to implement when teaching online courses (Keengwe & Kidd, 2010; Wentworth, Graham, & Tripp, 2008). The methods of teaching identified the "interdependencies" between pedagogy, technology and content knowledge (Ouyang & Scharber, 2018, p. 42). There are numerous publications and organizations, which describe best practices for teaching online courses, such as *Quality Matters, Online Learning Consortium (OLC*) and the *National Standards for Online Courses iNAOCL*. Instructors teaching online courses utilize guidelines, called best practices to provide a safe and effective environment for students to learn. Oxford Dictionary defines best practice as "a working method or set of working methods that is officially accepted as being the best to use" (Best Practice, 2017, para. 1). Best practices have been developed to provide students the greatest opportunity for success and learning while taking an online course (Irlbeck, 2008; Sternke, 2016).

Statement of the Problem

Retention is critically important to student success and the institution (Ice, Gibson, Boston, & Becher, 2011). Best practices can be associated with corporations, process re-engineering, manufacturing, leadership, and healthcare (Cook & Steinert, 2013; Hamilton, 2011). This phrase identifies a process or task, which is defined as the best available at that time. However, best practices do not only define teaching, they include technology, instruction, pedagogy, techniques, styles, and support services (Keengwe & Kidd, 2010). In addition, the popularity of online courses has influenced best practices and the need to study student retention

(Gaytan, 2015). Teaching in an online environment is different than the face-to-face or traditional learning environment, however regardless of the delivery method, the same quality is required in an online environment (Mattila & Mattila, 2017; Schwartz, 2010).

The online environment allows anyone with internet access and a computer the ability to take courses. Classroom participation is not bound by a physical location and students be present during set times or the student-teacher relationship (Ice, et al., 2011; Sloan Consortium, 2009). As the online environment continues to grow and expand, faculty need to develop new pedagogical skills, familiarity with new technology as well as faculty attitudes, assumptions and perception need to be reviewed and understood (Bailey & Card, 2009; Cherry & Flora, 2017; Schwartz, 2010). This descriptive case study reviews and examines instructors' perception of online best teaching practices—pedagogical, technical and content knowledge—as an influencer on student outcomes.

Purpose of the Study

How do community college instructors perceive the influence of online best teaching practices on student outcomes? The purpose of this descriptive case study was to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This study may contribute to the body knowledge by exploring community college faculty's perception of best practices in online education. The results of this study may benefit administration, staff, faculty, and students by identifying which best practices faculty perceive as effective and how faculty perceive the influences student outcomes. Faculty perception is an important catalyst in course success (Bailey & Card, 2009; Cherry & Flora, 2017; Otter, et al., 2013; Schwartz, 2010; Twila, et al, 2011). As such, it is necessary to comprehend faculty perception to positively

impact the quality and success of each course. Faculty perception is an important driver in higher education. Faculty have a significant impact on pedagogical strategy, how and what technology is utilized and the autonomy or academic freedom to teach (Curran, 2008; Ezzeldin & Nadir, 2017). In addition, faculty perception can facilitate and improve the quality of education and communication (Curran, 2008; Ezzeldin & Nadir, 2017). Faculty perception also influences professional development by identify gaps which can help guide administration in designing faculty development for effective online education (Elliott, 2017).

Research Questions

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes?

Rationale, Relevance and Significance of the Study

Online education is not a new concept to higher education; however, since 2009–2010 online education has been one of the fastest growing segments within higher education (Curran, 2008; Straumsheim, 2016). As stated in the *Distance Education Enrollment Report* (2017) enrollment of students in online courses has increased year-over-year, "with over 6 million students taking at least one online course in 2015" (Alverson, Schwartz, & Shultz, 2018, p. 1; Allen & Seaman, 2017). Community college student populations are unique and different from those of a traditional four-year institution (Bailey, Jenkins & Smith, 2015; Solomon, 2017). The students may require additional help with basic skills placements, be unsure of which direction

or major to pursue on, or may have additional responsibilities off campus (Bailey, Jenkins & Smith, 2015; Noel, 2017; Osterman, 2012; Solomon, 2017). Community college enrollment continues to grow, and a high percentage of community college students continue on to complete a bachelor's degree (Bailey, Jenkins & Smith, 2015; NSCHRC, 2017). Additionally, community college enrollment overall has declined approximately 2.73%, on average and online enrollment has increased 5% (Straumsheim, 2016).

As the student expectations and responsibilities continue to change and the demand for online education continues to increase, community colleges need to change, otherwise they run the risk of their programs and courses become obsolete (Chen, 2017; Straumsheim, 2016). As the demand increases for online courses and programs, faculty have added pressure to deliver the same quality using a virtual delivery method. Prior to the proliferation of the internet and technology, higher education consisted of students attending a classroom on a physical campus a few times per week (Bailey, Jenkins, & Smith, 2015). The faculty member would lecture, and the students would take notes, submit assignments, and complete exams all within a physical campus (Bailey, Jenkins, & Smith, 2015). Technology is disrupting higher education by allowing for a more virtual environment, meaning the sharing of data, research and material is faster than ever (Anderson, Boyles & Rainie, 2012). In addition, most community college students will take at least one online course during their career; however, online courses tend to have less success than traditional or hybrid courses (Bailey, Jenkins, & Smith, 2015, p. 93).

As the demand for this delivery method continues to grow, there has been more pressure for faculty to deliver course material in an online environment. Faculty perception of online education is important to consider as online education continues to gain popularity because "perception is reality" (Otter et al., 2013, p. 27). For example, faculty may believe that online

courses are less rigorous when traditional and online courses are compared; however, data does not support that claim (Magda, 2014). Otter, et al. (2013) also argued if faculty's perception of online education is positive, they will "invest more time and effort into designing and developing the course" (pp. 27–28). Community college students tend to perform worse in an online environment than a traditional or hybrid classroom setting (Bailey, Jagger & Jenkins, 2015, p. 93). Due to community college students performing worse in online or hybrid courses, faculty beliefs in the rigor of course work additional research is required on this topic because it is not known how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Nature of Study

This descriptive case study explored how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—as an influencer of student outcomes. This case study incorporated qualitative methodology to identify faculty perception and how their perception can influence student outcomes. The basis for this case study is to provide a valid representation of the real-world scenario which the researcher uses to provide answers to the research questions (Yin, 2003, 2011). Qualitative methodology is used to identify evidence-based research, in which the goal is to "identify themes" within a particular study group (Miles, Huberman, & Saldaña, 2014, p. 277). The identification of the patterns allows the researcher to see trends, recognize and draw conclusions based on the data provided (Miles, Huberman, & Saldaña, 2014). A case study is where the researcher has the ability to study a particular group or population to document and detail a phenomenon (McLeod, 2008).

The basis of a case study is to find anomalies or identify why something happens in a natural environment (Leung, 2015). This descriptive case study utilized numerous methods to validate the results and confirm the rigor of the study (Leung, 2015). The expert review allowed the researcher to develop questions which can be quantified and measured (see Appendices B and C). The results of the expert review were field tested, by faculty. The subject matter expert review allows for two faculty teaching in a community college setting to be interviewed and provide feedback. This allows for a review of industry experts for feedback and creation of a questionnaire (Holbrook et al. 2007; Jansen and Hak 2005; Olsen, 2010; Presser and Blair 1994; Theis et al. 2002), prior to the completion and distribution of the interview questions, for faculty feedback.

To ensure the validity of the study, an expert review is conducted, which participants are provided a rubric to evaluate the questions. The questionnaire was reviewed by three external experts with an in-depth knowledge of research and survey design. This was conducted to ensure clarity, trustworthiness and consistency. They used the Interview Validation Rubric (see Appendix E). The results of this rubric were compiled using MS Excel and modifications conducted to the survey, prior to the subject matter interviews are conducted. This rubric was modeled after the White and Simon (2011) *Survey/Interview Validation Rubric for Expert Panel – VREP.* The rubric was obtained from the free resources on Dissertation Recipes.

Sarma (2015) defended the use of qualitative research and how the methodology of qualitative research allows the researcher to observe and review human behavior based upon specifically designed research questions, analyze and draw conclusions based upon the responses. Merriam (2009) identified that qualitative research is a method used within a natural setting to gather observations and feedback based upon designed research questions (Denzin &

Lincoln, 2007; Merriam, & Tisdell, 2016). For example, Price, Whitlatch, Maier, Burdi and Peacock (2016) utilized a qualitative study to identify nursing faculty's perception on the effectiveness of a face-to-face workshop to help implement best teaching practices within an online nursing course. Gayton (2015) completed a qualitative study to compare faculty and student perception regarding best teaching practices, which affect student retention in an online learning course. Morgan, et al., (2014) completed a study identifying faculty perception of using group activities within online courses. Each of these studies utilized a descriptive case study in which qualitative methods were employed to identify faculty perception in real-world scenarios. A descriptive case study provides the opportunity for the researcher to observe and understand community college instructor's perception of online best teaching practices and their perception on student outcomes.

Limitations, Delimitations, and Assumptions

The purpose of this descriptive case study was to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcome and only reflects faculty perception from one institution located in New Jersey.

Limitations are inherent in any study. The limitations identify what could impact a study and are not controlled by the researcher (Simon, 2011). The study does not compare faculty and student perceptions, nor does it review any quantitative analysis on student outcomes, this study is based solely on faculty perception, of one community college in New Jersey. This researcher believes that online education is the future of education and institutions should offer as many programs as the market dictates, in an online environment. The researcher has taught as an adjunct professor for the past fourteen years and continues to teach traditional, hybrid and online

courses at the institution. The institution does not distinguish easily between online and hybrid courses. This study was conducted at one community college located in New Jersey and this study only reflects the perceptions of that institution.

Delimitations identify the conditions which identify the sample size or are within the prowess of the researcher (Simon, 2011). The sample was conducted to identify those faculty members who have taught at least one online or hybrid course over the previous five years and are still employed with the institution. There were a total of 11 faculty members and four administrators interviewed. The location was chosen based upon the convenience of the researcher having a relationship being employed at the institution and the researcher tried to limit the interviews to 20-30 minutes and at a location of the participants choosing. This researcher has experience teaching in all modalities, face-to-face, hybrid and online. Also, this researcher has a relations which the study is based.

There are assumptions within any study and researchers identify and acknowledge the assumptions (Simon, 2011). Some of the assumptions are the researcher believes the faculty and administrators have knowledge of best teaching practices for online education and each member will answer each question open and honestly. The researcher tried to reduce the assumptions by validating the data, using triangulation to ensure credibility and to corroborate the results (Yin, 2011).

Summary

The purpose of this descriptive case study was to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. Online education has taken faculty out of their comfort zone and forced people to become more familiar with technology, newer

pedagogical standards and delivery methods (Schwartz, 2010). There are numerous articles and research published regarding how to effectively teach in an online environment, discuss different pedagogical techniques and new technology continually available (Bailey & Card, 2009; Cherry & Flora, 2017; Loveless, 2012; Ouyang & Scharber, 2017; Schwartz, 2010;). Research has also been conducted on developing, implementing and utilizing best teaching practices (Cherry & Flora, 2017; Ouyang & Scharber, 2017). In addition, numerous publications and research has discussed faculty perception and effective teaching practices in the online environment (Bailey & Card, 2009; Loveless, 2012; Ouyang & Scharber, 2017) and effective training techniques for faculty in the online environment (Lazim & Mat Sin, 2012). This has led to faculty being asked to do more with technology, such as video conferencing, communication technology and not having the face-to-face communication or visual cues a traditional course offers (Zacharis, 2015).

A fuller examination of understanding community college faculty's perception of best practices on the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes will contribute to our understanding of the professional development of faculty in higher education. This study may also positively impact student outcomes by identifying and possibly understanding the relationship between faculty's perceptions and how faculty believe these impact student outcomes in a community college setting. In addition, this study may help the higher education overall by providing instructional designers, faculty developers and administrators in creating and implementing more updated teaching strategies based upon faculty perception. Additionally, expanding the knowledge base on this topic provides a better understanding of how perception impact the online learning environment.

This study consists of an additional four chapters. Chapter 2 will review the current literature available based upon the topic from the TPACK framework outlined by Koehler and Mishra (2009). Chapter 3 will explain the methodology used for the study. Chapter 4 will include the analysis of the study. Finally, Chapter 5 provides the conclusions and significance of the study.

Chapter 2: Literature Review

Introduction to the Literature Review

The purpose of this descriptive case study was to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. Teaching and learning in today's academic environment is continually evolving. There are new technologies being created and students and teachers are becoming more technologically savvy (Holzweiss, Joyner, Fuller, Henderson, & Young, 2014; Keengwe & Kidd, 2010; Mork, 2011). In addition, researchers are identifying new methods and practices for faculty to implement when teaching online courses (Keengwe & Kidd, 2010; Wentworth, Graham, & Tripp, 2008) and organizations such as *Quality Matters, Online Learning Consortium (OLC*) and the *National Standards for Online Courses iNAOCL*. Instructors teaching online courses utilize guidelines, called best practices to provide a safe and effective environment for students to learn. Oxford Dictionary defines best practice as "a working method or set of working methods that is officially accepted as being the best to use" (Best Practice, 2017, para. 1). Best practices have been developed to provide students the greatest opportunity for success and learning while taking the course (Irlbeck, 2008; Sternke, 2016). This descriptive case study will review and examine instructors' perception of best practices—pedagogical, technical and content knowledge—as an influencer on student outcomes.

Best practices are associated with corporations, process re-engineering, manufacturing, and healthcare (Hamilton, 2011). The phrase identifies a process or task, which is defined as the best available at that time. There are numerous publications and organizations, which describe best practices for teaching online courses. However, best practices do not only define teaching,

they include technology, instruction, pedagogy, techniques, styles, and support services (Keengwe & Kidd, 2010).

This chapter will outline an extensive literature review using keywords such as online education, best practices, best practices in online education, academic standards, student outcomes for online education, online education, faculty perception, online learning environment and other search terminology. The literature review consisted of articles, books, dissertations, and studies derived from numerous electronic reference libraries. At least sixty-five articles, of which 90%, or 58 articles, were published in the past five years. A sample of the libraries utilized is *EBSCOHost, ProQuest Central, ProQuest Library Science Database, Science Direct Journal* and others.

Based upon the extensive search the research identified the importance of examining community college instructors' perception of best practices—pedagogical, technical and content knowledge—as an influencer on student outcomes. Faculty perception is a necessary requirement to implement successful best practices that are likely to and positively influence student outcomes. This is important at the community college level because community college student populations are unique and different from those of a traditional four-year institution (Bailey, Jenkins & Smith, 2015; Solomon, 2017). The students may require additional help with basic skills placements, be unsure of which direction or major to pursue on or may have additional responsibilities off campus (Bailey, Jenkins & Smith, 2015; Noel, 2017; Solomon, 2017; Osterman, 2012).

In addition, community college enrollment continues to grow, and a high percentage of community college students continue on to complete a bachelor's degree (Bailey, Jenkins & Smith, 2015; NSCHRC, 2017). "In the 2015-16 academic year, 49 percent of all students who

completed a bachelor's degree at a four-year institution had been enrolled at a two-year public institution at some point in the previous 10 years" (NSCHRC, 2017, p. 1). Community colleges also enroll a high percentage of all undergraduate students across the country. "Community colleges enroll about 44% of the undergraduate students … there are 1,132 community colleges across the United States" (Liu & Roohr, 2013, p. 9). The number of students enrolled in community colleges has led institutions to analyzing student outcomes to identify how to increase student success (Liu & Roohr, 2013, p. 10). Community college students are also unique in that they "tend to come to class unprepared, historically do not do as well in online courses as students of 4-year institutions and faculty are instrumental in building and nurturing an effective classroom" (Bailey, Jenkins & Smith, 2015, p. 94). This study will provide an analysis of instructors' perception of best practices—pedagogical, technical and content knowledge—as an influencer on student outcomes.

The research conducted will provide a background of online education in community colleges, define best practices, in the areas of pedagogical, technical and content knowledge online instruction and provide conclusions on the influence of online best teaching practices on student outcomes recommendations. Research conducted on best practices identifies the best practice, describes the impact and the analysis, provides the rationale and supporting research for adopting that practice, and describes the best practice for the instructor. Bailey, Jaggars and Jenkins (2015) described "research on motivation" where faculty can affect student performance in the classroom (p. 94). They detailed three separate motivational categories instructors can utilize, "interpersonal connection", "providing autonomy" and "developing students' academic competence" (Bailey, Jaggar & Jenkins, 2015, pp. 94-95). Keengwe and Kidd (2010) classified

faculty's role into four separate categories "pedagogical, technical and content knowledge" (p. 536).

Background of Online Education

As technology has been introduced the entire learning experience has changed. The demand for online education continues to grow every year as administrators deem online education to be "critical to their institutions" (Allen & Searman, 2013; "Trends of online learning", 2015). As online education becomes more accepted, administrators, and researchers will continue to develop and recommend best practices for teaching. "Even among those institutions with fully online programs less than a majority (43.9% in 2011 and 38.4% in 2012) of academic officers say their faculty fully accept online education" (Allen & Searman, 2013, p. 27). Faculty perception is an important catalyst for implementing best practices in a community college institution. For example, faculty who do not accept online education or have a negative perception of the impact best teaching practices could have are more likely to result in implementing standards that will not succeed or could become misperceived (Otter, et al., 2013). Faculty need to incorporate best practices in an online environment to provide the tools necessary for the students to succeed in the course. Higher education best practices enhance the learning experience of students enrolled in the course and institution (Kopcha, Reiber, & Walker, 2016). However, without fully understanding faculty's perception of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes, there could be misinterpretations or a negative influence on student outcomes. As dictated by Kopcha, Reiber and Walker (2016) education in today's environment requires faculty to "develop material and place more emphasis on pedagogy to engage students in learning" (p. 946), meaning that

instructors' perceptions of best practices is imperative to effectively implement best practices and positively influence student success.

Faculty perception of online education is important to consider as online education continues to gain popularity because "perception is reality" (Otter et al., 2013, p. 27). There are difficulties in implementing or utilizing online education (Murphy & Stewart, 2017). Online teaching also requires a different skill set than the traditional face to face course (Dubas, Best, Long, & Crumpacker, 2016; Trends of online learning, 2015). Otter, et al. (2013) also argues if faculty's perception of online education is positive, they will "invest more time and effort into designing and developing the course" (pp. 27–28). Community college students tend to perform worse in an online environment than a traditional or hybrid classroom setting (Bailey, Jagger & Jenkins, 2015, p. 93). Bailey, Jaggar and Jenkins (2015) also describe how faculty can positively influence students' performance in an online environment. Additional research is required because it is not known how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

There are numerous articles, significant research conducted, and organizations formed describing best practices for online learning (Irlbeck, 2008; Sternke, 2016). The results have been developed, thoroughly reviewed, analyzed and concluded along with details, examples, and suggestions. However, with all of the research conducted it is not known how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This study seeks to identify how community college instructors in New Jersey perceive the influence of online best teaching practices on student outcomes.

Conceptual Framework

This descriptive case study reviews and examines community college instructors' perception of best practices—pedagogical, technical and content knowledge—as an influencer on student outcomes. Faculty members have significantly more responsibility for establishing specific structures and processes within an online environment than in a traditional learning modality (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007). Coppola, Hiltz and Rotter (2002) surmised the role of faculty changed once the method of instruction changed. Their research concluded a faculty's role can fall into one of three categories, cognitive, affective and managerial. This was based upon an Asynchronous Learning Network (ALN) using the World Wide Web and internet to deliver course material. The study was based upon faculty members teaching online courses during 1998 and 1999 (Coppola, et al., 2002). Koehler and Mishra (2009) defined the challenges of incorporating the role of faculty into three categories, "technology, pedagogy and content knowledge" (TPACK). Their paper defined the difficulties teachers may have in incorporating all three categories into today's ever-changing educational environment (Koehler & Mishra, 2009) and how each category is interrelated (Figure 1).

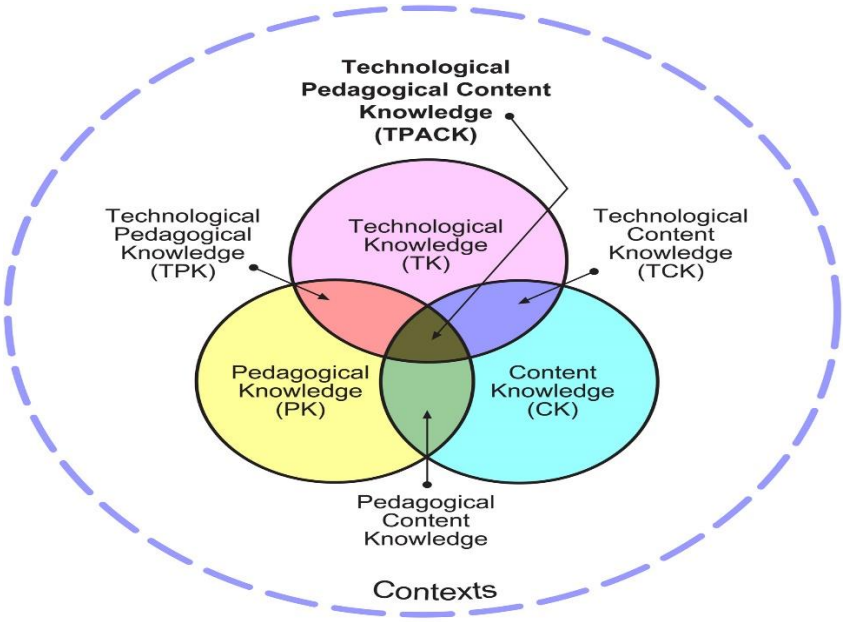

Figure 1. The TPACK framework and its knowledge components. Reprinted from "What is technological pedagogical content knowledge" by M. J. Koehler and P. Mishra, 2009, *Contemporary Issues in Technology and Teacher Education, 9*(1), p. 63.

Keengwe and Kidd (2010) categorized an "online instructor's role as pedagogical, technical and content knowledge" (p. 536). Keengwe and Kidd (2010) defined the pedagogical aspect as teaching and "facilitation the classroom". The social is the aspect of maintaining the interpersonal and interactive skills such as teacher-student and student-to-student relationships (Keengwe & Kidd, 2010). The managerial category is the daily running of the class and course material (Keengwe & Kidd, 2010). The technical aspect of the virtual course and the faculty members' ability and comfort level of using and implementing the technology (Keengwe & Kidd, 2010). Liu, Bonk, Magjuka, Lee and Su (2005) also described online instructors' responsibilities can be categorized into four separate roles "pedagogical, social, managerial and technical" (p. 33).

The demand for online education continues to grow every year as administrators deem online education critical to their institutions (Allen & Searman, 2013; Trends of online learning,

2015). As online education becomes more accepted, administrators, staff, and researchers will continue to develop and make recommendations (Allen & Searman, 2013). Higher education best practices enhance the learning experience of students enrolled in the course and institution (Kopcha, Reiber, & Walker, 2016). Best practices in any context are to enhance the teaching experience for both faculty and the student (Bailey & Card, 2009; Finch & Jacobs, 2012). With the increased emphasis on online education, the number of online courses offered and administrators identifying online courses are "critical for the growth of institutions" (Allen & Searman, 2013, p. 6). There is an increased responsibility faculty have to establish structures and processes when facilitating online education (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007), especially considering the difficulty of today's online learning environment (Keengwe & Kidd, 2010) and at some point in their career faculty will be asked to consider teaching an online education (as cited by Keengwe & Kidd, 2010, p. 533).

According to the research, a faculty member's role can be categorized into three separate roles, "pedagogical, technical and content knowledge" (Liu, Kim, Bonk & Magjuka, 2005; Keengwe & Kidd, 2010). This descriptive case study will explore how community college faculty perceive the influence of online best teaching practices—pedagogical, technical and content knowledge— on student outcomes.

Review of Research Literature and Methodological Literature

Higher education is in a constant state of change and transition (Feenberg, 2017). With all of the pedagogical, technological, and cognitive changes in higher education one thing is constant, faculty's responsibility is to teach the subject matter, regardless of medium (Markie, 1994). Online education is not a new concept or idea impacting higher education (Keengwe & Kidd, 2010; Lee, 2017; Stokes, 2012) in which distance education has been referenced back to

the 1800's (Lebaron & Tello, 1998; Lee, 2017). However, the proliferation of the internet and the technology boom has made online education more practical and available (Larreamendy-Jones & Leinhardt, 2006).

Higher education overall enrollment has "declined from 2012 through 2015 by 3.2%" (Allen & Seaman, 2017, p. 8). However, with overall decline in student enrollment, the online segment continues to rise (see Figure 2).

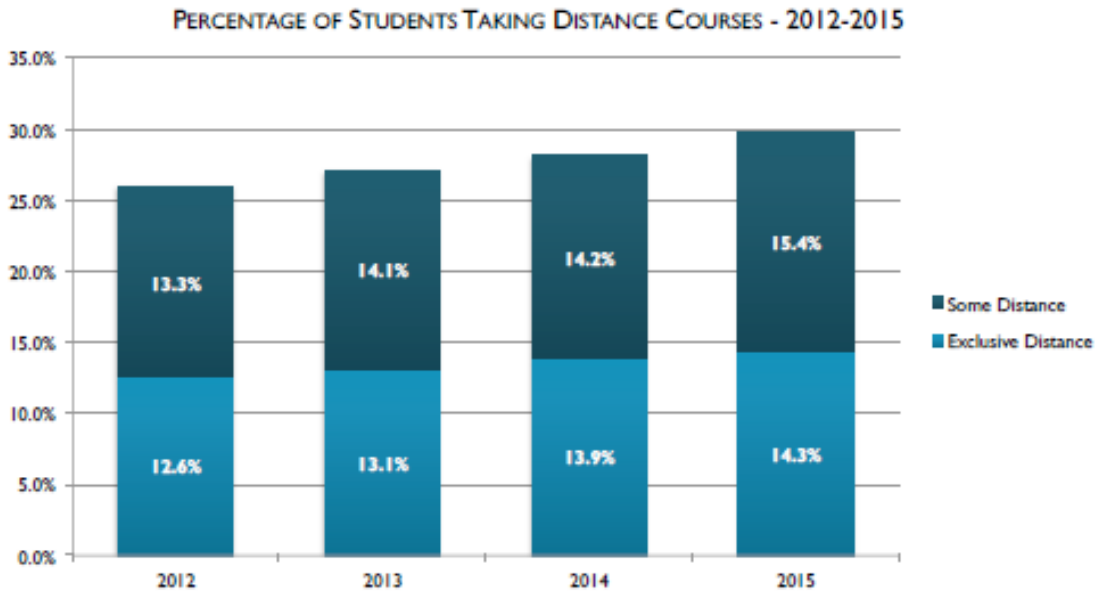

Figure 2. Percentage of Student Taking Distance Courses - 2012–2015. Reprinted from E. Allen and J. Seaman, 2017, Digital Learning Compass: Distance Education Enrollment Report 2017, p. 11.

According to Allen and Seaman (2013), "61.9% of chief administrators have stated online education is critical to their long-term strategy" (p. 4). These conditions have helped institutions realize the importance and relevance of online education. As institutions offer more online

courses, faculty will be asked to teach additional online courses which will require the implementation of best practices.

The proliferation of online education, higher education has faced many new challenges than a traditional learning environment (Feenberg, 2017; Hentschke, 2012; Stokes, 2012; Zacharis, 2015). Faculty have significantly more responsibility for establishing structures and processes within an online learning environment (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale & Crawley, 2007; Bonk, 2016). This additional responsibility requires faculty to develop and implement new pedagogy standards using tools and techniques without understanding the influence on student outcomes.

Online education has disrupted the traditional faculty and student role (Beaudion, 1990; Lee, 2017; Zacharis, 2015) and is providing some of the most exhilarating opportunities and challenges facing higher education today (Lee, 2017; Larreamendy-Joerns & Leinhardt, 2006). Online education allows students the flexibility of learning at their own pace, accessing course material available and an unprecedented amount of research and material accessible anywhere there is an internet connection (Larreamendy-Joerns & Leinhardt, 2006). As Stokes (2012) surmised in 2006, the legitimacy and proliferation of online education was expanded when "The United States Congress repealed the fifty percent rule, which allows students attending institutions where 100 percent of the courses delivered online can have access to Title IV funding" (Dillon, 2006; Kirkham, 2012).

New technologies are being introduced, research is continually being published to help teachers become more effective and faculty members are becoming more technologically savvy (Grosse, 2004; Keengwe & Kidd, 2010 Holzweiss, Joyner, Fuller, Henderson, & Young, 2014; Mork, 2011). In addition, researchers are identifying new methods and practices for faculty to

implement when teaching online courses (Beaudoin, 1990; Graham, & Tripp, 2008; Keengwe & Kidd, 2010; Wentworth, 2008) and organizations such as *Quality Matters, Online Learning Consortium (OLC*) and the *National Standards for Online Courses iNAOCL*. These organizations provide tools, techniques, and standards which help faculty become more effective in teaching online courses.

Online education also has some challenges. Student success in online courses has been lower than hybrid or traditional classrooms (Lee, 2017; Stokes, 2012). Online courses have a higher drop-out rate than traditional face-to-face students (Lee, 2017). Students get frustrated with the medium and self-study orientation of the environment (Lee, 2017; Zacharis, 2015). In addition, as surmised by Zacharis (2015), online education is particularly difficult due to the non-synchronized digital communication. This is paramount especially in an environment where student engagement and motivation are necessary and where feedback is asynchronous, and learning is self-directed.

Online education also requires a level of technological understanding by the faculty and students, faculty comprehension of analytics and the use of instructional designers to assist in creating courses (Lee, 2017; Zacharis, 2015) and at some point, in their career faculty will be or have been asked to teach an online course (Keengwe & Kidd, 2010). However, with the expansion of online education, the strategic emphasis of online courses, faculty are being asked to teach online courses, the potential frustration students may experience while taking an online course and the rate at which technology changes, it is more important than ever to consider how faculty perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

This exploratory case study explores the proliferation of online courses in higher education, specifically community colleges to review how faculty perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. Research has demonstrated that online education, despite its proliferation has inherent challenges with student success and faculty perception (Feenberg, 2017; Larreamendy-Joerns & Lee, 2017; Leinhardt, 2006; Stokes, 2012; Zacharis, 2015). These challenges are continually being studied and researched to identify how faculty can utilize different teaching practices to increase student outcome, in addition, organizations such as *Quality Matters, Online Learning Consortium (OLC*) or the *National Standards for Online Courses iNAOCL* have created templates and rubrics to help faculty design, engage and develop better teaching practices to increase student outcomes. However, based on the research conducted regarding best practices and the limited research available regarding community college faculty it is not known how community college faculty perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Online learning environment. Online education is not a new concept to higher education (Lee, 2017; Verduin & Clark, 1991) and has been in existence for some time (Lee, 2017; Bonk, 2016). However, in today's higher education environment administrators believe the future of their institutions lies in online education (Allen & Seaman, 2014). Online education has become mainstream due to a number of factors, for example, students are burdened with have to pay an increasing costs of their higher education, (Feenberg, 2017; Peters, 2008), accessibility of courses to a non—traditional population (Lee, 2017; Peters, 2008), the proliferation of the internet and technology has allowed changes in pedagogy to support a more

open environment (Lee, 2017; Peters, 2008; Zacharis, 2014), and declining enrollment affecting a number of institutions.

Pedagogy. Online courses have specific design requirements and should be designed differently than traditional face-to-face courses (Coppola, et al., 2002; Keengwe & Kidd, 2010; Koehler & Mishra, 2009; Larreamendy-Jones & Leinhardt, 2006; Lee, 2017; Liu, Bonk, Magjuka, Lee & Su, 2005). This was first identified when Chickering and Gamison (1987) developed the Seven Principles for Good Practice in Undergraduate Education, which they outlined the following seven principles for online course development,

- Encourages student-faculty contact,
- Encourages cooperation among students,
- Encourages active learning,
- Gives prompt feedback,
- Emphasizes time on task,
- Communicates high expectations, and
- Respects diverse talents and ways of learning (Baldwin & Trespalacios, 2017, pp. 1–2; Chickering & Gamison, 1999, p. 2)

These seven principles have been the guiding practices for faculty to utilize when designing and developing online courses (Baldwin & Trespalacios, 2017). Baldwin and Trespalacios (2017) researched, studied, and tested if the seven principles identified 25 years ago by Chickering and Gamison (1987) were being utilized and to what extent. Baldwin and Trespalacios reviewed 33 higher education online course evaluation checklists and categorized each based upon the institution type, e.g., national or statewide influence such as, Quality Matters (QM) or the Southern Regional Education Board Checklist for Evaluating Online Courses or two-year versus

four-year institutions and evaluated against the seven principles of good practice. Their findings were that higher education assessment tools are not adequate against measuring the seven principles outlined by Chickering and Gamison. In addition, they found the evaluations to be extensive, just not inclusive of all seven practices. However, the seven principles outlined and studies, there was no mention of how faculty perceive the influence of best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Other studies identified pedagogy in online classrooms. Coppola, Hiltz and Rotter (2002) studied faculty experiences when creating and delivering online courses in 1998 and 1999. The study was a semistructured interview of 20 faculty members who taught or were going to teach online courses during the study timeframe. The results Coppola, Hiltz and Rotter (2002) found faculty roles were grouped into cognitive, affective and managerial roles in pedagogy. The research found relationships between faculty and students changed when compared with face-to-face instruction. Coppola, Hiltz and Rotter (2002) surmised by understanding faculty's change in role from teaching face-to-face to online allows faculty to prepare themselves for the new delivery method. This allows institutions to create training material and providing funding for the new delivery method.

Supporting the student population in distance education can be surmised by Feenberg (2017) who discussed distance education and the impact technology has made upon education and how technology and online education have not been as disruptive as once believed and how faculty are being asked to do more. Lee (2017) discussed a historical perspective regarding the accessibility of online education, challenges of learning, student requirements and technology impact on distance education. Lee (2017) concluded that online education requires additional discussion and support to serve the student population. Lee (2017) identified a reasonable next

step in the evolution of distance education research by identifying how distance education objectives are impacted by a more technological student and distance education can still serve the "contemporary underserved" (p. 21). Bailey and Card (2009) discussed faculty perception of pedagogical practices in online education. The study determined, based on faculty interviews, there are eight effective pedagogical practices. The eight practices allow the faculty to foster relationships, engage the student, return material timely, communicate effectively, be organized, and utilize technology to effectively promote learning within the course (Titarenko & Little, 2017). The instructor must be willing to adapt and have high expectations for their students. Kearns (2016) conducted a qualitative study to comprehend what faculty's perception of what is an effective teaching practice for online courses and how did this influence the faculties face-to-face courses. Kearns identified a final set of themes, reflecting on practice, creating structure, conducting the courses, facilitate learning, promote learning, encourage peer interaction and establish a connection (p. 74). The studies identify the importance and commonality of faculty perception when teaching online courses, however, the research does not identify the faculty's influence of online best practices—pedagogical, technical and content knowledge—on student outcomes.

Pedagogy is a factor in student retention. Gayton (2015) completed a qualitative study in which he compared the perceptions of students and faculty that affect student retention. The study specifically attempted to identify similarities in faculty and student perception regarding factors that affect student retention and identify recommendations to "positively impact student retention in an online environment" (Gayton, 2015, pp. 56–57). The qualitative study utilized a grounded study method, which consisted of interviewing 15 senior year business students to identify their perception of factors impacting student retention and comparing those with faculty

perception of faculty's critical factors which could affect student retention. The study concluded that faculty critical factors are "student self-discipline, quality of faculty and student interactions, institutional support to students, last grade received and transfer credit" (Gayton, 2015, p. 60). Students' five critical factors are increased "faculty instruction, meaningful instruction, transfer credit, maintaining adequate GPA and institutional support" (Gayton, 2015, p. 60). The study then compared each critical factor in the order of ranking. The study concluded there were differences between what students believe are critical factors and what faculty believes are critical factors and made recommendations as to what faculty can do to help improve student retention in online courses. This research demonstrated faculty perception of critical factors and the subsequent comparison and provided recommendations based on the comparisons. However, the research does not identify faculty's perception of best practices on student outcomes.

An important aspect of pedagogy in today's online environment is understanding what is required for faculty to effectively teach courses (Evens, Craesbeek, Larmuseau, Elen, Dewaele & Depaepe, 2017; Norman, 2014) which will allow educators to improve their knowledge (Evens, et al., 2017; Price, Whitlock, Maier, Burdi & Peacock, 2016). Bain (2004) identified what the best college professors do to engage learning within their classroom. Bain also identified that "faculty are not perfect and they must continually review and adjust best practices as necessary" (p. 19; Bonk, 2016; Norman, 2014). The point Bain (2004) makes is an important concept within an online course not only what is required to become an effective teacher but a faculty member may have to adjust teaching practices and require support (Norman, 2014). The instructor may have to adjust the material or concept to help students learn the material. Price, et al., (2016) had taken the concept of understanding what is required for faculty to effectively teach courses. Bain (2004) researched and conducted a qualitative pilot study to "explore the

effect of providing a face-to-face workshop for faculty teaching online courses to attend" (Price, et al., 2016, p. 223). The workshop utilized Bain's (2004) best practices for teaching face-to-face students as a benchmark and how faculty can implement in an online environment. The study had faculty as well as a sampling of students who provided their perception of the best practices. The outcomes from the study allowed the task force to implement online recommendations and examples. The study, defined the perception faculty and students have when reviewing online education, however, the study identified the need for additional research identifying faculty perception of online education and the influence on student outcomes.

Any teaching environment pedagogical best practices need to be reviewed and refined periodically. This enables the faculty member to create a safe and effective learning environment. This is supported when Purcell (2017) discussed "community-based pedagogy" and how this is important in online education to provide the student with a sense of community. This sense of community would require "course designers and faculty to explore tools and methods available and incorporate into the best practices" (Purcell, 2017, p. 68). Purcell also emphasized the necessity of all organizations within the institution to come together and continually review their best practices for online courses and incorporate community-based activities and learning (Stokes, 2012; Bok, 2003). Finch and Jacobs (2012) also discuss the need for communication in an online learning environment and the importance of implementing best practices in communication between students and faculty to support the communication requirement for online students (Titarenko & Little, 2017). Titarenko and Little (2017) provided analysis on utilizing web-based tools in a cross-cultural course, with students attending from different countries. The study identified best practices for implementing student-centered learning in an online course and found correlations to what made the students successful.

Titarenko and Little (2017) research was based upon the research by Moore cognitive dialog principles which are "dialog between the student and the instructor, the dialog between the students themselves and dialog between instructors" (as cited by Titarenko & Little, 2017, p. 125). Titarenko and Little's (2017) research concluded that online tools and Moore's principles incorporated into their online course and the tools utilized provided a positive experience and helped make the students successful. Titarenko and Little's (2017) concluded utilizing best practices and "student-centered" approaches helped the students succeed in the course (p. 116). In an online course their research also suggests a correlation between course content and communication student-to-student, student-to-faculty and faculty-to-faculty (Titarenko & Little, 2017, p. 125; Maushak, Ou, & Wang, 2004). Lai, Williams, and Li (2016) completed a study, which identified student's perception of technology-enhanced pedagogy in their statistics learning. The research discussed identified best practices for online education, the positive impact incorporating best practices into pedagogy and student outcomes, however, there is a gap in studying the influences of online best teaching practices on student outcomes.

Technology. Technology, such as the internet, mobile and computers, have become more prevalent in everyday society, and higher education is no exception (Alexander-Bennett, 2016; Evans, et al., 2017; Gokcearslan & Alper, 2015) which has, in part led to an increase in the usage online course (Symeonides & Childs, 2015). Alexander-Bennett (2016) described when discussing the changes to education based upon technology and how technology has been integrated into education has become easier and factor to use for both students and faculty. Alexander-Bennett (2016) described how technology can help teacher reflect on existing practices and procedures to provide a better environment for students. Evans, et al., (2017) surmised this in their study when they concluded technology does not impact one particular

aspect of education but requires a more integrated approach incorporating technology into a learning environment (Trust, 2017). Alexander-Bennett identified how technology can be integrated into providing better practices, however, there is a gap in identifying how technology influences technical teaching practices in an online environment.

Technology is integrated into all aspects of learning (Stokes, 2012). As Stokes discussed, the best methods will be those that integrate the best components of technology with those of face-to-face learning to provide a more holistic learning environment. Stokes (2012) also reflected on the impact of technology integration to faculty and how an online environment allows institutions to review pedagogical and instructional design, and how the disruptive innovation of technology increases the burden on the traditional faculty role. The publication by Stokes is conclusive and thorough describing the impact technology has had and will have on higher education. However, the research does not describe faculty perception of implementing technical teaching practices on student outcomes.

An institution's goal should be to provide the best opportunity for students to succeed (Bailey, Jaggars & Jenkins, 2015). Bailey, et al. (2015) surmised that an institution's goal should be to provide the best opportunity for students to succeed and higher education and community colleges should integrate technology into "redesigned programs and support services" (p. 197). Trust (2017) also described the integration of technology into teaching practices in the preparation of instruction. Brewer and Tierney (2012) described in their publication *Barriers to Innovation in U.S. Higher Education* the potential issue affecting higher education is institutions are reluctant to change, modify or adjust processes and procedures to accommodate a continually changing environment in which technology and other services need to be reviewed and incorporated into course material and instruction. These publications discuss the reason

institutions incorporate technology into a system which needs to change with the current teaching environment, however, they do not review faculty perception of incorporating technology into online teaching practices in a community college.

In the same way Hammerling (2012) outlined how best practices can be used to effectively conduct an online clinical laboratory course. Hammerling (2012) divided the course content into separate areas, "course design, instructional effectiveness and interactivity or interconnectivity" (p. 314). These three content areas as based upon Chickering and Ehrmann's (1987) research *The Seven Principles for Good Practice in Undergraduate Education* in describing how to design an online course (as cited by Hammering, 2012, p. 314). Hammerling's research described how to apply the best practices outlined into online instruction and provided examples using a learning management system in which the instructor should incorporate visual and auditory practices (Hamiti & Reka, 2012), timely instructor feedback, group activities (Feenberg, 2017), faculty and student relationship building and addressing different learning styles into the online learning environment. The study provides standards on how this can be accomplished; however, the research has only been conducted from a student perspective. Faculty's perceptions and the tie into student outcomes has not been established and is the gap within the research.

This is supported when Koehler and Mishra (2009) detailed the challenges of incorporating the role of faculty into three categories, "technology, pedagogy and content knowledge" (TPACK). Their paper defined the difficulties teachers may have in incorporating all three categories into today's ever-changing technical educational environment (Koehler & Mishra, 2009). TPACK identifies what educators need to know when teaching with technology. Koehler and Mishra (2009) identified that, amongst other uses, TPACK allows for the promotion

and “integration of technology into the curriculum” (p. 67). Loveless (2011) literature review identified the complexity of pedagogy in today's environment and the multifaceted aspect of incorporating technology, learning, and content into an academic environment. Loveless (2011) reviewed and identified integrated communications technology (ICT) is more than just a tool to be integrated into daily lessons. The use of technology requires adequate teacher education and standards, which need to be flexible to the current course environment. Loveless concluded the necessity for developing standards for an online environment, providing adequate faculty training to teach in an online environment.

The benefits of teaching with technology has changed in the field of higher education (Hamiti & Reka, 2012). Integrating technology into classroom instruction and how technology can be a benefit to students by incorporating technology into the course material (Hamiti & Reka, 2012). Their conclusions were incorporating technology into ethics courses will only lead to a benefit to the students and accompany numerous learning styles. Hamiti and Reka (2012) also discussed how technology is the tool to help students succeed, the instructor is “vital” to incorporate technology into the learning environment (p. 1176). Weston and Bain (2015) had similar conclusions in their research where they identified incorporating “information and communication technology (ICT)” into instruction will increase the quality of the course material (p. 610). Hamiti and Reka (2012) identified ways in which technology can impact incorporating practices into instructional courses. This could be due to the institutions’ own policies on usage and distribution of technology, faculties' limited usage or knowledge of how to use the software, incorrect usage of the technology within the course, or other factors such as contractual limitations. Hamiti and Reka (2012) developed a “Toolkit” for teachers to incorporate technology into their classroom (p. 610). Hamiti and Reka (2012) concluded that incorporating

the use of ICT into classroom settings and developing standards for usage will increase the overall quality of the course. This study outlines the importance of incorporating standards in implementing technology into course material. However, the study does not take into account faculty perception of incorporating technical teaching practices into online education.

This is also supported by Humphrey and Beard (2014) who completed a study of faculty perception of online homework for accounting courses in which they surveyed faculty members from the *2012 – 2013 Hasselback directory of accounting faculty in Missouri*. Humphrey and Beard received 550 responses from the faculty of varying ranks who are or were teaching undergraduate accounting courses and captured their responses via an online survey (Humphrey & Beard, 2014, p. 243). They analyzed the responses based upon the number of years teaching, type of institution, position, course enrollment and courses taught to identify the faculty perception of using online homework software (OHS) (Humphrey & Beard, 2014, p. 243). Humphrey and Beard (2014) identified the following concerns faculty has about using and implementing OHS within their courses.

- Thirty-nine percent had concerns that using OHS did not improve student learning,
- Six percent had concerns that students were becoming electronic dependent, where they would not know how to perform manual entries or solve problems without the use of software,
- Thirty-three percent of faculty were concerned with the cost to the students, and
- Thirteen percent of the respondents believe the students disliked using OHS (pp. 248–249).
- Humphrey and Beard (2014) identified faculty were “concerned with cheating.” (p. 250)

Overall their findings identified faculty who continue to use OHS found the software favorable to use, however they did have concerns. Humphrey and Beard (2014) analysis did not identify the mode of the course, faculty familiarity with using the software, and the study did not link to student outcomes. A gap exists with this study of faculty perception of using an online software as it does not account for or identify if the faculty are incorporating best practices and what is the perception of student outcomes.

Another similar study was conducted by Schwartz (2010) who identifed faculty perception and resistance to online education in the fields of chiropractic and massage therapy courses. The results from the study were faculty who participated in the study did not have enough information regarding online education to determine the value and institutions did not provide instruction for faculty to feel comfortable teaching in an online environment. Teo and Zhou (2017) had a similar response when studying teacher acceptance of online learning. They identified that teachers' idea of learning impacted their perception of online education (p. 522). They also surmised teachers' usage of technology and experience with online education was not the decisive factor in teachers' acceptance of online education when "compared with attitude, facilitating conditions and perceived use and perceived ease of use" (Teo & Zhou, 2017, p. 522). In addition, Twila, Meling, Andaverdi, Galindo, Madrigal and Kupczynski (2011) conducted a study to identify faculty perception of online instruction and online learning. They conducted a quantitative study of faculty in a south Texas Hispanic serving the institution in which 44 faculty members responded. The study reviewed the ethnicity, experience with online courses and age of faculty as a determining factor. As with other studies, the results by ethnicity and age did not have a significant impact on faculty's perception of online education and faculty's perception of student online learning when compared to face-to-face courses. Twila, et al., (2011) identified

there is a direct correlation between faculty tenure status and their perception of online learning and if the faculty has experience or have taught online courses in the past. This finding is consistent with other studies (Schwartz, 2010; Teo & Zho, 2017). However, Twila, et al., did signify there was a strong correlation between faculty who taught online courses for five or more years and their perception of course rigor, the ability for students to learn in an online environment, the significance of the teacher-student relationship, the impact student-to-student relationship has on online education and the influence student grades have on online education (pp. 15–16).

Faculty's perceptions are important to understand within higher education (Neben, 2014). Neben (2014) identified faculty are the individuals who will be interacting most with the students and are the experts in their perspective field. Neben (2014) identified the success or failure of an online course resides with the instructor. Neben (2014) utilized Roger's diffusion theory, which categorized barriers to innovation in higher education as "institutional, technological, financial or pedagogical to innovation" and how faculty perception can positively or negatively impact each of the categories (p. 45). Another study conducted by Zulbahrin, Matzin, Jawawi, Shahrill, Jaidin, Mundia, and Mahadi (2017) acknowledged most research conducted regarding online education is centered on pedagogical, technical or content knowledge (p. 77). Their research was based on using a specific technology, Prezi and the impact on the classroom. The study mostly was concerned with student's experience; however, the study did obtain four teacher's perceptions of utilizing the technology. The results were mixed, two were in support of using the tool and the other two provided negative feedback. The student experience was positive in they liked using and found the presentation more engaging. Zulbahrin, et al. (2017) study was based on secondary students in a history course, however, it is relevant due to the faculty perception

and linking to student outcomes for one lesson. However, there were not any best practices defined within the study nor any guidance provided for the teachers.

Content Knowledge. Faculty can overcome students learning issues by continually reviewing their material for continuity and adjust as necessary (Kirkhan, 2012). Kirkham identified there is not one best practice, which can overcome roadblocks students have in learning. Faculty should implement or review plans and adjust as students require additional help and support to learn material. Kim and Chang (2017) tried to identify online toxic disinhibition in online environment. Kim and Chang's (2017) literature review identified that online users could remove themselves and become "disassociated" with their environment (p. 1). The disinhibition could lead to the online person becoming hostile towards others. Kim and Chang's (2017) study tried to identify how people could manage the toxicity. The toxicity is mostly identified within online gaming where people are lacking the live social interaction between others and they can have a feeling of anonymity. To try and counteract this type of feeling Kim and Chang's (2017) research is geared more towards the online gaming environment, however this can be relevant to students who are attending an online course or program to help the faculty member mitigate the possibility of online toxicity and keep students engaged in learning and the course work.

As far back as Moore (1989) had concluded that instructors in an online environment need to incorporate multiple types of learning into online courses (Ginns & Ellis, 2009; Biggs, Kember, & Leung, 2001). This supports the research that faculty need to utilize different strategies to keep students engaged in the learning environment. Biggs, et al., (2001) devised a survey which teachers can utilize to determine the effectiveness of their learning environment. Biggs, et al., (2001) describe the presage, process, and product level approach to identify if the

best practices are effective enabling the students to learn the material. This questionnaire allows faculty to explore the impact best practices have on student learning and faculty effectiveness. However, a gap has been identified in these studies define tools and measures for faculty to incorporate. They do not measure what faculty perception actually is and the impact on student outcomes.

In support, Larreamendy-Joerns and Leinhardt (2006) discussed the impact online education has made on higher education and the need for best practices to be implemented within online courses. Their research identified what institutions need to include, possible detriments to online education and how online education if implemented properly online education may play a decisive role within higher education (Olsen-Tracey, 2010). Chai, Joyce Hwee, & Chin-Chung, (2013) identified within their literature review educators have to have content knowledge and "appropriate design literacy" (as cited by Chai, Joyce Hwee, & Chin-Chung, 2013, p. 46). They also identified that new teachers may not incorporate technology into classroom lectures due to "insufficient provision" (p. 46), meaning the school may not have the adequate technology available or support. Chai, Joyce Hwee, & Chin-Chung, (2013) also identified the need and importance for collaborative learning and building the student-teacher relationship while some teachers prefer a more traditional role. Additionally, Morgan, Williams, Cameron and Wade (2014) completed a focus group study of faculty's perception of online group work. They completed a series of focus groups both in person and via in-person and by teleconference. The participants of the focus group identified the need for students to learn group skills and this is a necessary skill which will help students throughout life and their career. In addition, the focus group identified how group work provides a more realistic opportunity for students to learn soft skills such as team management, "conflict management", group dynamics and working with

others (Morgan, et al., 2014, p. 38). The focus group also mentioned the need for instructors to provide adequate opportunity for students to participate in different functions within the groups. The faculty focus groups also identified the need to incorporate technology into the group activities for feedback to students, reviewing discussion boards and team activities, and providing feedback to students as quickly as possible. The focus group did identify concerns with the amount of support and training institutions provide regarding this type of practices in online classes.

The focus group did identify recommendations for successful integration of group activities in an online environment. The recommendations can be surmised as follows, create assignments and activities which maximize the collaboration within each team, review and build relationships with students and continually review the group assignments and posts and make adjustments as necessary and utilize the technology effectively (Morgan, et al., 2014). These studies identify recommendations and examples of how to incorporate best practices into online learning, however, a gap has been identified in how faculty perceives the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Supporting research was also conducted by Bailie (2015) on how students perceive faculty processes, procedures and best practices in online education. Bailie (2015) conducted a web survey in which best practices and processes were received from twenty institutions in the United States (p. 4). The responses were categorized into three groupings, “communication, presence/engagement and timeliness/responsiveness” (Bailie, 2015 p. 4), which were then submitted to 62 online students. Bailie (2015) results identified the differences between student expectations and institutions best practices and the results from student expectations are “more communication from faculty, prior to the beginning of the course, when assignments are posted

and reminder notifications via email with important dates" (p. 5). Bailie (2015) also identified students are expecting "faculty to check their online course daily and a majority preferred if faculty would respond to voicemail and emails inquiries by students within 12 to 24 hours" (p. 5). Students also expected feedback on assignments, depending on the type of assignment from "3 days to one week" (pp. 5–6). Bailie (2015) also recommends not looking to students as customers but to utilize student experience and "meeting student expectations", which means when students expectations are met, they will continue in the institution (p. 6).

Another study conducted by Baranik, Wright and Reburn (2017) conducted a study of student perception of mentor—relationships within an online environment. Baranik, et al., (2017) conducted a study of 1,620 students, which 96 percent reported being in an online course, and 2.8 percent were attending a hybrid course were dropped from the study. Baranick, et al., (2017) study reviewed four different measures, overall satisfaction with their mentor, relatedness, classroom community, and learning. They also reviewed GPA, student's comfort level with online education and technology. Baranik, et al., (2017) concluded that students who have a peer mentor within an online course can perform better than a student without a mentor. As surmised by Baranick, et al., (2017) a student who knows or becomes a friend can make a difference within an online course (p. 69), which means building or having faculty develop relationships between the students can impact student success (Cho, Kim & Choi, 2017).

In support of this Cho, Kim and Chio (2017) studied student perception of online education and the impact on student outcomes. Cho, et al., (2017) reviewed the impact Community of Inquiry (CoI) framework has on students' perception and impact on student outcomes (p. 12). They surveyed 180 students enrolled in online courses. Their research conducted surveys of the students at different timeframes within the semester. The two surveys

were distributed on the third and thirteenth week of the semester. The survey on the third week was to measure the student's self-regulated learning and on the thirteenth week of the semester, the students participated in a CoI, attitude, and self-efficacy surveys. Cho, et al., (2017) completed a cluster analysis based on the results of the self-regulated learning assessment delivered in week three when compared with the survey results in week 13. Cho et al., (2017) concluded that students with higher self-regulated learning had a positive influence on CoI (p. 15), meaning students learning characteristics had a positive influence on the online learning environment (p. 15). The studies identified student perception of best practices identified by institutions of higher education. However, a gap has been identified in how faculty perceives the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Review of Methodological Issues

This descriptive case study focused on exploring how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—as an influencer of student outcomes. This case study incorporates qualitative methodology to identify faculty perception and how their perception can influence student outcomes. Qualitative methodology is used to identify evidence-based research, in which the goal is to "identify themes" within a particular study group (Miles, Huberman, & Saldaña, 2014, p. 277; Watkins, 2012, p. 153). The identification of the patterns allows the researcher to see trends, recognize and draw conclusions based on the data provided (Miles, Huberman, & Saldaña, 2014). A case study is where the researcher has the ability to study a particular group or population to document and detail a phenomenon (McLeod, 2008). This descriptive case study reviews how community college instructors perceive the influence of

online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Supporting the use of qualitative research, Sarma (2015) defended the use of qualitative research and how the methodology of qualitative research allows the researcher to observe and review human behavior based upon specifically designed research questions, analyze and draw conclusions based upon the responses. Merriam (2009) identified that qualitative research is a method used within a natural setting to gather observations and feedback based upon designed research questions (Denzin & Lincoln, 2007; Merriam, & Tisdell, 2016). For example, Price, Whitlatch, Maier, Burdi and Peacock (2016) utilized a qualitative study to identify nursing faculty's perception on the effectiveness of a face-to-face workshop to help implement best teaching practices within an online nursing course. Gayton (2015) completed a qualitative study to compare faculty and student perception regarding best teaching practices, which affect student retention in an online learning course. Morgan, et al., (2014) completed a study identifying faculty perception of using group activities within online courses. Each of these studies utilized a descriptive case study in which qualitative methods were employed to identify faculty perception in real-world scenarios. A descriptive case study provides the opportunity to observe and understand how community college instructors perceive the influence of online best teaching practices on student outcomes.

A descriptive case study is designed to identify a phenomenon in a natural environment (Merriam, 1998; Yin, 2011). In the case of this descriptive case study the researcher is trying to identify faculty perception, which includes their attitudes, ideas, and emotions (Graneheim, Lindgren, & Lundman, 2017). This is a positive because we identified perception, the challenge is for the researcher to keep a level of removal from the study and maintain the same level of

categorization with the responses (Graneheim, Lindgren, & Lundman, 2017). In addition a descriptive case study is where the researcher interprets the responses and identify themes within the data and maintain trustworthiness of the study. However, by establishing rigor and trustworthiness a descriptive case study is the best choice to identify how community college instructors perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Synthesis of Research Findings

This literature review was conducted to identify and research what research was completed on faculty perception in relation to online education, technology usage, content knowledge and pedagogy. This was identified by Koehler and Mishra (2009) when they detailed the challenges of incorporating the role of faculty into three categories, Technological, Pedagogy and Content Knowledge, (TPACK) (Ouyang & Scharber, 2017). Their paper defined the difficulties teachers may have in incorporating all three categories into today's ever-changing technical educational environment (Koehler & Mishra, 2009). TPACK identifies what educators need to know when teaching with technology, incorporating content knowledge and utilizing pedagogical techniques within a classroom and how they are interdependent on each other. Koehler and Mishra (2009) identified that, amongst other uses, TPACK allows for the promotion and "integration of technology into the curriculum" (p. 67).

As online education continues to grow and administrators deem online education critical to their institutions (Allen & Searman, 2013; Trends of online learning, 2015) and online education becomes more accepted, institutions and researchers will continue to develop and make recommendations (Allen & Searman, 2013). Higher education best practices enhance the learning experience of students enrolled in the course and positively impact the institution

(Kopcha, Reiber, & Walker, 2016). Best practices in any context are to enhance the teaching experience for both faculty and the student (Bailey & Card, 2009; Finch & Jacobs, 2012). With the increased emphasis on online education, the number of online courses offered and administrators identifying online courses are "critical for the growth of institutions" (Allen & Searman, 2013, p. 6). There is an increased responsibility faculty have to establish structures and processes when facilitating online education (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007), especially considering the difficulty of today's online learning environment (Keengwe & Kidd, 2010) and at some point in their career faculty will be asked to consider teaching an online education (as cited by Keengwe & Kidd, 2010, p. 533).

According to the research, a faculty member's role can be categorized into three separate roles, which are dependent on each other, they are: "pedagogical, technical and content knowledge" (Keengwe & Kidd, 2010; Liu, Kim, Bonk & Magjuka, 2005). The research has shown there was need to study how faculty perceive the influences of online education in all three of the categories, pedagogy, technology and content knowledge and the influences on student outcomes. This descriptive case study will explore how community college faculty perceive the influence of online best teaching practices—pedagogical, technical and content knowledge— on student outcomes.

Critique of Previous Research

Most of the research and studies conducted have been based upon a pedagogical technique for use within the online environment. Online courses have specific design requirements and should be designed differently than traditional face-to-face courses (Lee, 2017; Keengwe & Kidd, 2010; Koehler & Mishra, 2009; Larreamendy-Jones & Leinhardt, 2006; Liu, Bonk, Magjuka, Lee & Su, 2005; Coppola, et al., 2002). Research has shown this by defining

how pedagogy can impact an online environment. Another study conducted by Gayton (2015) completed a qualitative study in which he compared the perceptions of students and faculty that affect student retention. The study specifically attempted to identify similarities in faculty and student perception regarding factors that affect student retention and identify recommendations to "positively impact student retention in an online environment" (Gayton, 2015, pp. 56–57). The qualitative study utilized a grounded study method, which consisted of interviewing fifteen senior year business students to identify their perception of factors impacting student retention and comparing those with faculty perception of faculty's critical factors which could affect student retention. The study concluded that faculty critical factors are "student self-discipline, quality of faculty and student interactions, institutional support to students, last grade received and transfer credit" (Gayton, 2015, p. 60).

There has also been extensive research conducted on technology usage and the integral part technology plays in an online learning environment. Some of those studies are Alexander-Bennett (2016) when they described changes to education based upon technology and how technology has been integrated into education has become easier and factor to use for both students and faculty. Alexander-Bennett (2016) also described how technology can help teacher reflect on existing practices and procedures to provide a better environment for students. Evans, et al., (2017) surmised that technology does not impact one particular aspect of education but requires a more integrated approach incorporating technology into a learning environment (Trust, 2017). Bailey, Jaggars & Jenkins (2015) surmised that an institution's goal should be to provide the best opportunity for students to succeed and higher education and community colleges should integrate technology into "redesigned programs and support services" (p. 197).

There have also been studies conducted on how content knowledge plays an importance on student outcomes. As far back as Moore (1989) had concluded that instructors in an online environment need to incorporate multiple types of learning into online courses (Biggs, Kember, & Leung, 2001; Ginns & Ellis, 2009). Chai, Joyce Hwee, & Chin-Chung, (2013) identified within their literature review educators have to have content knowledge and "appropriate design literacy" (as cited by Chai, Joyce Hwee, & Chin-Chung, 2013, p. 46). They also identified that new teachers may not incorporate technology into classroom lectures due to "insufficient provision" (p. 46). After the extensive literature review was conducted there was not any literature, which reviewed how community college faculty perceive the influence of online best teaching practices—pedagogical, technical and content knowledge— on student outcomes.

Summary

This descriptive case study explored and researched how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. After completing an exhaustive literature review of faculty perception, best practices, online education and other criteria, some themes emerged. The themes include how to implement best practices in an online environment, improving online courses by incorporating best teaching practices, utilizing technology in online courses and faculty perception of technology within an online environment.

Faculty perception of online education is important to consider as online education continues to gain popularity (Lazim & Sin, 2012; Otter, et al, 2013) and higher education administrators deem online education vital to their long-term strategic plans (Allen & Searman, 2013). There are difficulties in implementing or utilizing online education (Murphy & Stewart, 2017). Online teaching also requires a different skill set than the traditional face-to-face courses

(Dubas, Best, Long, & Crumpacker, 2016; Trends of online learning, 2015). Otter, et al. (2013) argued if faculty's perception of online education is positive, faculty will take the time to develop and implement methods and technology designed for an online course. In addition, community college students tend to perform worse in an online environment than a traditional or hybrid classroom setting (Bailey, Jagger & Jenkins, 2015, p. 93).

Twila, et al. (2011) argued that faculty teaching online courses may change their perception of online education if they teach an online course. There are numerous factors which may impact a faculty's decision to teach an online course, such as familiarity with technology, support, and availability. Twila, et al., (2011) identified that there is little known about faculty perceptions of student learning when comparing face-to-face to online delivery methods. Lazim and Sin (2012) identified online course best practices should include the use of a course designer, graphics and multimedia professionals, instructors and the use of proper technology to create quality online courses. Finch and Jacobs (2012) researched and identified that face-to-face instruction is significantly different than online education and as such needs to have different best practices designed to provide the best opportunities for students to succeed. This includes pedagogical, technical and content knowledge differences in online versus face-to-face courses (Finch & Jacobs, 2012; Kearns, 2016; Price, et al., 2016). Finch and Jacobs (2012) also identified that a variety of instructional tools and methods be incorporated into online best practices. Based on this research there is a gap identifying how community college instructors perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Chapter 3: Methodology

Introduction

Online education is an intricate component of higher education (He, Xu & Kruck, 2014), one which more administrators deem an important part of their institution's growth (Allen and Seaman, 2013). As this delivery method becomes more mainstream researchers have been studying the effects online courses have on student outcomes and learning. Faculty members have significantly more responsibility for establishing specific structures and processes within an online environment than in a traditional learning modality (Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007). Faculty perception is an important driver in the success of online courses (Curran, 2008; Morgan, et al, 2014; Otter, et al., 2013; Twila, et al, 2011) and as the learning medium continues to grow in popularity and faculty have increased responsibilities within an online environment than in a traditional learning modality, attention to best practices to improve the quality of instruction is essential (Crawford-Ferre & Weist, 2012; Morgan, et al., 2014). Faculty who have a negative perception of the impact of best practices are more likely to result in an unsuccessful implementation (Otter, et al., 2013) and negatively impact student success (Otter, et al., 2013).

Faculty have multiple roles in a learning environment. Keengwe and Kidd (2010) categorized an "online instructor's role as pedagogical, technical and content knowledge" and "social" aspect of maintaining the interpersonal and interactive skills such as teacher-student and student-to-student relationships (p. 536). The authors defined the pedagogical aspect as teaching and "facilitation the classroom" (p. 535). The managerial category is the daily running of the class and course material. The technical aspect of the virtual course and the faculty members' ability and comfort level of using and implementing the technology. Liu, Bonk, Magjuka, Lee

and Su (2005) also described online instructors' responsibilities can be categorized into four separate roles "pedagogical, social, managerial and technical" (p. 33). According to the research, a faculty's role can be categorized into three separate roles, "pedagogical, technical and content knowledge" (Keengwe & Kidd, 2010; Liu, Kim, Bonk & Magjuka, 2005).

As the demand for online education continues to grow every year as administrators deem online education critical to their institutions (Allen & Searman, 2013; Trends of online learning, 2015). Higher education best practices will become more pertinent and enhance the learning experience of students enrolled in the course and institution (Kopcha, Reiber, & Walker, 2016). This study utilizes a qualitative case study to identify community college instructor's perception of online best teaching practices and their perception of online education. The best practices can be grouped into pedagogical, technical and content knowledge. By identifying faculty perception, institutions can implement standards and processes to develop an effective academic foundation for faculty to thrive in an online environment (Bailey & Card, 2009). This chapter comprises of the following sections, the purpose, statement of the problem, research questions which guided the study. The population of the study and sampling method, which will identify the population and rationale used for the case. The instrumentation and data collection sections will identify and defend the reason for using this method as well as include what was done. We will also discuss the analysis, limitations, credibility and ethical considerations of this study.

Research Questions

This descriptive case study utilized deductive, inductive, and descriptive approaches in identifying how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. Online courses can be grouped into major factors for effective delivery such as, technology,

content knowledge and pedagogy (Coppola, Hiltz & Rotter, 2002, Curran, 2008; Keengwe & Kidd, 2010; Ouyang & Scharber, 2017). Instead of a traditional delivery method where the instructor is face-to-face with the student the instructor utilizes technology and different pedagogical techniques to effectively deliver the material to the student (Curran, 2008).

This descriptive case study began with a deductive analysis of online best practices and how they are perceived in a New Jersey community college. Deductive analysis allows the researcher to identify the connection between online best teaching practices and faculty perception (Gabriel, 2013; Gilgun, 2012). This connection is established by identifying a working premise and continually reviewing the results to identify trends and understanding of what the data is telling us about the working premise (Gilgun, 2012). The use of deductive analysis allows for the movement in the phenomena being studied, such as how do faculty relate to technology, e.g., how does the faculty deliver content knowledge effectively within an online environment (Gilgun, 2012). Deductive analysis is required to allow for inductive themes to emerge from the analysis (Gilgun, 2012). The inductive reasoning process allows the researcher to develop working ideas, theories and concepts where there is not a working proposition and the researcher tries to identify a theory to "explain" the data (Merriam, 1998, p. 7; Bradford, 2017). The descriptive approach will review how faculty perceive the influence of best practices—pedagogical, technical and content knowledge—on student outcomes.

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes?

Purpose and Design of Study

This descriptive case study investigated how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This study explored online best teaching practices and how New Jersey community college instructors perceive the influence best teaching practices have on online courses and student outcomes. The research question asked by this study requires in-depth analysis of faculty perception due to the importance faculty have on student success (Bailey & Card, 2009; Curran, 2008; Otter, et al., 2013; Twila, et al, 2011).

The qualitative case study was ideally suited, because it allowed the researcher to perform a deep dive into community college instructors' perception of pedagogical teaching practices, technology and content knowledge in an online environment and how this impacted student behavior and outcomes (McLeod, 2008; Merrian, 2009). This type of study allowed the researcher to identify the drivers behind what is necessary to facilitate transformation and influence student success (Merrian, 2009; Yin, 2013). Kincheloe and McLaren (1998) surmised a qualitative case study allows for the understanding of the rationale behind what drives people's behavior. Houghton, Murphy, Shaw, and Dympna (2015) surmised the flexibility during an implementation and the ability for the study to provide and in-depth comprehension of the study results (p. 8). Merriam (1998) also described qualitative research to help understand a phenomenon in its natural setting as possible (p. 5). Qualitative studies also provided the researcher the ability to probe into the understanding community college instructors have on best teaching practices for online education. Qualitative research allows the researcher to utilize both

deductive and inductive analysis to draw conclusions about the phenomena studied. Deductive analysis concepts allow the researcher to identify a working hypothesis and continually reviewing the results to identify trends and understanding of what the data is telling us about the working hypothesis (Gilgun, 2012). This allows for themes to emerge from the data gathered (Gilun, 2012). The inductive analysis provides the researcher to develop working ideas, theories and concepts where there is not a working hypothesis and to explore the themes identified in the deductive process (Merriam, 1998).

There are other research options available to utilize within a study. A quantitative study is one in which the researcher would gather data to perform analysis based upon data provided from a system, data warehouse or other methods of data mining, to identify anomalies within the data or providing explanation of a finding or a pattern (Allahyari, Pouriyeh, Assefi, Safaei, Trippe, Guiterrez & Kochut, 2017; McLeod, 2008). In addition, a quantitative study is focused on proving out a hypothesis (Babbie, 2010). This study identified community college faculty perception of online best teaching practices and how community college instructors perceived the influence on student outcomes. By definition, a quantitative study will not provide the in-depth analysis of faculty perception required for the desired results, to identify them and observe faculty's thoughts, feelings, and practices relating to utilizing best teaching practices and the impact on student outcomes (McLeod, 2008).

Yin (2011) identified different types or variations of qualitative research strategies utilized by researchers. A type of qualitative research is phenomenology which studies or are interested in our “lived experiences” (Merriam, 2009, p. 24; Creswell, 2011). This type of study identifies concentrated experiences people have relating to an issue or circumstance. The researcher will get the subject to put aside their initial feelings to identify the essence of the issue

and the underlying circumstances around the phenomenon they are experiencing (Merriam, 2009, pp. 25–26; Yin, 2011). The researcher would immerse themselves in the subjects and understand everything about the subject, e.g., philosophical, political or other outside variables (Yin, 2011).

An ethnography study allows the researcher to study and focus on human beliefs, values, perceptions, and attitudes relating to an issue or their culture (Merriam, 2009). As Merriam stated an ethnographic study the researcher will conduct a study to identify a "cultural interpretation of the phenomenon" (p. 29). This type of study would be looking, over a long period of time, for example, the person's daily activities which the researcher would utilize to understand a group's culture (Yin, 2011). This descriptive case study investigated how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes as such an ethnographic study will not provide the results required for an effective study.

Grounded theory is another type of complex qualitative study in which the researcher utilizes qualitative data to identify a hypothesis or problem which may have changed over time (Merrian, 2009). Grounded theory can be utilized to identify the phenomenon, which the researcher is studying. As the study continues the data is correlated, coded and analyzed to identify the problem. As additional data is captured the study will change to fit the newly identified problem, in other words, as the data is collected the theory will evolve, in other words, the researcher is reviewing the study from a "ground-up approach" to identify the hypothesis and conduct the study (Yin, 2011, p. 309; Merriam, 2009). This type of study is not conducive to the research being performed here.

Narrative analysis is a type of qualitative study, which Merriam (2009) identifies as the study where the researcher gathers the data based on stories told by the people being interviewed. A narrative analysis is designed to identify a solution based on experiences, communication with others and how people understand the world around them (Merriam, 2009, p. 32). This type of study would create a story of the subjects, allowing the readers to feel as though they are part of the study (Yin, 2011). The study investigated how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. A narrative study would not be pertinent to this study.

A case study focuses on the understanding of human behavior, in a natural setting or documenting their experience or understanding in a typical or real-life context (Yin, 2011). This type of study would be to interpret interviews regarding experiences, feelings or perceptions regarding an issue, college student's perception or feelings of an issue or faculty issues relating to student success. As stated by Merriam (2009) "the primary goal of a basic qualitative study is to uncover and interpret these meanings" (p. 24). The study conducted here is best identified as a descriptive case study investigated how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The qualitative case study is ideally suited because a qualitative case study is appropriate for the researcher to perform a deep dive into community college instructors' perception of pedagogical teaching practices, technology and content knowledge in an online environment and how this can influence student behavior and outcomes (Merrian, 2009; McLeod, 2008). This type of study allows the researcher to identify the drivers behind what is necessary to facilitate transformation and influence student success (Merrian, 2009; Yin, 2013).

Research Population and Sampling Method

This descriptive case study investigated how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. According to the United States Department of Education, Office of Career, Technical and Adult Education (2001), there are 1,462 community colleges within the United States, of which 1,047 are public and 415 are private (p. 1). The state of New Jersey currently has 19 community colleges, which have over 233,000 credit-earning students enrolled and as of 2015 had over 6,761 full-time employees (NJCCC, 2017, p. 1). This descriptive case study reviewed one community college within New Jersey. The sampling of the faculty was conducted by a purposeful sampling method of the faculty members who taught an online course within the previous five years and are still employed with the institution. The study was conducted with participants who were adjunct and full-time faculty members.

The sampling consisted of the faculty members at the institution. This descriptive case study consisted of a purposeful sampling, in which only those faculty members who have experience in teaching online or hybrid courses are selected. This method was selected because the researcher was trying to identify the phenomena of the influence of online best teaching practices—pedagogical, technical and content knowledge—have on student outcomes. Purposeful sampling is based upon the researcher trying to identify and understand the relationship between best teaching practices and student outcomes (Honigmann, 1982; Merriam, 1998). A purposeful sampling of instructors who have online teaching experience was necessary because the faculty will have the most experience and provide the most relevant data for this descriptive case study (Merriam, 1998; Yin, 2011). This study explored the perception of online best teaching practices for community college faculty in New Jersey and the influence on student

outcomes. The criteria used to identify a sample population was to identify all currently employed faculty at the institution who had taught at least one online or hybrid course. The final criteria was all faculty members who have taught at least one online or hybrid course within the past five academic years. The sample size was taken from AY2012 through AY2017 to represent the most accurate teaching experience available at the institution. The sample size chosen was to maximize the saturation of the faculty population and obtain maximum knowledge of online best teaching practices (Lincoln & Guba, 1985; Merriam, 1998). According to Yin (2011) there is no formula for defining the desired number of instances for each unit of data collection (p. 89). This identified faculty who have online teaching experience and the researcher distributed questionnaires to all identified faculty. By identifying faculty who have taught at least one online or hybrid course, this researcher identified an effective population to answer the question of how community college faculty in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Instrumentation

There were multiple instrumentation tools utilized within this descriptive case study. The use of multiple instruments allows for the accuracy and triangulation of the data collected. This descriptive case study was conducted to elicit faculty perception of how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This case study was designed to study the phenomena in as natural setting as possible. In this case study, the need for effective and credible data is necessary to increase the validity of the study (Merriam, 2008). To validate the findings of this or any case study the data should use multiple sources of evidence—triangulation—to provide an accurate representation of the real world (Yin, 2003, 2011). To

validate this case study the researcher utilized triangulation, which allows for the collection of data from multiple sources to validate the information collected (De Vault, 2017; Merriam, 2008; Yin, 2011).

Semistructureemistructured interview questions-faculty. One source of data, which was conducted is an in-depth interview of approximately 11 faculty members, or upon saturation who have online or hybrid teaching experience. The interview protocol (see Appendix F) and interview questions (see Appendix B) provided the data required identified how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The interview questions were open-ended to provide an effective means for faculty to provide an unbiased response.

The interview questions were shared with several experts to review the questions for validation. Based upon the reviewers' feedback, the questions were updated and reviewed. The types of updates may be for clarity, repetitiveness or remove any undo bias from the open-ended questions. In addition, the researcher provided the sample questions to two subject matter experts with an in-depth knowledge of educational research. This was conducted to ensure clarity, trustworthiness and consistency. They used the Interview Validation Rubric for Expert Panel (see Appendix E), which were used to review the questionnaire for clarity and accuracy against the research questions. This rubric was created based upon White and Simon (2011) Survey/Interview Validation Rubric for Expert Panel-VREP. This allows for educational experts to review and provide feedback (Holbrook et al. 2007; Jansen and Hak 2005; Olsen, 2010; Presser and Blair 1994; Theis et al. 2002).

The semistructured interviews were conducted in-person and recorded for clarity and thoroughness. This provided the researcher the opportunity to ask in-depth or probing questions

to receive the most natural response regarding the phenomenon from the faculty member. In order for the researcher to obtain an unbiased or non-tainted response the researcher needs to create a rapport with the interviewee (Yin, 2011). Yin (2011) also recommended opening and closing with pleasantries, and for the researcher to present an "authentic self" (p. 118). This requires the researcher to disclose his own background to each interviewee (Yin, 2011).

Faculty questionnaire. This questionnaire allowed the researcher to identify the paradigm of community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This questionnaire was based upon the results of the interview questions (see Appendix A). The questions were Likert-type, which allowed for descriptive analysis of the results. The survey was created using Concordia University–Portland University's Qualtrics license. This questionnaire was developed from a combination of semistructured interview questions and the expert review, which allowed the researcher to validate the type of questions asked of the participants (Martinson & O'Brien, 2015).

The survey was available for approximately four weeks, in which faculty received three weekly reminders via the institution's email system. The notifications was distributed using the Blind Copy (BCC) feature. This allowed for the participants identity to remain anonymous. The questionnaire identifies faculty perception on responses on how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes (Yin, 2011).

Semistructured interview questions–administrators. The final source of data for this descriptive case study was a semistructured interview of four administrators of the institution (see Appendix C). The interviews allowed for an in-depth analysis to identify how community

college administrators perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. As surmised by Merriam (1998) interviews are conducted when the phenomenon being studied cannot observed. Merriam (1998) also stated interviews are the best instrumentation to utilize when conducting a case study with a few individuals. This questionnaire was developed from a combination of semistructured interview questions and the expert review, which allowed the researcher to validate the type of questions asked of the participants (Martinson & O'Brien, 2015).

Data Collection

Data collection was based upon the type of instrumentation. This study has three separate data sources, each had its own process of data and collection methodology. The semistructured interviews for faculty and administrators are similar in data collection and methodology; however, they are treated as two separate data sources. Data collection is more than just collecting data it is also the management and security of the data and results (Merriam, 1998). The data needs to be organized and collected in such a matter as to make the analysis better and functional, regardless of the type of data compiled. Every aspect of the data collection was stored securely in Microsoft One Drive, which only those associated with the study had access to the data.

Prior to any data collection began, the researcher received appropriate authorizations from the study institution and Concordia University–Portland Institutional Review Board (IRB) processes. The researcher than contacted the case college's Institutional Research Department to receive the email addresses of the faculty who have taught at least one online course within the past five years and are still employed by the college.

Semistructured Interviews. There were two separate semistructured interview sessions conducted, one with faculty members and the second with administrators. The researcher reached out to all faculty members who had at least 5 years of teaching in either an online or hybrid environment and were still employed at the case college prior to conducting the study. Of the number of qualified potential participants identified, 11 faculty members and four administrators agreed to participate in the semistructured interview. Prior to the beginning of the interview process, each participant was provided a consent form (see Appendix D), which the interviewer and participant signed prior to beginning the interview. All interviewee's consented to being interviewed and the interviews were conducted at a location chosen by the participant.

The interviews were recorded and aliases were utilized to ensure the confidentiality of the faculty members and administrators who participated in the interview process. The participants were given the consent form to sign prior to beginning the interview. Each interview was audio recorded on two separate sources to ensure there are no mistakes during transcription. The interviews were 20 to 30 minutes long and the researcher took notes during the interview. Upon conclusion of the interviews, the researcher transcribed each of the interviews with assistance from the software Brania. Once the transcripts were completed, they were emailed to the participants to review for clarity and validity. To eliminate the possibility of misrepresentation and to ensure validity and trustworthiness of the responses, member checking was only be distributed to those who completed the interview (Krefting, 1991). Each email was marked as confidential and distributed with a read receipt. Each response and read receipt was attached to the file of the faculty member or administrator who participated. If any changes were made by the participant, those changes were incorporated into the analysis.

Faculty questionnaire. The third source of data for this case study was to an anonymous questionnaire distributed to all faculty identified within the study. The survey provided a consent form, which the faulty member reviewed and accepted, prior to beginning the online survey. If they chose not to participate, the survey ended. The survey consisted of five background questions, including what academic school the faculty members are teaching in and years' experience in teaching online or hybrid courses. The survey included a series of Likert-type questions about the participant's perception of online best teaching practices on student outcomes. The next portion of the questionnaire was designed to elicit faculty's perceptions to answer the research questions by providing measurable responses to identify faculty perception of online education and their perception on student outcomes.

The results were captured and stored in multiple secure locations. The data are stored on the researcher's password Microsoft OneDrive account, on the researcher's password protected computer, and on a flash drive locked within his office desk. Once transcripts were verified by the participating members, all hand-written notes and recordings were destroyed. All transcripts and data will be kept for three years from acceptance of member check, upon which all data regarding this case study will be deleted or destroyed.

Identification of Attributes

This study consisted of identifying faculty perception as the main attribute for the researcher. This attribute can be further separated into technology, pedagogy, and content knowledge (Mishra & Koehler, 2009; Ouyang & Scharber, 2018). Thus the attributes to be studied is the phenomenon of faculty perception in its natural environment. The final attribute is the impact of how faculty perceive the influence of best teaching practices on student outcomes. Thus, this study utilized a qualitative study to identify how community college faculty perceive

the influence of online best teaching practices pedagogy, technology and content knowledge on student outcomes.

Data Analysis Procedures

This case study provided a valid representation of a real-world scenario, in a natural environment, which allowed the research questions to be answered. This required the researcher to analyze data captured to identify trends within the data and attempt answer the research questions (Creswell, 2013). In this case study, the need for effective and credible data was necessary to increase the validity of the study (Merriam, 2008). To validate the findings of this or any case study the data should use multiple sources of evidence—triangulation—to provide an accurate representation of the real world (Yin, 2011; Yin, 2003). The case study consists of three forms of data, each having its own data analysis performed. This provided validity of the responses and analysis performed.

Semistructured interviews-faculty and administrators. The first form of data are the result of semistructured interviews with 10 faculty members, or at the point of saturation. The analysis consisted of 11 faculty members and 4 administrators interviewed and included in the analysis. The faculty members, after transcription of the interviews participants were provided an opportunity to review their responses for completeness, accuracy and comments. Member checking is a methodology utilized in qualitative studies to verify the validity, credibility and dependability of the data collected for this case study (Krefting, 1991; Merriam, 2009). This allowed the researcher to verify the validity of the data by providing the interview results back to the participants (Krefting, 1991; Merriam, 2009; Yin, 2011). The open-ended questions provide the ability for the researcher to encourage answers, which provided insight into faculty perceptions.

Once the transcript verified by the participant, the transcripts were reviewed and organized by question. The researcher reviewed and "compiled" the results to familiarize himself with the interview again (Yin, 2011, p. 178). The results were first deconstructed and reviewed prior to coding. Scripts were reviewed and deconstructed, the researcher then save the transcript files as an alphanumeric code, to keep responses anonymous. Once this was completed the researcher loaded the transcripts into NVivo. This allowed for the researcher to disassemble each transcript for coding (Yin, 2011). Each alphanumeric code was created as an NVivo case, where only the responses from the participants were included. This allowed the researcher to run queries against the results for querying and reviewing of the transcripts. This was also a form of disassembly prior to coding, which provided the researcher the opportunity to review the transcripts once again, prior to coding.

The transcripts were disassembled to begin the coding process. The process utilized in vivo coding where the researcher organized the data in groupings, based upon the responses in the transcripts (Saldaña, 2008; Yin, 2011). After all transcripts were disassembled, the researcher than began the reassembly process to interpret the codes. Coding allow, the researcher to organize and analyze the data based upon a short phrase or symbol, the researcher can then organize the codes into subgroups for analysis, trending, and themes (Richards & Moore, 2013, p. 149; Saldaña, 2015). This is the process of reassembly to begin interpreting the data (Yin, 2011). The disassembly and reassembly process was done multiple times by the researcher, prior to the interpretation. Once the researcher felt the results were coded, the interpretation process began (Yin, 2011). This is where the researcher began reviewing the codes and organizing into themes, to begin to tell a story or answer the research questions (Yin, 2011). Figure 3, which was created by the researcher to graphically represent the data analysis process, displays a

graphical representation of the qualitative interpretation process the researcher used to analyze the data.

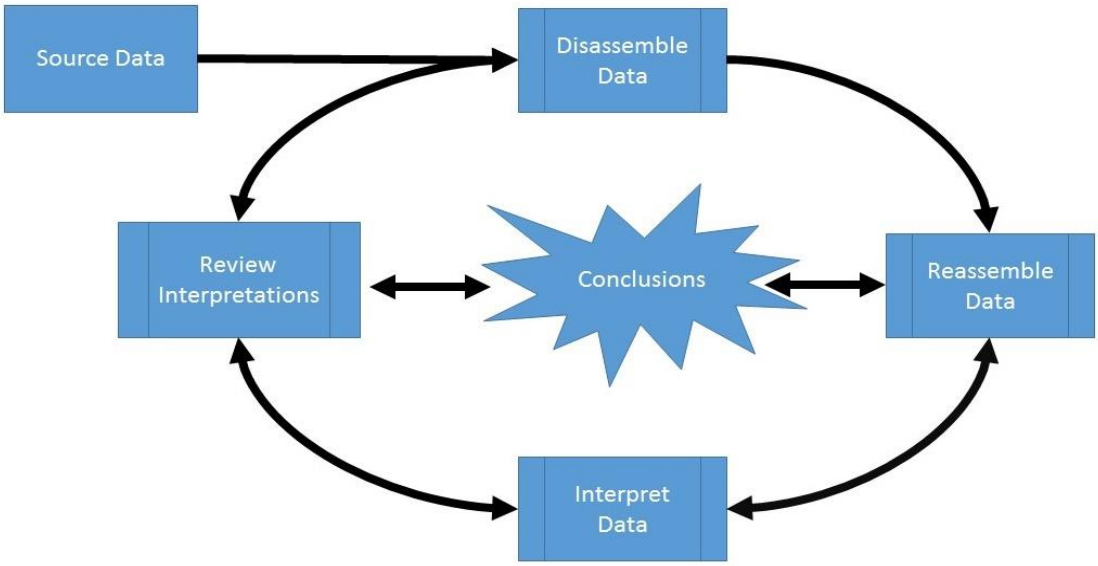

Figure 3. The qualitative interpretation process.

The data was interpreted based upon the coding listed in Table 1. Upon completion of the interpretation phase, the researcher began to identify themes and draw conclusions based upon the data. This is where the researcher would organize the coding into major themes, and review the codes and responses to form conclusions and answer the research questions:

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge on student outcomes?

Table 1

Base Coding of Results

Categorization	Description
Background	Identifies responses regarding background, for example, Subject, Experience, Gender, Years' Experience
Pedagogical Best Practices	
Faculty-to-Student	Faculty to Student relationships
Engagement	Class Engagement
Motivation	Motivating Students
Communication	Communication within the course
Feedback	Feedback from Teacher-to-Student
Student-to-Student	Student to Student Interaction
Student-to-Teacher	Student-to-Teacher relationship
Technological Best Practices	
Usage	Technology used
Software Usage	Software used
Implementation	Technology Impact
Positive Impact	Positive Impacts of Technology
Technology Dynamics	Technology dynamic within classroom
Staying Current	Faculty staying current with technology
Content Knowledge Best Practices	
Content Knowledge	Content knowledge usage
Course Set-up	Practice used to portray content knowledge
Course Framework	How the course framework is utilized
Staying Current	Faculty staying current

Table 1 displays the base for of coding results, however the researcher identified other codes based upon the responses from the faculty. The responses were coded and analyzed using NVivo, a qualitative software program to identify faculty perception. This data mining process allowed for the researcher to perform a deeper dive into the subject matter expert's responses.

The categories and subcategories are designed to identify meaning within the data (Merriam, 2009; Yin, 2003). The trends were reviewed, and frequencies identified based on the faculty responses. The coding allowed the researcher to identify anomalies, to tell a story and

answer the research questions. The categories identified provided an insight into the responses and allowed the researcher to disassemble the codes into smaller fragments to identify substantive themes (Yin, 2011). The themes will be the beginning to identify anomalies or providing the foundation of the case study. This provides the researcher the ability to review and reread the results to identify trends within the data. This analysis was completed multiple times allowing for a thorough review of the data and to identify themes (Yin, 2011). Once the data was categorized the clusters were reassembled to represent the data in a more graphical representation, which presents themes or anomalies within the data set to become apparent (Yin, 2011). This allowed for the data identify trends or patterns within the responses. The coding allowed for the results of the faculty and administrative interviews to be compared. This provided validity to the study and can identify any anomalies between faculty and administrators' perception. The results will then be used to identify anomalies in the responses.

Faculty surveys. The questionnaire was delivered to all faculty members identified in the data collection section of this chapter. The survey was distributed via the institutions electronic mail (email) system. The email notification contained all faculty members' email addresses in the blind copy (BCC) fields to ensure anonymity of the survey respondents. The final questionnaire utilized Concordia University–Portland's Qualtrics license. All responses were collected via Qualtrics in the secure cloud-based solution. The initial analysis was performed by delivered reports from Qualtrics. These reports are basic frequencies, which reviewed faculty results of the Likert-type questions against the research questions. Table 2 identifies each question with the best practice grouping.

Table 2

Likert-Type Questions With Grouping for Comparison

Id	Question	Grouping
Q6_1	Students obtain the same quality of leaning from an online class as a face-to-face course	Quality
Q6_2	Best teaching practices can positively impact student outcomes	Overall Impact
Q6_3	Student motivation is a factor in online education	Motivation
Q6_4	Faculty have the ability to impact student motivation in online courses	Motivation
Q6_5	Organization of content in an online course influences student outcomes	Course Content
Q6_6	Building a relationship with students in an online course impacts student outcomes	Faculty to Student
Q6_7	Providing timely feedback to students attending an online course can positively impact student outcomes	Feedback
Q6_8	Faculty ability to use and understand technology impacts student outcomes	Technology
Q6_9	The organization and understanding by faculty of the learning management systems impacts student outcomes	Technology
Q6_10	Student to student relationships positively impact student outcomes	Student-Student
Q6_11	An online course design has an impact on student outcomes	Course Design
Q6_12	The quality of an online education is the same as a traditional face-to-face course	Quality
Q6_13	Content knowledge plays an important role in an online environment	Content Knowledge

Table 2. Likert-type questions with grouping for comparison.

Validation

Validation is required to ensure the study is consistent, valid, accepted and can be replicated by others reading this study (Yin, 2011). There are numerous ways in which a researcher can validate their study. The research needs to be rigorously conducted and reviewed for acceptance and validation (Merriam, 2008). This required the researcher to verify the results of the study are consistent, valid, and can be replicated. The reliability of the data allows for the ability for another researcher to replicate the study (Merriam, 1998). This is based upon the ability for another researcher's ability to follow and their ability to replicate the steps involved

with this case study (Merriam, 1998). This ensures the researcher has taken the necessary steps to ensure the results are documented, consistent, and trustworthy (Merriam, 1998).

Credibility. The researcher needed to pay careful attention to the details and not allow for researcher bias or non-represented conclusions be present, hence the need for validation of the research being conducted. As Firestone (1987) surmised, "the study must convince the reader the procedures have been followed faithfully…to show the conclusions 'make sense'" (p. 19). There are numerous ways in which a researcher can validate a case study. In this case study, the need for effective and credible data is necessary to increase the validity of the study (Merriam, 2008). To validate the findings of this or any case study the data should use multiple sources of evidence—triangulation—to provide an accurate representation of the real world (Yin, 2003, 2011). To validate this case study the researcher utilized triangulation, which allowed for the collection of data from multiple sources. The multiple sources are semistructured interviews with faculty and administrators and an online questionnaire distributed to all faculty members who have experience teaching online courses. These three sources provide rigor and validity to the information collected (De Vault, 2017; Merriam, 2008; Yin, 2011). The multiple sources allowed the researcher to validate the data used to answer the research questions. The multiple sources of data allowed for triangulation, which allows the researcher to identify and collect "converging evidence from different sources" (Yin, 2011, p. 79).

Trustworthiness of data ensures the validity of the study (Shenton, 2003). The use of triangulation allows for the compensation of the short falls for each type of source and allows for validation against each source and identify faculty perception (Shenton, 2003). In order to validate the relevance of the questionnaire, the three sources are compared against each other for content relevance and simplicity (de Alwis, Lo Martire, Äng, & Garme, 2016). This comparison

allows for reliability of the data and the ability for the research to "make sense" (Merriam, 1998, p. 199).

Dependability. Data security and trustworthiness is essential in a qualitative study (Yin, 2009; Merriam, 1998). This researcher knows and understands the meaning of data security and trustworthiness. All data is secured via Microsoft OneDrive-Personal cloud application, on a password protected computer and all paper consent forms and backup data source is locked within the researcher's office. In addition, all participants in the semistructured interviews are assigned an alphanumeric id, such as F17 or A12 and their identities, as well as personally identifiable information is not captured within this study. Sensitive information, e.g., age, social security number was not collected. Any data which may identify the participant is omitted from the results.

Expected Findings

Faculty in the community college have had training to teach in the online environment and the institutions has faculty being trained in Quality Matters (QM) and there is a formal training for faculty in online education. The researcher is expecting faculty to have mixed results, meaning some in support of online education and that online education can positively impact student outcomes and some negative. The researcher also expected administration to be in support of online education.

Ethical Issues

This descriptive case study investigated how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This type of case study required the participants to answer and have discussions relating to how they teach online courses and their definition of

pedagogy, delivery of content knowledge and technical expertise. This researcher respected the participant's right to privacy and offers right for faculty participating in the study to stop at any time (Sims, 2010) and faculty have to read and sign a consent form prior to participating in the semistructured survey.

Faculty participating in the online questionnaire had to read and click through the consent form, to begin the survey. This process allowed for all participants to agree to complete or take the survey. At any point of the electronic the participant can elect not to complete. Partial responses were not included within the results analysis. The notification process and consent form provide a means of all participants to provide consent (Sims, 2010).

Faculty responses are anonymous, and no protected data, (e.g., age, date of birth, social security number) was asked or captured. The distribution list to faculty was secured and only available to the researcher. The data coding, analysis and all email addresses are, to the best of the researcher's ability masked and are not accessible to others. The risk to participating in the study was minimal, meaning no more than in daily life activities. All responses to this questionnaire were strictly voluntary and the faculty taking the electronic survey do so voluntarily. Respondents' identities are not required, nor is any personal protected information, such as date of birth, social security number, names or IP Addresses captured. This process allowed for complete anonymity of respondents, which allows for participants to be completely honest and truthful when completing the questionnaire. The steps this researcher takes provides the Benefice, Justice and Respect for Persons, which the Belmont Study required (Sims, 2010).

Conflict of interest assessment. This researcher does not believe there is a conflict of interest with this case study. However, it should be noted the researcher is employed by the institution as a member of the institution's staff and an adjunct faculty member. The researcher has taught classes using various delivery methods, including on-campus, hybrid, and online.

Researcher's position. This researcher does not have a negative bias towards online education, faculty teaching, or best practices. The data collected is used to answer the research questions. The researcher has taught as an adjunct professor for the past 14 years and continues to teach traditional, hybrid and online courses at the institution. The researcher is employed by and has participated in data analysis projects, virtual campus initiatives, and other on campus projects as a staff member of the institution.

Ethical Issues in the Study

There are ethical considerations with any study. The responsibility of the researcher to protect the anonymity of the participants and protect and secure the data collected and analyzed. In addition, the responsibility to provide the data in a meaning user friendly format with no bias. The researcher also had the responsibility to control and remove bias from the data collection and analysis phase of the study. The researcher also provided a consent form to all semistructured interview participants (see Appendix G) and all faculty who had taken the online questionnaire had to read and accept the consent form, prior to continuing the questionnaire. There was no intent to deceive or manipulate questions provided to the participants. The researcher made every to follow ethical guidelines for research and to provide the intent of the research. There was minimal impact to the participants, no more than providing information and no compensation was offered to both the researcher and participants. All participants were aware of participating of their own free will and had the option of stopping at any time.

Summary

This chapter details the methodology for this descriptive case study. Chapter 1 presented an introduction to the study and Chapter 2 identifies the state of the problem, research questions and theoretical framework for this descriptive case study. This study investigates how community college instructors in New Jersey perceived the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. In order to validate and provide reliability to the study, triangulation was used (Merriam, 2009; Yin, 2011).

The research questions for this case study were based on identifying the phenomenon of faculty perception and how perception can influence student outcomes based on educational domains. A case study was chosen to collect faculty perception in a real-world scenario. A case study allows the ability for the researcher to formulate an idea, answer questions based upon a set of criteria in a real-world scenario (Sarma, 2015). Based upon this, a descriptive case study was chosen to investigate how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

This chapter outlined several important factors within this case study. The population sample is faculty who have online or hybrid teaching experience in a community college environment. The data instrumentation consisted of semistructured interviews of both faculty and administrators and electronic questionnaire. Each of the semistructured interviews was member-checked for validity. The three separate sources, allowed for triangulation, ensuring the integrity and reliability of the study. Data security is essential to any study. The security allowed those who are participating to have the confidence their identities and personal identifiable information is not disclosed. In addition, all data is password protected and stored in a cloud-based system or

on the researcher's password protected computer which is only available to the researcher. All consent forms and backup data was stored in the researchers locked desk.

Due to the nature of case studies, ethical considerations were identified within this chapter. Participation of all faculty was voluntary, and participants are free to not complete the questionnaire or stop at any time. No sensitive or personally identifiable information was collected or used within the analysis. All participants, who participated were provided a consent form and informed they could stop participation at any time (see Appendix D). If a participant discontinued with the study, the partial results would have been destroyed. The steps outlined in this chapter provide the methodology and process taken within this descriptive case study.

Chapter 4: Data Analysis and Results

Introduction

The purpose of this descriptive case study was to explore how community college instructors in New Jersey perceived the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The researcher chose this study because having attended most of his post-secondary education via an online or distance education, believing online education can make a significant, positive outcome on students attending community colleges and getting his start in community colleges. While there is a significant amount of research relating to online education, implementing best practices, utilizing technology and so on, the research identified a gap in understanding how community college instructors perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This study answered the following three research questions:

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes?

This chapter contains four sections: the description of the sample, research methodology, analysis, summary of the findings and presentation of the data and results. The results from this study will be shared with community college leaders, administrators and faculty to hopefully help the community college community understand faculty perception in hopes of improving

faculty understanding, educational standards and improving student outcomes. A qualitative case study was utilized with three separate data sources for corroboration and triangulation. Eleven faculty members of a community college in New Jersey were interviewed, an electronic survey was distributed to identified faculty who have online, or hybrid teaching experience, and four administrators were interviewed. With online best teaching practices being taught and available to faculty from organizations such as, *Quality Matters* and *The Online Learning Consortium*, the researcher tried to identify and understand what community college faculty members' perception of online best teaching practices.

Description of the Sample

The target population for this case study was a community college located in New Jersey. The state of New Jersey currently has 19 community colleges, which have over 233,000 credit students enrolled and, as of 2015, over 6,761 full-time employees (NJCCC, 2017, p. 1). This descriptive case study reviewed one community college within New Jersey. The faculty members were identified as having taught at least one online or hybrid class within the previous five years and are still employed at the institution.

There are multiple instrumentation tools utilized within this descriptive case study. The use of multiple instruments allows for the accuracy and triangulation of the data collected (Shenton, 2004). This descriptive case study was conducted to elicit faculty perception of how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This case study was designed to study the phenomena in as natural setting as possible. In this case study, the need for effective and credible data is necessary to increase the validity of the study (Merriam, 2008; Shenton, 2004). To validate the findings of this or any case study the data

should use multiple sources of evidence—triangulation—to provide an accurate representation of the real world (Yin, 2003, 2011). To validate this case study the researcher utilized triangulation, which allowed for the collection of data from multiple sources to validate the information collected (De Vault, 2017; Merriam, 2008; Yin, 2011).

The sampling of the faculty was conducted by a purposeful sampling method distinct faculty members who taught an online or hybrid course within the previous five years and are still employed with the sample community college. The purposeful sampling method allowed for a complete analysis of the phenomena and understand the relationship between best teaching practices and student outcomes (Honigmann, 1982; Merrian, 2008; Patton, 2002; Yin, 2011). The study was conducted on both adjunct and full-time faculty members. This sampling did not account for longevity of employment with the college. This selection method was used because the researcher was trying to identify the phenomena in a natural setting to identify the influence of faculty perception on online best teaching practices—pedagogical, technical and content knowledge—have on student outcomes.

Faculty semistructured interviews. The sampling population was based upon the faculty members who had taught at least one online or hybrid course within the previous five years and are still employed by the institution. The faculty members were invited to participate by receiving an email invitation to participate in the study. The email was distributed using the institutions email system and all identified faculty members were added to the Blind Copy (BCC) within the email. This allowed for confidentiality of recipients. Not all faculty members were interviewed, the researcher decided to interview 11 faculty members. If more than 11 members volunteered, they were chosen based upon experience in teaching in higher education. By limiting the interviews to 11, it allowed for an in-depth analysis of the responses. There is no

set standard for qualitative sample sizes, it depends upon the type and methodology of the purposeful sampling (Patton, 2002). Each respondent was assigned an alpha-numeric id number to allow for maximum confidentiality, in addition no personally identifiable information was captures such as, social security number, gender, or age. If this information was provided during the interview or details which could identify the interviewee, the information was omitted from the results.

Faculty questionnaire. An online questionnaire was distributed faculty members identified who taught at least one online or hybrid course within the previous five years and are still employed by the institution. The list of faculty members was provided by the Institutional Research department of the participating institution. The faculty members who had taken the survey agreed to participate in the survey, prior to being asked any questions. The survey utilized a series of Likert-type questions, which allowed for descriptive statistics review.

The notifications were distributed using the Blind Copy (BCC) feature within the institutions email system, to allow for the participants identity to remain anonymous. The questionnaire identified faculty perception on responses on how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes (Yin, 2011). The survey was available from 10/2/2018 through 10/31/2018. An average good response rate from an external survey is 10-15% (Fryrear, 2015). However, because this survey had no incentives or benefit, except for adding to the community of work, response rates had the potential to be in the 1-2% range (Fryrear, 2015). The response rate for the online questionnaire portion of this study was 17%.

Administrator semistructured interviews. The final source of data for this descriptive case study was a semistructured interview of four administrators of the institution. The

administrators were chosen from the cabinet-level administrators and institutional deans, based upon position and longevity within the institution. They were purposefully selected with cabinet-level administrators being asked first, and if there were not enough participation, the institutional deans were selected. Cabinet-level members are those who are the executives of the institution and have overall responsibility for day-to-day management of the institution and as such were individually contacted. The administrators were chosen to provide validity to the study by utilizing triangulation (Yin, 2011). By having three separate data sources this allowed the researcher to add validity to the study (Yin, 2011). The interview allowed for an in-depth analysis to identify how community college administrators perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Research Methodology and Analysis

This descriptive case study utilized deductive, inductive, and descriptive approaches in identifying how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. Online courses can be grouped into major factors for effective delivery such as, technology, content knowledge and pedagogy (Coppola, Hiltz & Rotter, 2002; Curran, 2008; Keengwe & Kidd, 2010). Instead of a traditional delivery method where the instructor is face-to-face with the student the instructor utilizes technology and different pedagogical techniques to effectively deliver the material to the student (Curran, 2008). This descriptive case study began with a deductive analysis of online best practices and how they are perceived in a New Jersey community college. Deductive analysis allowed the researcher to identify the connection between online best teaching practices and faculty perception (Gabriel, 2013; Gilgun, 2012). This connection was established by identifying a working premise and continually reviewing the

results to identify trends and understanding of what the data is telling us about the working premise (Gilgun, 2012). The use of deductive analysis allowed for the movement in the phenomena being studied, such as how do faculty relate to technology, e.g., how does the faculty deliver content knowledge effectively within an online environment (Gilgun, 2012). Deductive analysis is required to allow for inductive themes to emerge from the analysis (Gilgun, 2012). The inductive reasoning process allows the researcher to develop working ideas, theories and concepts where there is not a working proposition and the researcher tries to identify a theory to "explain" the data (Merriam, 1998, p. 7; Bradford, 2017).

Data Sources. This descriptive case study utilized three methods of data collection. The methods were semistructured interviews with faculty, semistructured interviews with administrators and an online questionnaire distributed to faculty identified within the study. By using three sources for data analysis this allowed the researcher to triangulate the sources for corroboration (Yin, 2011). All faculty and administrators identified were employed at the same community college in New Jersey. The qualitative case study was ideally suited because it allowed the researcher to perform a deep dive into community college instructors' perception of pedagogical best teaching practices, technology and content knowledge in an online environment and how this can impact student behavior and outcomes (McLeod, 2008; Merrian, 2009).

This type of study allowed the researcher to identify the drivers behind what is necessary to facilitate transformation and influence student success (Merrian, 2009; Yin, 2013). Kincheloe and McLaren (1998) surmised a qualitative case study allows for the understanding of the rationale behind what drives people's behavior. Houghton, Murphy, Shaw, and Dympna (2015) surmised the flexibility during an implementation and the ability for the study to provide and in-depth comprehension of the study results (p. 8). Merriam (1998) also describes qualitative

research to help understand a phenomenon in its natural setting as possible (p. 5). Qualitative studies also provide the researcher the ability to probe into the understanding community college instructors have on best teaching practices for online education. Qualitative research allows the researcher to utilize both deductive and inductive analysis to draw conclusions about the phenomena studied. Deductive analysis concepts allow the researcher to identify a working hypothesis and continually reviewing the results to identify trends and understanding of what the data is telling us about the working hypothesis (Gilgun, 2012). This allowed for themes to emerge from the data gathered (Gilun, 2012).

Methodology. This descriptive case study focused on exploring how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—as an influencer of student outcomes. This case study incorporated qualitative methodology to identify faculty perception and how their perception could influence student outcomes. Qualitative methodology is used to identify evidence-based research, in which the goal is to "identify themes" within a particular study group (Miles, Huberman, & Saldaña, 2014, p. 277; Watkins, 2012, p. 153). The identification of the patterns allows the researcher to see trends, recognize and draw conclusions based on the data provided (Miles, Huberman, & Saldaña, 2014). A case study is where the researcher has the ability to study a particular group or population to document and detail a phenomenon (McLeod, 2008). This descriptive case study utilized three separate data sources. Two were semistructured interviews with administrators and faculty and a questionnaire distributed to faculty.

The faculty were identified with the help and assistance of the Institutional Research Department within the study college. When the researcher first began the dissertation process there were more faculty identified who have taught online or hybrid courses who were employed

with the institution. Due to the timeframe for IRB completion from Concordia University–Portland and the study institution, the faculty identified had declined. There was also an organization change at the institution. In order to protect the anonymity of the faculty participants semistructure background question number four was changed from asking which academic department do you teach to which academic school do you teach.

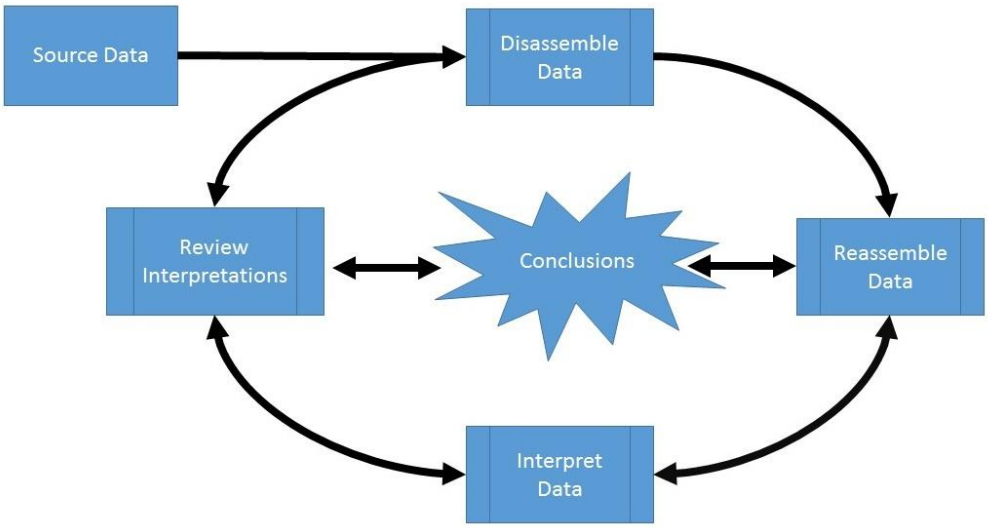

Figure 3. The qualitative interpretation process.

Faculty and administrators semistructured interviews. Prior to conducting the interview, each participant was provided a consent form to sign and the process for member check, was discussed. The questions asked (see Appendix B) were designed to elicit faculty perception of online best teaching practices. Each interview was conducted in a very informal setting, in a location dictated by the participant. The interviews were recorded, and compiled field notes taken by the researcher. This allowed for a more comfortable setting for the participant and the researcher could focus on the questions and responses, recording field notes and listening. Upon conclusion of each interview, the researcher transcribed the interview and distributed to the participant via email. The email were marked confidential and read receipts

were added to verify the responses. Once the participant verified the transcript, or after one week, the recording was deleted and the transcript was used for analysis.

Once all of the interviews were transcribed and verified via member check, the researcher reviewed the data for completeness and organization by question answered. This allowed the researcher to familiarize himself with the transcriptions and recording (Yin, 2011). Once this was completed the researcher then scrubbed, reviewed, and organized the data into a more logical manner. The organizational process did not remove data, but highlighted the questions asked and added the corresponding number associated with each question. This allowed the researcher to review responses, based upon the questions asked of the participants (Yin, 2011). At this point the transcripts were renamed to match the code used for the participants and any identifying data was removed from the transcript. By reviewing and renaming the files the data is consistent and separating the data into a "record", based upon the participant (Yin, 2011, p. 184).

Once the data was recoded and reviewed, the researcher began the process of disassembling the data without coding the responses. This is the process of coding the data based upon the participant responses (Yin, 2011). In order to begin this process, each record was loaded the NVivo software program. Once the records were loaded into NVivo the process of disassembling without coding was completed in which every response was coded in NVivo as a Case. This allowed the researcher to review the responses without having to code the data to identify any inconsistencies, or inaccuracies with the data (Yin, 2011). In addition, each case in NVivo was added attributes based on the first questions asked of the participants, e.g., a grouping for the number of years' experience in higher education and in teaching online courses and the highest degree completed.

The data was disassembled again to begin coding the responses. This process allowed the researcher to code or organize the data to identify similar themes (Yin, 2011). The process also utilized in vivo coding where the researcher organized the data in groupings, based upon the responses in the transcripts (Saldaña, 2008; Yin, 2011). After all transcripts were disassembled, the researcher than began the reassembly process to identify themes. This allowed the researcher to identify what the data is saying, where the data took me, what emerges from the data (see Figure 3). As Yin (2011) stated the researcher will "play with the data" and rearrange the codes to identify themes, which make sense (p. 191) to identify how community college instructors in New Jersey perceived the influence of online best teaching practices—pedagogical, technical and content knowledge—as an influencer of student outcomes.

Faculty questionnaire. The third data source was an electronic questionnaire (see Appendix A) distributed to all faculty who have taught at least one online course over the previous five years and are still employed with the institution. The questionnaire was built using Concordia University–Portland's Qualtrics license agreement. The survey was distributed via the institution's email system using an anonymous web link. This allowed for complete anonymity for the respondents.

The questionnaire was developed in Qualtrics with a consent form, provided by Concordia University–Portland's IRB process. The participant had to accept the consent form, prior to beginning the survey (see Appendix H). The survey was distributed using the institutions email system. All faculty included in the study received the email via blind copy (BCC) with the address (To) listed as the researcher's email. The questionnaire was distributed beginning October 2, 2018 through October 31, 2018 with three reminders distributed to all faculty. The data was analyzed using Microsoft Excel for descriptive statistics.

Summary of the Findings

The data of the descriptive case study was gathered to answer the research questions associated with this study and answer the overall question how community college instructors in New Jersey perceived the influence of online best teaching practices—pedagogical, technical and content knowledge—as an influencer of student outcomes.

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes?

This descriptive case study utilized three separate data sources, faculty and administrator semistructured interviews and a faculty online questionnaire. The interview questions asked of the participants were designed to elicit faculty members' perspective of online education. The data from the semistructured interviews were gathered during in-person interviews with faculty and administrators. The interviews were conducted at a place of the participants choosing. Once the results were gathered, transcribed by the researcher and verified by the member. The results were organized by participant and assigned an alpha numeric value and any identifying data was omitted. The data was reviewed and organized by question. This allowed for analysis of question and grouping of responses by interviewer and participant.

The data was then loaded into NVivo and the data organized by major theme. This was the process of taking the data and reviewing each participant's response to answer the discussion questions and identify any additional themes, based upon the participant's responses (Yin, 2011).

Once the initial coding was completed by the researcher, the responses were grouped by common themes. The results were then reviewed again for clarification and comprehension of the coding, then identified for major themes. This was done for both the faculty and administrators semistructured interviews. The process was the same but separate project managed. Once this was completed, the researcher then began to compare the results to look for major themes and conclusion.

Table 3

Theme Categories

Themes	Categories
Pedagogy	Engagement
	Teacher-to-Student
	Motivation
	Feedback
	Expectations
	Assignments
Content Knowledge	Course Set-up
	Content Knowledge
	Course Framework
Student Perception	Preparation
	Communication
	Time Management
	Understanding
	Student Own Schedule
Technology	Negative Impact
	Technology Downtime
	Positive Impact
	Software Usage

Note. Table 3. Displays the major themes and major categories identified by the semistructured interviews from the faculty. The major themes are in order of identification.

The online questionnaire was analyzed differently due to the quantitative nature of the data. The survey respondents asked basic questions about their teaching experience, then survey responses were analyzed and grouped by responses. This data was used to gauge the responses for consistency from the anonymous questionnaire. All responses were grouped by question and response to identify major themes, then corroborated against the semistructure interviews for comparison.

Presentation of Data and Results

Semistructured interviews faculty. The data analysis of the semistructured interviews of the faculty revealed numerous themes. The four major themes are: Pedagogy, meaning faculty perceive pedagogical practices have an influence on student success in an online course. Content Knowledge is defined as the faculty member believing that content knowledge of the subject is an important factor in online courses and contributes to student success. Student Perception, faculty beliefs regarding how students perceive online education. Technology has an impact on student success in an online learning environment. There were additional themes that were not identified as significant; however, they are worth noting within the study. The first is most faculty, except one, believe face-to-face students will have better outcomes and student support is a factor in student success. Table 3 identified the top 20 categories grouped by themes. These categories were identified from the 11 interviews and field notes based upon faculty responses from the semistructured interviews. There were other categories; however, the majority were listed above.

Pedagogy. The most prevalent theme to emerge from the study was pedagogy. This theme is structured by what faculty believed the impact of pedagogical techniques have on student outcomes. According to the participants student engagement was the most predominant category within pedagogy. For example, participant F10 surmised this by stating,

> Engagement that is one of the, I would say one of the biggest things that students because otherwise they feel isolated, they feel like they're teaching themselves and if you don't have any presence.

F9 also supported the relevance of student engagement,

> To get them (students) coming back and keeping in touch having a discussion board depending on the course even just sending out messages or little snippets of recorded messages to the students you have to keep that contact with the students that's the best way to really have a more effective course.

F3 stated "I think having like a lot of interaction with the students within the courses" and F1 surmised the relevance of pedagogy and engagement by the following,

> so you have this kind of gap between the people that have been teaching for a long time that never went, never took an online class to those that are coming that are newer now that are doing this and have said yeah I understand this you know I've been in that seat where you email a professor and they don't get back to you well in a face-to-face you're going to see them in a couple of days but online and if you're not responding to them quickly there on an island.

F2 identified their perception,

> it helps them to start to piece together the bigger picture because like I say when you're teaching in a very compartmentalized week by week by week yes, it allows you to focus but if you're you know you're focused you're not looking at the big picture you're in micro mode not macro so I try to switch to macro mode at the end so that they're seeing okay so this connects to this to that and now I have a 2 weeks maybe 3 week buffer.

F5 noted about correspondence and feedback,

> I'll correspond with them and say hey you're doing a great job this is an excellent post or I'll say hey don't forget it also does this that's a big part of it make sure you study this for the upcoming quiz.

Content Knowledge. The process of teaching and learning is a very detailed orientated, complex, student specific process (Kearns, 2015). In an online learning environment, the learning process is not face-to-face but communicated thorough the Learning Management Systems (LMS) using both synchronous and asynchronous techniques, as well as course content, and other tools designed to elicit and measure a student's progress and mastery of the content (Evans, et al., 2017; Kearns, 2015; Ouyang & Scharber, 2018; Titarenko & Little, 2017). This allowed for a course framework conducive to online learning (Ouyang & Scharber, 2018). Faculty identified content knowledge as an important theme within the interviews, this theme was organized by responses, which was related to the course set-up, content knowledge and course framework. This was supported by F1,

> when you have a student who goes from one discipline to another and the LMS looks totally different then they're like well what do I, they're overwhelmed at the beginning of a semester so I think having things setup similarly is, is much better in addition my online classes.

F2's perception about collaborative projects,

> the first thing I'm going to say is don't try to replicate your face-to-face class I've seen way too many professors do that where they do collaborative projects where you have to reach out to someone who could be on the other side of the country and you can't treat an online class like a face-to-face class.

Student perception. This is how faculty perceived the skills students need to be successful within an online course, in other words, what do faculty believe the students require or lack to be successful within an online course. For example, preparation was the number one

category within student perception. As participant F1 identified “I think students need to prepare for online courses by some type of introduction to online learning I think that’s critical.” F3 believes “some of the advantages well the big advantage is the student can do everything on their own time and their own schedule so even though there is due dates and requirements” and F6 noted in regards to student preparation,

> Another part is also has to do with also the students having the right mindset when they are going into take a course because from my experience I've seen a lot of students that they come in to a class thinking that this is another version of the class.

Also F7 surmised about students preparation “some of the students think that online, well its online I can go anytime but whatever and then they come especially when they have not had any experience in online its like.” F9 “if they (students) have the skills and if they are prepared.”

Technology. Technology and Technology Content is a critical component in online learning environment (Ouyang & Scharber, 2018) and as such the faculty interviewed identified this theme as such. The results were categorized into four categories: Negative Impact, Technology Downtime, Positive Impact and Software Usage. This indicates the faculty perception of technology and how they believe it can have a positive or negative impact on student success and outcomes. This can be supported when F1’s perception was,

> I haven’t really jumped into it as much and I tend to my issue is I tend to perhaps leave things out of online courses that I keep in my face to face because my concern for the technology and the you know the issues with that

What was identified within this group was the frustration faculty identified with technology, when the LMS, is unavailable or the perceived frustration the students had with the technology. It was the second largest category within the Technology grouping. For example,

when F5 surmised this by stating “frustrating on my end and I am sure that when it happens to our students it's very frustrating on their end.” Also F5 gave their perception about the negative issues with technology,

> I'm sure this is not going to come as a surprise to you or anyone but Blackboard is a little bit of a pain you know we had the issue this past weekend where sometimes you could log on sometimes you couldn't so it becomes a challenge when you're trying to log on to your course to grade assignments and be effective and do it in a timely fashion when you go to log on and your username and password doesn't work even though it's the right one.

Administrator Semistructured Interviews. Administrators were also interviewed to identify their perception of online best teaching practices on student outcomes. The administrators were interviewed to compare against the faculty’s perception for triangulation, which allows for validation of the data. The semistructured interviews for the administrators followed the same process as the faculty interviews. The administrator’s responses are listed in

Table 4.

Major Themes Identified From Semistructured Interviews of Administrators

Themes	Categories
Pedagogy	Feedback Teacher-Student Relationship Engagement
Technology	Technology Usage Accessing Course Material Technology Knowledge
Course Design and Instruction	
Student	Student Preparation Individual Student

Note. Table 4. Displays the major themes and major categories identified by the semistructured interviews from the administrators. The major themes are in order of identification.

Pedagogy. The major theme which emerged from the administrator's interviews was Pedagogy. This includes the categories of, Feedback, Teacher-Student Relationship and Engagement. The administrator's perception of online best teaching practices does not differ too much from faculty. The categories for pedagogy are student feedback, faculty building relationships and student engagement. All interviewees identified that pedagogy, providing feedback to students, building and developing student-teacher relationships and engaging students in an online environment is important in an online environment. For example A1 noted,

> And if the instructor isn't one who responds in a timely manner at least within 24 hours of receiving the email, again you can feel very isolated so. I think those environments that work to removed the isolation and make the student actually feel part of a learning community are the ones that are, that are, receiving and I also would say have better success rates.

A2 also agreed,

so as a student is progressing along we want mastery in their learning. Somehow to let them understand where they are at every stage along the way.

Technology. Technology is a vital part of an online educational environment (Koller, Harvey & Magnotta, 2006; Ouyang & Scharber, 2018). If technology is not understood or not integrated properly, by faculty students' outcomes can be negatively impacted (Koller, Harvey & Magnotta, 2006; Ouyang & Scharber, 2018). Administrators identified that their perception is technology is an influencer on student outcomes. The findings revealed administrators believed technology usage, meaning how faculty utilize technology in an online class environment impacts student outcomes. The three categories are technology usage, how faculty utilize and implement technology within an online environment. Accessing course material, meaning an advantage, according to administrator's perception is content can be accessed anywhere and anytime for both faculty and students. This has an impact on student outcomes. Technological knowledge and the use of technology within an online environment. Administrators believed this has an impact on student outcomes as well as the ability for faculty to understand the advantages and disadvantages of technology to support the online learning environment and the ability to convey this to the students. For example, A1 believes,

> If you don't have a good sound handle on the technology from a user's standpoint you're going to struggle with it. I think the better online courses or institutions are ones in which the platform is very similar across all academic courses

A3 also stated, "the technology has to work" and they also stated "the advantages I think are that you can be anywhere, anytime login and still get your education, when time is convenient"

Course Design and Instruction. Another theme which was identified by the administrator's survey was course design and instruction. This means all administrators

interviewed believe the course design impacts student outcomes. What was interesting from the analysis was a few of the administrators had stated the course design should be consistent across the institution. The correlates to how the course material is set-up, administered by the faculty and material is delivered. An online course, which is well designed increases student success and positively impacts student outcomes (Christensen & Spackman, 2017; Lee & Choi, 2011). This is supported by A1 "well I think if we start at the institution level it really is making sure that every single online class has the same layout, in terms of the, the, the, module that's being used to deliver that's number one."

Student. Administrators also identified that some of the onus of students being successful is dependent upon the student, how well organized the student are while attending the online courses. The administrators also believed students need to self-motivated, well organized and know how to use the technology. This can be surmised by A1 when they stated,

> well the advantage I think is really for that more mature student whose working and just can't get to a campus. So for that individual who's well- organized, who goes into the online environment with the understanding of if it's very much self-learning I think that's great.

A3 also stated "in support I think it depends on the individual. Certain individuals are more self-motivated, learn differently, you know that I think it really is dependent on the individual."

Survey Questionnaire for Faculty. All faculty participants in this study received an electronic questionnaire via their institutional email account (see Appendix A). The survey was created using Concordia University–Portland's Qualtrics license. All faculty members were able to complete anonymously. The survey was available from October 2, 2018 through October 31, 2018. All participants were provided a disclosure statement, which they would have to accept,

prior to taking the survey. The survey was based upon Likert-type questions. The results from the 13 Likert-type question are grouped and listed below. The data from the questions are listed in Table 5.

Table 5.

Questionnaire results

Id	1. Strongly agree	2. Agree	3. Somewhat agree	4. Neither agree nor disagree	5. Somewhat disagree	6. Disagree	7. Strongly disagree
Q6_1	3	9	7	4	6	4	0
Q6_2	23	9	1	0	0	0	0
Q6_3	24	7	1	0	0	0	1
Q6_4	12	12	7	1	0	1	0
Q6_5	18	11	3	0	0	1	0
Q6_6	12	16	3	2	0	0	0
Q6_7	19	11	2	0	0	0	1
Q6_8	20	10	2	0	0	0	1
Q6_9	14	15	3	0	0	0	1
Q6_10	6	17	5	4	0	1	0
Q6_11	11	19	2	0	0	0	1
Q6_12	4	11	7	7	1	2	1
Q6_13	12	15	2	4	0	0	0

Note. Table 5. Response of participants from online survey.

There were 39 respondents who had attempted the questionnaire, which 33 respondents completed. Of the 33 respondents, 55% were adjunct faculty, 12% were part-time non-tenured faculty, and 33% were full-time tenured faculty members. Among these faculty members, 6% had completed a bachelor's degree, 76% completed a master's degree and 18% completed a doctorate (see Appendix I). The partial responses or those who were identified as not completing the survey were not included in the results. The percent by response is listed in Figure 4 below.

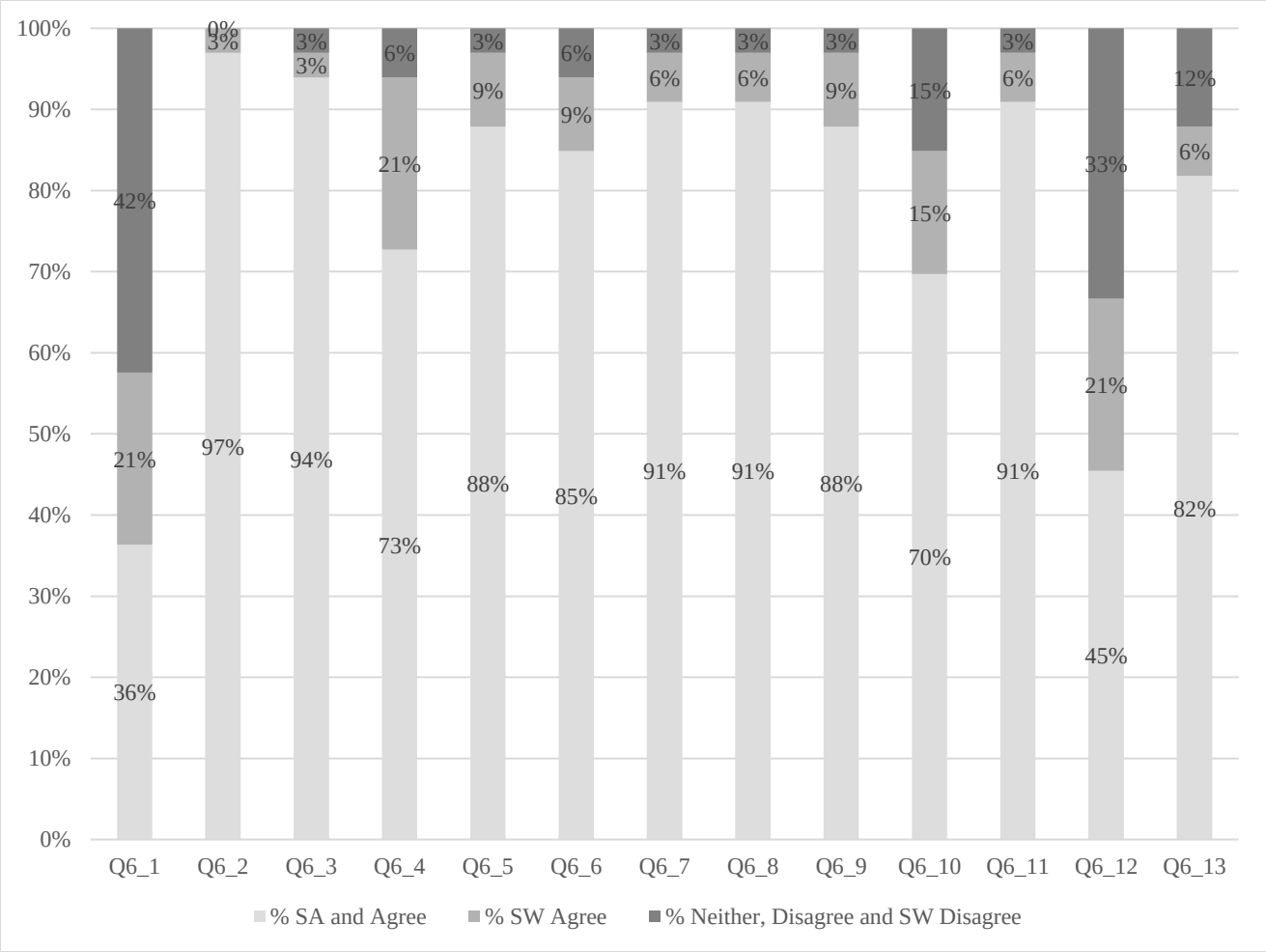

Figure 4. Response by percentage, grouped by Strongly Agree and Agree (SA and Agree), Somewhat Agree (SW Agree) and Neither Agree or Disagree, Somewhat Disagree, Disagree and Strongly Disagree (Neither, Disagree and SW Disagree).

Table 6

Identifies the Mapping to the Question ID

Question	Id
Students obtain the same quality of leaning from an online class as a face-to-face course	Q6_1
Best teaching practices can positively impact student outcomes	Q6_2
Student motivation is a factor in online education	Q6_3
Faculty have the ability to impact student motivation in online courses	Q6_4
Organization of content in an online course influences student outcomes	Q6_5
Building a relationship with students in an online course impacts student outcomes	Q6_6
Providing timely feedback to students attending an online course can positively impact student outcomes	Q6_7
Faculty ability to use and understand technology impacts student outcomes	Q6_8
The organization and understanding by faculty of the learning management systems impacts student outcomes	Q6_9
Student to student relationships positively impact student outcomes	Q6_10
An online course design has an impact on student outcomes	Q6_11
The quality of an online education is the same as a traditional face-to-face course	Q6_12
Content knowledge plays an important role in an online environment	Q6_13

Note. Table 6. The key to the online survey questions.

By grouping the questions of the online survey, (see Table 6) the researcher identified questions into major themes. This allowed for comparison to the semistructured interview results. The results are the top themes, which emerged from the online survey is faculty strongly agree or agree that online best teaching practices can positively impact student outcomes. In addition, the participants also overwhelming, greater than 85% identified motivation, course

design and content, feedback, technology and faculty to student relationship can impact student outcomes.

The analysis was grouped by strongly agree and agree (SA & A), somewhat agree (SWA) and neither agree or disagree, disagree and strongly disagree (NA, DA, & SDA). This was done to identify the phenomenon of faculty perception and validate the study (Yin, 2011). The NA, DA and SDA included neither agree nor disagree because a faculty is identifying they do not have an opinion of the question answered. As such the question asked does not have an impact on student outcomes. This is corroborated by Kronsky and Presser (2010) who stated those who answer don't know are for "whom consider this low personal importance" (p. 284). Table 7 identifies the results of survey respondents.

Table 7

Question Results

Question	Grouping	SA & A	SWA	NA, DA & SDA
Best teaching practices can positively impact student outcomes	Overall Impact	97%	3%	0%
Student motivation is a factor in online education	Motivation	94%	3%	3%
An online course design has an impact on student outcomes	Course Design	91%	6%	3%
Providing timely feedback to students attending an online course can positively impact student outcomes	Feedback	91%	6%	3%
Faculty ability to use and understand technology impacts student outcomes	Technology	91%	6%	3%
Organization of content in an online course influences student outcomes	Course Content	88%	9%	3%
The organization and understanding by faculty of the learning management systems impacts student outcomes	Technology	88%	9%	3%
Building a relationship with students in an online course impacts student outcomes	Faculty to Student	85%	9%	6%
Content knowledge plays an important role in an online environment	Content Knowledge	82%	6%	12%
Faculty have the ability to impact student motivation in online courses	Motivation	73%	21%	6%
Student to student relationships positively impact student outcomes	Student-Student	70%	15%	15%
The quality of an online education is the same as a traditional face-to-face course	Quality	45%	21%	33%
Students obtain the same quality of leaning from an online class as a face-to-face course	Quality	36%	21%	42%

Note. Table 8. Grouping of survey questions with percentages. Headings SA & A (Strongly Agree and Agree), SWA (Somewhat Agree), and NA, DA & SDA (Neither Agree nor Disagree, Disagree, Strongly Disagree).

What was also corroborated was faculty perception of online courses in general. Faculty believed students do not get the same quality of learning form an online class when compared to face-to-face. This was also identified within the semistructured interviews where only one faculty members and administrators identified the quality of learning within an online environment the same or similar to face-to-face instruction.

Summary

This descriptive case study was conducted to elicit faculty perception of how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This case study was designed to study the phenomena in as natural setting as possible, which the need for effective and credible data is necessary to increase the validity of the study (Merriam, 2008; Shenton, 2004). There were three data sources utilized for this study to identify the phenomena, semistructured interviews with 11 faculty members and four administrators and an online questionnaire distributed to all faculty identified who have taught at least one online or hybrid course in the previous five years and are still employed with the institution.

Chapter 4 identified major themes which are consistent between faculty and administrators. The four major themes are: Pedagogy, meaning faculty believe that pedagogical practices have an influence on student success. Content Knowledge, where faculty member believe content knowledge of the subject is an important factor in student success. Student Perception, faculty beliefs regarding how students perceive online education. Technology has an impact on student success in an online learning environment. The study also identified some emerging themes such as, a majority of the semistructured interviewees believe face-to-face outcomes have better success than online courses, faculty and administrators believe students

have substantial influence on their own individual outcomes and there are gaps in students in technology and the final are the perception of the LMS system. The results of the online questionnaire also corroborate this result. Chapter 5 provides an in-depth analysis of data presented.

Chapter 5: Discussion and Conclusion

Introduction

This case study explored how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. This study was based upon data was gathered from three separate sources, semistructured interviews with 11 faculty members and four administrators and an online questionnaire distributed to all faculty identified within the study. Teaching in an online environment is different than the face-to-face or traditional learning environment, however regardless of the delivery method, the same quality is required in an online environment (Mattila & Mattila, 2017; Schwartz, 2010).

The purpose of this chapter is to present and discuss the results of this descriptive case study. In this descriptive case study the researcher identified a gap in the need to identify faculty's perception of online best teaching practices on student outcomes. This chapter will link data from the research conducted and present the findings to answer the research questions and allow for ideas for further research.

Summary of the Results

Research questions. This study was guided by the researcher trying to identify or answer the following research questions:

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes?

Theory and significance. Online education is not a new concept to higher education; however, it has been one of the fastest growing segments within higher education (Curran, 2008; Straumsheim, 2016). As stated in the Distance Education Enrollment Report (2017) enrollment of students in online courses has increased year-over-year, "with over 6 million students taking at least one online course in 2015" (Alverson, Schwartz, & Shultz, 2018, p. 1; Allen & Seaman, 2017). Community College student populations are unique and different from those of a traditional four-year institution (Bailey, Jenkins & Smith, 2015;Solomon, 2017). The students may require additional help with basic skills placements, be unsure of which direction or major to pursue on or may have additional responsibilities off campus (Bailey, Jenkins & Smith, 2015; Noel, 2017; Osterman, 2012; Solomon, 2017). In addition, community college enrollment continues to grow (Bailey, Jenkins & Smith, 2015; NSCHRC, 2017).

As the student expectations and responsibilities continue to change and the demand for online education continues to increase, community colleges need to change, otherwise they run the risk of their programs and courses become obsolete (Chen, 2017; Straumsheim, 2016). As the demand for online education continues to grow, there has been more pressure for faculty to deliver course material in an online environment (Baran, 2018). Faculty perception of online education is important to consider because as online education continues to gain popularity what faculty believe is how they will proceed (Otter et al., 2013).

Review of recent literature. There are difficulties in implementing or utilizing online education (Murphy & Stewart, 2017). Online teaching also requires a different skill set than the traditional face to face course (Baran, 2018; Chen, 2017; Dubas, Best, Long, & Crumpacker,

2016; Trends of online learning, 2015). Faculty teaching online courses also require the need to interact both synchronously and asynchronously without being able to physically meet with the students at regularly scheduled intervals (Zidan 2015; Crawley, Fewell & Sugar, 2009). The research conducted identified pedagogy for an online courses requires an approach which requires more communication and building of relationships between teacher and student (Titarenko & Little, 2017) as such online courses have specific design requirements and should be designed differently than traditional face-to-face courses (Coppola, et al., 2002; Keengwe & Kidd, 2010; Koehler & Mishra, 2009; Larreamendy-Jones & Leinhardt, 2006; Lee, 2017; Liu, Bonk, Magjuka, Lee & Su, 2005).

Teaching practices are different in a face-to-face course than an online environment (Epp, Green, Rahman, & Weaver, 2010; Evans, et al., 2017). In an online environment student engagement, teacher-to-student and student-to-student relationship, communication, motivation and feedback can influence student outcomes and student success (Cronje, 2009; Epp, et al., 2010; Evans, et al., 2017). As such, the findings were organized in such as manner. As faculty continue to transition from a traditional to an online environment there is a need for educators to rethink their delivery method, technology usage and how material is delivered to create an effective teaching environment (Baran, 2018). This transition requires the need to support faculty in their ability to transition from a traditional, face-to-face course. This includes faculty usage of technology, content knowledge and organization of the online course and changing their pedagogical practices for an online environment (Baran, 2018; Howell, Saba, Lindsay & Williams, 2004). This was identified within the finding of the study where faculty's perceptions identified pedagogy, content knowledge and technology as impacts on student outcomes. In addition, all but one of the participants believed that outcomes are better in a face-to-face

environment rather than online. This researcher believes there needs to be additional training courses and communication to positively impact faculty perception of online education.

Ouyang and Scharber (2018) surmised that faculty can utilize the Technology Pedagogical Content Knowledge framework (TPACK) to allow for the "interdependency" between technology, content knowledge and pedagogy in an online learning environment (p. 42). They also identified that using this framework and understanding of the faculty's perception of how to utilize the framework and the interdependencies to enhance and positively impact online education (Ouyang & Scharber, 2018).

De Rossi and Trevisan (2018) identified that teachers could use Technology, Pedagogy and Content Knowledge (TPCK) to identify that teachers need to review their own teaching styles and integrate with the TPCK framework (p. 8; Angeli & Valanides, 2015). To increase their teaching ability (De Rossi & Trevisam, 2018, p. 8). Their literature review also identified the significant strategies and defining TPCK components. The article provided a reference to different papers and strategies regarding TPCK and the study design based by the theory and author (De Rossi & Trevisam, 2018). The article also provided an overview of the studies that focus of the different components of TPAK and examples of how teachers can utilize the different studies to integrate into their own teaching strategies (De Rossi & Trevisam, 2018). This was supported by the findings where faculty and administrators believe pedagogy, content knowledge and technology have an impact on student outcomes.

Mourlam (2017) provided a framework for integrating technology, pedagogical and content knowledge (TPACK) and Adult Learning Theory (p. 302). Mourlam (2017) identified that most faculty training is designed to be more technology focused and towards the use of faculty infusing technology into the classroom. Morulam (2017) identified a gap where faculty

development does not always support TPACK. Most faculty development is more focused on the technology implementation into classroom (Morulam, 2017). The research identified that faculty development is more "technocentric" (Figg & Jaipal, 2012; Morulam, 2017, p.316). Morulam's (2017) research identified to successfully implement a faculty training program where TPACK is utilized and grounded in adult-based learning techniques TPACK was more positively received by faculty. However, the sample size of the study was quite small and therefore additional research would be required and the results are difficult to conclude (Figg & Jaipal, 2012; Morulam, 2017).

Teaching in an online environment, there really are no set standards (Dietrich, 2015). In addition, the face-to-face interaction is not there and the faculty needs to utilize the technology to develop relationships and communicate with students and may not have the skills to teach in the environment (Dietrich, 2015; Zedan, 2015). I believe due to some misconceptions about online and have not trained sufficiently to use the tools to instruct students in this environment. There is still some work to be done in educating, training and implementation required to bring faculty to believe that online education can be equal to or exceed in-person quality (Zedan, 2015).

The research identified, in addition to the literature review conducted in Chapter 2, identified recommendations and examples of TPACK methodology and how to incorporate best practices into online learning, however, a gap was identified in how faculty perceives the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Research question one. The first research question asked, how do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes? What the semistructured interviews identified is faculty and administrators both perceive that pedagogical teaching practices are important in an online course and student outcomes. The semistructured interviews for faculty members and administrators identified pedagogy as their most predominate influence on student outcomes. Both groups identified feedback, teacher-to-student relationship and engagement as the highest categories. Faculty also identified motivation, expectations and assignments as influencers on student outcomes. As stated by faculty F6,

> Making sure the professor or the instructor is following what's happening with his students and providing opportunities because from my own experience just because I'm there doesn't necessarily mean that my students are going to succeed more but, I think from my point of view, I created and provided the opportunities at the end of the day students are the ones that are going to decide, right.

Another quote to identify the importance of pedagogy, feedback and motivation is what F1 stated,

> With online students its got-to-be 24 hours they've (students) got to know how they're doing because if they don't they assume they're not doing well you know so I would say that's the most important thing.

The online questionnaire asked a series of questions relating to how faculty about what practices can impact faculty's perception of online education. The questions can be grouped by themes. The survey is based upon a series of Likert-type questions, which questions Q6_3, Q6_4,

Q6_6, Q6_7 and Q6_10 (see Table 4 for grouping) can be identified as pedagogy. See Figure 5 below for results.

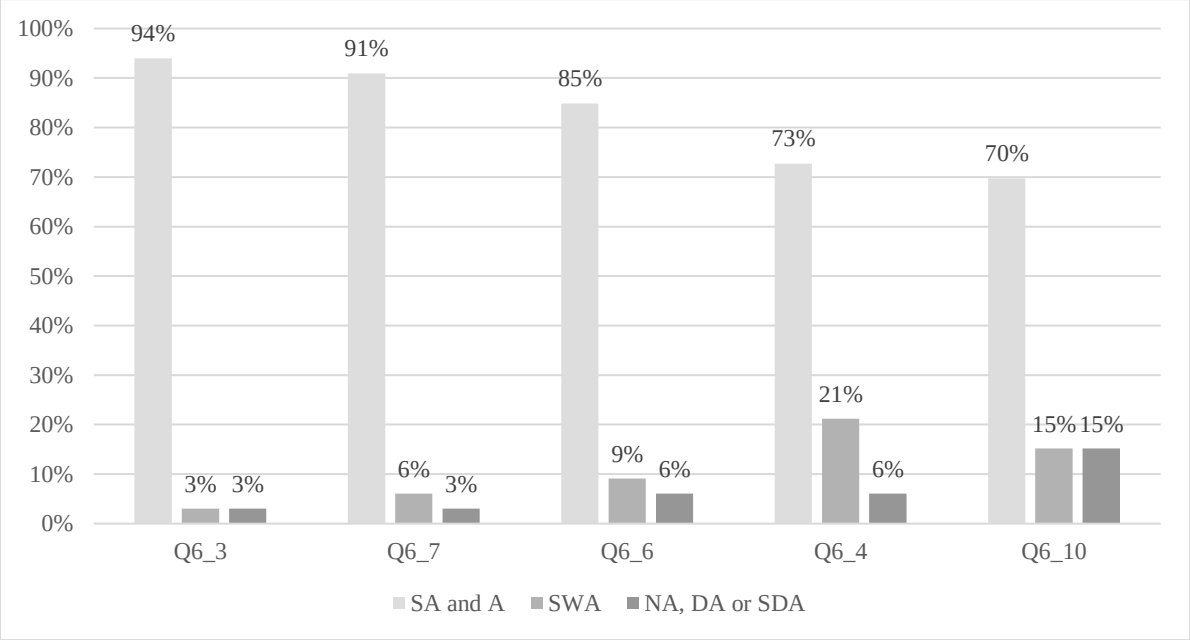

Figure 5. Results by percentage for Motivation, Feedback and Relationship Building.

The online questionnaire results corroborated the semistructured interviews in identifying that a majority of the participants in the online survey either agree or strongly agree that motivation is a factor in online education (Q6_3), faculty providing timely feedback to students (Q6_7) and building relationships with student's impacts student outcomes (Q6_6). The interesting result from the online questionnaire is 73% of faculty believe they have the ability to impact student motivation Q6_4. If you include the respondents who somewhat agree the percent increases to 94%. The questionnaire also corroborated that faculty believe student-to-student relationships are not as much of a factor to impact student outcomes. The semistructured interviews also identified student-to-student relationships faculty believed were as an important driver in impacting student outcomes.

Research question two. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes? In today's online environment technology is the base for online environment. As such the semistructured interviews identified technology as an influencer on student outcomes as did the administrators as well. However, included was not only the positive but the negative impact faculty believe technology can have on student outcomes. The results were based upon student's usage of technology and impact of technology in general. Faculty perception is that technology can negatively impact student outcomes or can be overused. Some examples are listed below. F7 stated,

> if there is something either my computer or the student's computer then that the only way you know that is the modality of communicating of course they can call me but as far as presentation of either materials or tests or anything like that again we are at the mercy of the you know technology to make sure that it works

Another comment about technology was stated by participant F10,

> I always tell them don't panic things happen power might cut out, the internet cut out anything can happen the LMS will kick you off for whatever reason these things happen we have no idea why but they do it is what it is, so let's fix it let's work around it

F2 surmised technology usage,

> remember a tool it can be used for certain things like a hammer where you can nail things to the wall whatever but certain things if you hammer through it will break I think that's the same for online technology.

Administrators perceived that technology usage, accessing course material and technology knowledge impacts student outcomes. The usage of technology can positively impact student outcomes, for example A2 stated:

> Content can be accessed anywhere and it's more conducive to the way people live nowadays, people not just you know young people or old people just the way they live, so, I think and the tool itself is becoming more comprehensive than it was in the past.

Another administrator A1 stated "If you don't have a good sound handle on the technology from a user's standpoint, you're going to struggle with it. I think the better online courses or institutions are ones in which the platform is very similar across all academic courses." This correlates with the online questionnaire.

The online questionnaire had two questions related to technology, questions Q6_8 and Q6_9. The questions are relating to faculty usage of technology. The responses were both that a majority of the participants believe that faculty's ability to use and understand the technology impacts student outcomes (Q6_8) and the organization and understanding by faculty of the learning management systems impacts student outcomes (Q6_9). See Figure 6 for the results. The findings from the online questionnaire did match that faculty and administrators believe technology can impact student outcomes, however the semi structured interviews were more student based and the online questionnaire was more faculty understanding of the technology impacts student outcomes.

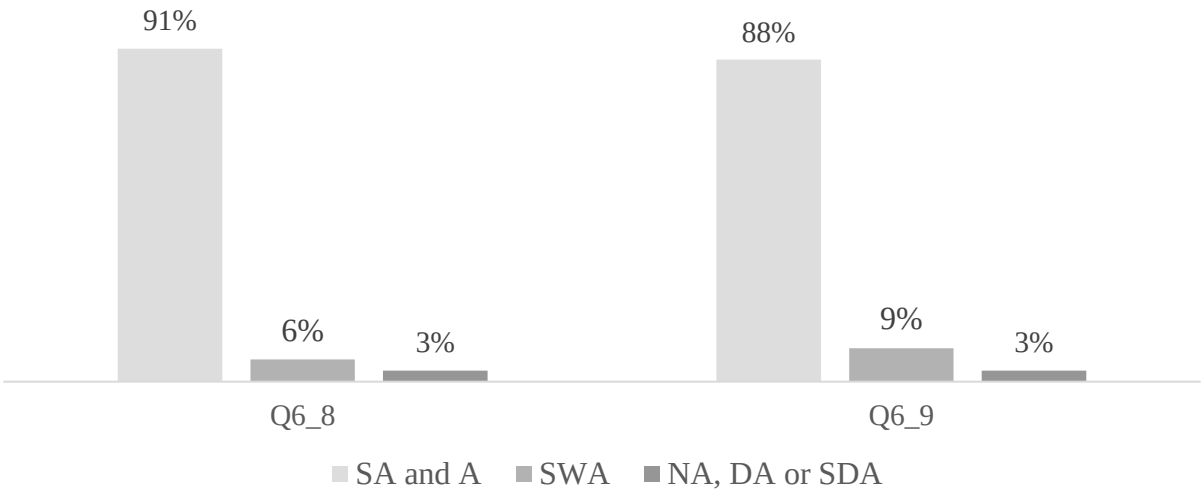

Figure 6. Results of questions from online questionnaire.

In sum, faculty and administrators believe technology can impact student outcomes, however the findings, based upon this descriptive case study were that faculty perceive technology as a potential hindrance and faculty can have a positive impact by understanding and usage.

Research Question Three. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes? Content knowledge includes the online course set-up and delivery of information, not just the content knowledge of the faculty member (Ouyang & Scharber, 2018). Content knowledge was perceived as positively impacting student outcomes by both faculty and administrators. As administrator A1, stated

> The quality of the course obviously matters just like being in the face-to-face environment. If you're up there just droning on the student's going to be more apt to skip the course that way as well, so you really, I think have to have good robust content that is structured properly.

Faculty F6 surmised their perception of content knowledge by stating,

Success or Student Success in that course has to do with the instructor itself, I think as an instructor you are responsible for making sure that the instruction is done at the correct level

The online questionnaire contained three questions relating to faculty perception of how content knowledge can positively impact student outcomes. The questions related to content knowledge are, question Q6_5 organization of content in an online course influences student outcome where 88% of the participants strongly agree or agree the organization of the content impacts student outcomes. Question Q6_11, an online course design has an impact on student outcomes and question, 91% strongly agree and agree that course design has an impact on student outcomes. Q6_13, 82% of faculty strongly agree or agree that content knowledge plays an important role in an online environment. See Figure 7 below for results. The online questionnaire and semistructured responses for both faculty and administrators all have identified the perceived impact on student outcomes.

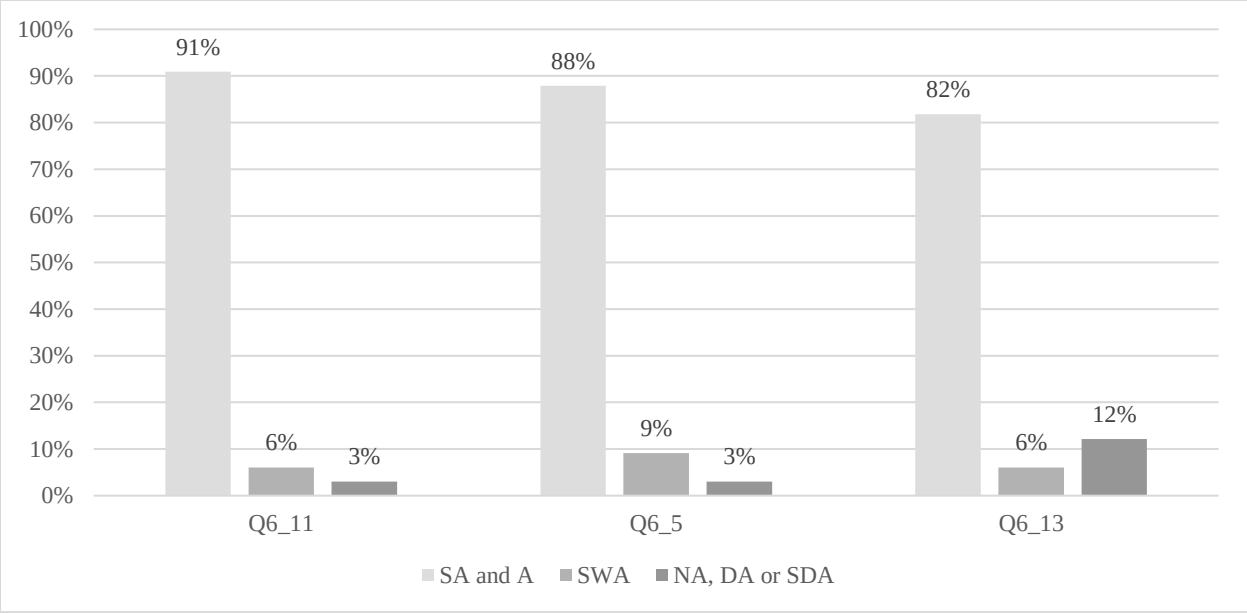

Figure 7. Results for Content Knowledge questions.

Summary of Findings

This descriptive case study was conducted at a community college located in New Jersey to answer multiple research questions. The researcher used a purposeful sampling method to identify faculty who had taught at least one online or hybrid course within the previous five years and are still employed with the institution. This criterion identified faculty members. This study utilized three separate data sources. The three data sources allowed for triangulation, which added validity to the study (Yin, 2011). There were semistructured interviews conducted with 11 faculty members and four administrators. The final data source was an online questionnaire delivered to all faculty members identified within the study.

The data analysis of the semistructured interviews were done using the same process. The transcripts were deconstructed and reconstructed, which allowed for an in-depth analysis of the results. The results identified that administrators and faculty perceive pedagogy, content knowledge, and technology all have an impact on student outcomes. In addition, both groups

believe that some of the onus is on the student, meaning how prepared students are to attend an online course how student's time management can impact the students success.

Another interesting factor is, except for one participant, all semistructured participants indicated they believe that student outcomes are better in a face-to-face environment. This is somewhat supported by the online survey with question Q6_12, where 67% of the responses strongly agreed, agreed and somewhat agreed the quality of an online education is the same as a traditional face-to-face course. This was corroborated by question Q6_1 where 58% of the responses strongly agreed, agreed and somewhat agreed that students obtain the same quality of learning from an online class as face-to-face course.

In sum, the research questions were answered, faculty perception is that technology, pedagogy and content knowledge has an impact on student outcomes. However, the study has identified that faculty perception of the quality of online education is not equivalent to that of a traditional setting and the perception of faculty is students have an impact on outcomes.

Discussion of the Results

The research was based upon identifying how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The research was separated into three separate questions based on identifying faculty perception of the influence of best teaching practices on pedagogy, technical and content knowledge. Identifying faculty perception is a key driver in student outcomes. Faculty perception of online education is important to consider because as online education continues to gain popularity what faculty believe is how they will proceed (Otter et al., 2013).

Answering the research questions. Both administrators and faculty semistructured interviews had similar results in identifying the influence of online best teaching practices on technology, content knowledge, and pedagogy on student outcomes. All participants and the online questionnaire identified that their perception is online best teaching practices pedagogical techniques, technical, and content knowledge have an influence on student outcomes. Technology was identified as having a negative connotation. This was relating to technology usage and downtime. Faculty's perception of technology, at this institution was mostly negative relating to the Blackboard LMS system and student's usage. This can be identified by the response of F5 "but a frustrating system just because it's very glitchy it seems like I don't know if that just here or if that's just everywhere with Blackboard I have no clue." This was due to technology being unavailable when needed or unscheduled outages, which was perceived by faculty as having a negative impact on student outcomes. Teaching in an online environment is subsequently reliant on technology; if the technology is not available or there are outages, students and faculty will have difficulty in accessing the course material (Dietrich, 2015). This puts more reliance on Information Technology departments and LMS systems administrators to make sure the technology is reliable.

Faculty perception is students understand mobile technology but not other technology relating to educational or business purposes. As stated by response from F10, "they (students) aren't sure how to actually navigate Blackboard. How do you submit assignments, how do you do put stuff in discussions, how do you put stuff in a Blog, How do you take a test, what is it like taking a test I think that's a lot of the potential issues for students." Students in today's environment have knowledge of popular or common technologies but a common set of technologies may not be applicable for students (Kennedy, Judd, Gray & Krause, 2008).

The study identified that all participants believe that pedagogical is an important driver in impacting student outcomes. The importance of identifying and building relationships with the student is important in an online environment. The students are accessing material in an online environment, this means faculty must continue to come up with new ideas and techniques to deliver online material and build relationships with students (Sivo, Ku & Acharya, 2018). I believe the faculty are beginning to understand this, however the changes are slow in coming. This was identified when some of the faculty during the semistructured interviews mentioned about offering office hours and working with students to coordinate a timeframe for them to come on campus. There was nothing relating toward using a video conferencing tool to develop the faculty-to-student relationship. This researcher did observe there was no mention of education for non-traditional students, those who are not attending college immediately after high school. Most of the responses were geared towards a more traditional student base.

Content knowledge, for this study, included course design and set-up as well as content knowledge. This researcher's rationale for this was content knowledge can only be delivered via the LMS system in an online environment. This means in order for the faculty to convey the important concepts within the course, they must design the material in a way that students can understand the material. Collay (2017) surmised this by identifying that faculty need to be able to "engage with their learners and the content" (p. 24). Content knowledge was perceived as important for both semistructured interview results and supported by the online questionnaire. The researcher believed this result was identified due to the institution offering faculty members to have Quality Matters (QM) training. This was identified by some participants mentioning QM training. This was supported by Dietrich (2015) who surmised that organization of the content is vital in providing the best method for students to find material and succeed.

However, there were some unexpected results. The fact that most participants believed that face-to-face courses have better outcomes than online courses was unexpected. Faculty have many concerns with online education (Zidan, 2015), which could lead to an unfavorable result. This could be attributed to a misconception of online education and how the quality of an online courses can be better than an in-person course.

The semistructured interview results were also supported by survey question Q6_1, Students obtain the same quality of learning from an online class as a face-to-face course and question. 58% of the responses strongly agreed, agreed and somewhat agreed about the same quality of learning and Q6_12 where 58% of the responses strongly agreed, agreed and somewhat agreed that students obtain the same quality of learning from an online class when compared to traditional environment. The researcher was surprised by this response, I expected more participants to perceive online outcomes are similar to face-to-face courses, especially considering, I believe online education is the future of higher education. This was supported by the online questionnaire responses as well. This response identifies that the perception of online education is not favorable. Additionally, faculty responses identified the importance of technology being consistent and available and how, based upon their responses, outcomes can be negatively impacted by the availability and stability of the Blackboard Learning Management System. The final thing, which both groups of the semistructured interviews identified was their perception of students having an influence on their own outcomes. Also, some of the faculty and administrators had identified their perception is outcomes can also depend on the individual student, meaning that none of the best practices. This was not a primary or tertiary, however it is significant and corroborates the finding.

Discussion of the Results in Relation to the Literature

This descriptive case study explored how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The results from this study identified faculty's perception of online best teaching practices by pedagogy, technology and content knowledge. In this section I will relate the research conducted to the literature reviewed and connect to the community of practice and scholars.

Faculty perception is an important catalyst in course success (Cherry & Flora, 2017; Ezzeldin & Nadir, 2017; Otter, et al., 2013; Twila, et al, 2011; Schwartz, 2010; Bailey & Card, 2009). As such, it is necessary to comprehend faculty perception to positively impact the quality and success of each course. This study identified that faculty perception is that pedagogical strategies impact student outcomes and student success. The results of this case study identified pedagogy by both faculty and administrators as the most predominate influence on student outcomes. Both groups identified feedback, teacher-to-student relationship and engagement as the highest categories. This was also corroborated by the results of the online questionnaire. As demand continues to rise for online education (Allen & Seaman, 2017; Alverson, Schwartz, & Shultz, 2018) and for faculty to be effective, pedagogical techniques need to be incorporated into current online teaching practices (Angeli & Valanides, 2015; Chai, Koh & Tsai, 2010; De Rossi & Trevisan, 2018). As community colleges continue to embrace online education, offer more courses, and as the popularity of online courses grow (Straumsheim, 2016) faculty will have to utilize new technology, implement new pedagogical techniques and transition from a traditional face-to-face format to an online environment (Alexander-Bennett, 2016). This transition forces faculty to embrace new technology and techniques for teaching in a digital environment (Brown,

2015). Faculty members have significantly more responsibility for establishing specific structures and processes within an online environment than in a traditional learning modality (De Rossi & Trevisan, 2018; Grosse, 2004; Lorenzetti, 2004; Sugar, Martindale, & Crawley, 2007). As such, understanding faculty perception provides the opportunity for administrators, researchers and others to identify what faculty perceive as impacting student outcomes and what factors can influence student outcomes and success.

Technology, pedagogy and content knowledge is the foundation for numerous studies relating to online education and instruction. Coppola, Hiltz and Rotter (2002) surmised the role of faculty changed once the method of instruction changed. Their research concluded a faculty's role can fall into one of three categories, cognitive, affective and managerial. Koehler and Mishra (2009) defined the challenges of incorporating the role of faculty into three categories, "technology, pedagogy and content knowledge" (TPACK). Keengwe and Kidd (2010) categorized an "online instructor's role as pedagogical, technical and content knowledge" (p. 536). According to the research, a faculty's role can be categorized into three separate roles, "pedagogical, technical and content knowledge" (Keengwe & Kidd, 2010; Liu, Kim, Bonk & Magjuka, 2005). Chai, et al. (2013) review of integrated communication and technology and compared with technology, pedagogy and content knowledge as a "framework for teacher education" (p.31). Morulan (2018) studied the implementation of a faculty education methodology using TPACK. This was supported by faculty and administrators identifying pedagogy, content knowledge and technology as having an impact on student outcomes. De Rossi and Trevisan (2018) identified the amount of research conducted in support of teacher education using TPCK framework with the continually changing of education and educational technology. The student identified that faculty perception is technology can have a positive and

negative impact on student outcomes depending upon usage or any latency issues around the learning management system.

There has also been vast amounts of literature and studies conducted to identify how faculty can implement better instructional design principles to impact course quality (Evens, et al., 2017). Baran (2018) identified that even though online and pedagogical techniques are rapidly changing teachers have been slow to accept and implement and change (Natriello, 2005). Baran (2018) also identified that pedagogy in an online environment cannot be based upon traditional methodologies and require the teachers to reflect on their own beliefs and knowledge of online education (Archibold & Barnes, 2017; Collay, 2017; Keengwe & Kidd, 2010). Faculty perception also supported this statement when this study identified an emerging trend where faculty identified that student outcomes are better in a face-to-face environment than an online environment.

The challenge of teaching, especially in the online arena continually being studied and researched to identify how faculty can utilize different teaching practices to increase student outcome, in addition, organizations such as *Quality Matters, Online Learning Consortium (OLC*) or the *National Standards for Online Courses iNAOCL* have created templates and rubrics to help faculty design, engage and develop better teaching practices to increase student outcomes. However, based upon the research conducted this study provided an insight into how community college faculty members perceive pedagogical methods, technology and content knowledge on student outcomes and based upon the literature review provided, the study identified when faculty agree with existing literature by identifying pedagogy, technology and content knowledge have an influence on student outcomes. In addition, the results from the study also identified emerging trends where faculty believe students have an impact on their own online education

and faculty believe outcomes are better in a face-to-face environment. This provides an opportunity for additional research and an understanding of what faculty beliefs are and provides others to utilize to study and provide practical and research-based programs to positively impact student outcomes.

Limitations

As with any qualitative study there are some limitations, this one is no exception. The first was the sample size. The sample was conducted to identify those faculty members who have taught at least one online or hybrid course over the previous five years and are still employed with the institution. There was a total of 11 faculty members and four administrators interviewed. As stated by Yin (2011) there is no standard for sample size in a qualitative study, but the researcher wanted to obtain as many faculty members as possible. The institution does not distinguish easily between online and hybrid courses. This study was conducted at one community college located in New Jersey. The location was chosen based upon the convenience of the researcher having a relationship by being employed at the institution. By limiting the study to only one institution, this study only reflects the perceptions of that institution. This means the results cannot be interpreted for all community colleges within New Jersey. Another limitation is the researcher tried to limit the interviews to 20-30 minutes and at a location of the participant choosing. To be considerate of the generous offering of the participants to give up their time to participate in the interview process and the online questionnaire was available for four weeks.

Implication of the Results for Practice, Policy, and Theory

The results and output of the descriptive case study are provided to the community of scholars and the educational community to continue research and provide findings on how

community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The implications to both the community of scholars and educational community is provided below. This descriptive case study was conducted at one community college located in New Jersey. This study can be utilized at other community colleges or other universities to identify faculty perception of online best teaching practices and the impact on student outcomes. As distance education continues to grow teachers will be required to continually update their beliefs and skills to stay current (Baran, 2018; Prestridge & Tondeur, 2015).

There were some emerging themes identified within this study. Faculty perception indicates they do not believe the quality of online education is the same as traditional education this is indicated by the response to the questions. This indicates we are not there yet, with online education. This indicates a need for a campus-wide training and development efforts to support teachers and the online learning environment. This researcher recommends faculty should complete at least one online college course. This would allow faculty to be able to identify with the online student and understand from a student's perspective. In addition, this researcher believe the institution should implement a common course template and course shell for all courses, regardless of subject. This allows for similar look and feel for students attending online courses.

Faculty and administrators believe that students have an interest in their own outcomes and the study also identified the participants perceptions is there is a gap in student's understanding in technology. The institution could develop and require students to take an introduction to online education course. This would allow student to understand and become familiar with taking an online courses. In addition, the implications of this result identified a

need for research on students perceptions of online education and technologies associated with LMS systems and terminology (Palmer & Holt, 2017). This could be a survey or full research study. Also the implication of this study being performed at other institutions.

Another emerging theme identified with this study was the perception of the negative impact the system performance has on students. This is more of a practical implication, meaning the recommendation is for the institution to review their current LMS systems and practice and based upon the results implement a corrective action plan. This should include reviewing other institutions LMS systems, processes and techniques to identify best practices. In addition, an increase in communication, publish a maintenance schedule and provide additional communication.

Higher education is continuously evolving as more research based studies are determined. According to the research conducted in the literature review, a faculty member's roles or pedagogy, technology, and content knowledge (TPACK) are intertwined in an online learning environment (Keengwe & Kidd, 2010; Liu, Kim, Bonk & Magjuka, 2005; Ouyang & Scharber, 2018). This was supported by the results, which identified faculty and administrators both identifying pedagogy, content knowledge and technology as having an impact on student outcomes. Pedagogy was identified by the study as engagement, teacher-to-student relationships, motivation, feedback and expectations. Faculty perception also identified content knowledge including course set-up, content knowledge and course framework. The final theme that faculty identified is that technology can have a negative and positive impact on online education and student success.

Recommendations for Further Research

This study identified the need for further research. The research conducted in the descriptive case study was based upon a single community college in New Jersey, in which three data sources were utilized. The semistructured interviews were based on 11 faculty members, four administrators and an online questionnaire distributed faculty members. It may be beneficial to replicate the study to include faculty members who have not taught an online course. In addition, conduct this study at additional institutions both community college and at universities. In a qualitative study there is no minimum criteria for sample size (Yin, 2011; Merriam, 1998) and this descriptive case study utilized triangulation to ensure validity (Yin, 2011). The additional research would allow a researcher to identify if the perception is institutional based or extends to other institutions also by conducting a study to include faulty who have not taught an online course a researcher could identify the differences between faculty who have and have not taught an online course. Another implication for additional research is to explore student perception of online teaching practices. By identifying student perception and combining the results from this study and comparing the results would identify gaps between the students and faculty.

A final recommendation may be to hold a large scale qualitative study which would compare faculty perception between different institutions and universities. This study would examine correlations and statistical differences of different universities and practices.

Conclusion

This study explored how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. While there is a significant amount of literature regarding online education,

best practices, improving online courses by incorporating best teaching practices, utilizing technology in online courses and faculty perception of technology within an online environment a gap was identified, and the following research questions were answered:

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices in online courses on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology in online courses on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge in online courses on student outcomes?

The research identified major four major themes related to the research questions. They were Pedagogy with the categories of Engagement, Teacher-to-student relationship and feedback. Content knowledge included Course set-up, content knowledge and course framework. The final theme was technology and categories including technology usage including positive and negative influences and technology downtime. There were also some emerging themes, which were identified, they are: students have an impact on their own outcomes, traditional classroom has been outcomes than an online environment, there are gaps in student's understanding of technology and LMS latency issues.

The results of this study identified the importance faculty believe in pedagogy, content knowledge and technology in online education. In addition, the study also identified we are not there yet with online education. Online education is still perceived as being lesser when compared to a traditional face-to-face course and faculty believe that students have an influence of their own education.

This descriptive case study identified the importance of understanding the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes. The hope of this researcher is this study will be utilized to help identify perceptions and provide administrators and institutions some additional insight or methodology to positively impact student outcomes and increase the perception of online education.

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Appendix A: Questions for Online Questionnaire

1. What type of faculty member are you?
2. In what Academic School do you teach?
3. What is the highest degree you earned?
4. What percentage of your courses are online? (0–25% | 25–50%| 50–75% | 75–100%)

The next series of questions are Likert–type questions. Please indicate your level of agreement with the following statements,

Strongly agree	Agree	Somewhat Agree	Neither Agree nor disagree	Somewhat disagree	Disagree	Strongly disagree

5. Students obtain the same quality of leaning from an online class as a face–to–face course.
6. Best teaching practices can positively impact student outcomes.
7. Student motivation is a factor in online education.
8. Faculty have the ability to impact student motivation in online courses.
9. Organization of content in an online course influences student outcomes.
10. Building a relationship with students in an online course impacts student outcomes.
11. Providing timely feedback to students attending an online course can positively impact student outcomes.
12. Faculty ability to use and understand technology impacts student outcomes.
13. The organization and understanding by faculty of the learning management systems impacts student outcomes.
14. Student to student relationships positively impact student outcomes.
15. An online course design has an impact on student outcomes.
16. The quality of an online education is the same as a traditional face–to–face course.

17. Content knowledge plays an important role in an online environment.

Appendix B: Semistructured Interview Questions – Faculty

The purpose of this descriptive case study is to explore how community college instructors in New Jersey perceive the influence of online best teaching practices – pedagogical, technical and content knowledge – on student outcomes.

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge on student outcomes?

Background questions:

1. How many years' experience overall do you have teaching in higher education?
2. How many in teaching online courses?
3. Total number of online course you have taught?
4. What courses have you taught online?
5. Academic school, which you currently teach?
6. What is your highest degree earned?

Please think about your experience in teaching online courses you have taught.

1. Please describe what you believe will positively impact the outcome of the student in an online course.
2. Do you believe student outcomes are better in a face–to–face or an online course? Please explain.
3. What are the advantages or disadvantages you see in teaching online courses?

4. What challenges do you see for students to succeed in your online course?
5. Please describe the techniques you utilize to organize your online content, and how do you believe this influences student outcomes?
6. What, in your opinion, are the most effective practices for an online course?
7. Please identify what teaching strategies you utilize in an on online course.
8. How do you motivate students in an online learning environment? Do you believe this has a positive or negative impact on student outcomes?
9. How do you foster a relationship with your online students?
10. Identify what techniques and tools you utilize to provide feedback to students.
11. What software or technology have you used in your online classroom?
12. What are the techniques you utilize to identify important points within an online environment?
13. Do you believe fostering relationship will influence your student's outcome within the course(s)?
14. In your opinion, what are the best type of assignments/assessments to use in an online environment?
15. Which technologies have you found to have a positive effect on student outcomes?

Appendix C: Semistructured Interview Questions – Administrators

The purpose of this descriptive case study is to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

RQa. How do community college instructors in New Jersey perceive the influence of pedagogical teaching practices on student outcomes?

RQb. How do community college instructors in New Jersey perceive the influence of technology on student outcomes?

RQc. How do community college instructors in New Jersey perceive the influence of content knowledge on student outcomes?

Background questions:

1. How many years–experience do you have in higher education?
2. Do you have experience in teaching or teaching online courses? If yes how many years?
3. What is your highest degree earned?

Please think about your experience and beliefs regarding online courses.

1. Please describe what you believe will positively impact the outcome of the student in an online course.
2. Do you believe student outcomes are better in a face–to–face or an online course? Please explain.
3. Do you believe implementing best teaching practices impact student outcomes?
4. What are the advantages or disadvantages you see in offering online courses?
5. What challenges do you see for students to succeed in online courses?

6. Please describe the techniques you believe faculty should utilize to organize online content, and how do you believe this influences student outcomes?
7. What, in your opinion, are the most effective practices for an online course?
8. Please identify what teaching strategies you believe can impact an online course.
9. How do you believe faculty can motivate students in an online learning environment?
10. How do you believe faculty should foster a relationship with online students?
11. Identify what techniques and tools would recommend faculty to utilize to provide feedback to students.
12. What software or technology do you believe would impact an online classroom?
13. What techniques do you believe faculty should utilize to highlight important points within an online environment?
14. How do you believe faculty should foster relationships with students in an online environment?
15. In your opinion, what are the best type of assignments/assessments to use in an online environment?
16. Which technologies have you found to have a positive effect on student outcomes?

Appendix D: Consent Form Faculty

Concordia University – Portland Institutional Review Board
Approved: July 17,2018; will Expire: June 15, 2019

CONSENT FORM

Research Study Title:

Community College Instructors Perception of the Influence of Online Best Teaching Practices on Student Outcomes

Principal Investigator: Anthony Spagnuolo
Research Institution: Concordia University–Portland
Faculty Advisor: Dr. Nicholas Markette

Purpose and what you will be doing:

The purpose of this descriptive case study is to explore how community college instructors in New Jersey perceive the influence of online best teaching practices— pedagogical, technical and content knowledge—on student outcomes. As a participant in this study, you are asked to respond to interview questions relating to your perception of online education, best teaching practices and your perception best practices have student outcomes. No one will be paid to be in the study. We expect approximately 10 volunteers. We will begin enrollment on 7/17/2018 and end enrollment on 10/30/2018. There is only one interview and it will take approximately 15 to 30 minutes to complete. With your permission the in–person interview will be recorded. Once the interviews are concluded they will be transcribed and forward to you for review. Once approved, all digital recordings will be destroyed.

Risks:

There are no risks to participating in this study other than providing your information. However, we will protect your information. I will record interviews. The recording will be transcribed by me, the principal investigator, and the recording will be deleted when the transcription is completed. Any data you provide will be coded so people who are not the investigator cannot link your information to you. Any name or identifying information you give

will be kept securely via electronic encryption on my password protected computer locked inside the cabinet in my office. The recording will be deleted as soon as possible; all other study documents will kept secure for 3 years and then be destroyed.

Benefits:

This interview will help contribute to a greater understanding of how community college instructor's perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Confidentiality:

This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us abuse or neglect that makes us seriously concerned for your immediate health and safety.

Right to Withdraw:

Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You are free at any point to choose not to engage with or stop the study. You may skip any questions you do not wish to answer. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, please notify us and we will stop asking you questions.

Contact Information:

Please print a copy of this for your records. If you have questions you can talk to or write the principal investigator, Anthony Spagnuolo at [email redacted]. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email obranch@cu–portland.edu or call 503–493–6390).

Your Statement of Consent:

I have read the above information. I asked questions if I had them, and my questions were answered. I volunteer my consent for this study.

_____ _____

Participant Name Date

_____ _____

Participant Signature Date

_____ _____

Investigator Name Date

_____ _____

Investigator Signature Date

Investigator: Anthony Spagnuolo; email: [email redacted]
Professor Dr. Nicholas Markette; Concordia University–Portland
2811 NE Holman Street
Portland, Oregon 97221

Appendix E: Interview Validation Rubric

Criteria	**Operational Definitions**	**Score***				**Comments** (please identify questions which require revision and include comments and suggestions)
		1	2	3	4	
Clarity	• The questions are complete. • Only one question is asked at a time • The participant understood the questions					
Wordiness	• Questions are clear and concise • There are no unnecessary words					
Negativity	• Questions are asked using the affirmative					
Overlapping Responses	• No responses are covered more than once					
Jargon	• The terms used are understandable by the target population					
Balance	• Questions are unbiased and do not lead the participants to a response. The questions contain a neutral tone.					
Appropriateness of Responses Listed	• The choices allow participants to respond appropriately. The responses apply to all situations of offer a way for those to respond with unique situations.					

*1 – Needs major modifications; 2 – Needs some modifications; 3– No modifications required, but could improve with minor modifications; 4 – Exceeds expectations.

Appendix F: IRB Approval

DATE:	July 17, 2018
TO:	Anthony Spagnuolo
FROM:	Concordia University – Portland IRB (CU IRB)
PROJECT TITLE:	[1216031–2] Community College Instructors Perception of the Influence of Online Best Teaching Practices on Student Outcomes
REFERENCE #:	EDD–20180517–Markette–Spagnuolo
SUBMISSION TYPE:	Response/Follow–Up
ACTION:	APPROVED
APPROVAL DATE:	July 17, 2018
EXPIRATION DATE:	June 15, 2019
REVIEW TYPE:	Expedited Review

Thank you for your submission of Response/Follow–Up materials for this project. The Concordia University – Portland IRB (CU IRB) has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission. Attached is a stamped copy of the approved consent form. You must use this stamped consent form.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed

consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON–COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of June 15, 2019.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Amon Johnson at (503) 280–8127 or amjohnson@cuportland.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Concordia University – Portland IRB (CU IRB)'s records. July 17, 2018

Appendix G: Consent Form for Administrators

Concordia University – Portland Institutional Review Board
Approved: July 17,2018; will Expire: June 15, 2019

CONSENT FORM

Research Study Title:	Community College Instructors Perception of the Influence of Online Best Teaching Practices on Student Outcomes
Principal Investigator:	Anthony Spagnuolo
Research Institution:	Concordia–Portland University
Faculty Advisor:	Dr. Nicholas Markette

Purpose and what you will be doing:

The purpose of this descriptive case study is to explore how community college instructors in New Jersey perceive the influence of online best teaching practices— pedagogical, technical and content knowledge—on student outcomes. As a participant in this study, you are asked to respond to interview questions relating to your perception of online education, best teaching practices and your perception best practices have student outcomes. No one will be paid to be in the study. We expect approximately 4 volunteers. We will begin enrollment on 7/17/2018 and end enrollment on 10/30/2018. There is only one interview and it will take approximately 15 to 30 minutes to complete. With your permission the in–person interview will be recorded. Once the interviews are concluded they will be transcribed and forward to you for review. Once approved, all digital recordings will be destroyed.

Risks:

There are no risks to participating in this study other than providing your information. However, we will protect your information. I will record interviews. The recording will be transcribed by me, the principal investigator, and the recording will be deleted when the transcription is completed. Any data you provide will be coded so people who are not the investigator cannot link your information to you. Any name or identifying information you give will be kept securely via electronic encryption on my password protected computer locked inside

the cabinet in my office. The recording will be deleted as soon as possible; all other study documents will kept secure for 3 years and then be destroyed.

Benefits:

This interview will help contribute to a greater understanding of how community college instructor's perceive the influence of online best teaching practices—pedagogical, technical and content knowledge—on student outcomes.

Confidentiality:

This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us abuse or neglect that makes us seriously concerned for your immediate health and safety.

Right to Withdraw:

Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You are free at any point to choose not to engage with or stop the study. You may skip any questions you do not wish to answer. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, please notify us and we will stop asking you questions.

Contact Information:

Please print a copy of this for your records. If you have questions you can talk to or write the principal investigator, Anthony Spagnuolo at [email redacted]. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email obranch@cu–portland.edu or call 503–493–6390).

Your Statement of Consent:

I have read the above information. I asked questions if I had them, and my questions were answered. I volunteer my consent for this study.

_____ _____

Participant Name Date

_____ _____

Participant Signature Date

_____ _____

Investigator Name Date

_____ _____

Investigator Signature Date

Investigator: Anthony Spagnuolo; email: [email redacted]
Professor Dr. Nicholas Markette; Concordia University – Portland
2811 NE Holman Street
Portland, Oregon 97221

Appendix H: Consent Form for Online Questionnaire

The purpose of this descriptive case study is to explore how community college instructors in New Jersey perceive the influence of online best teaching practices—pedagogical, technological and content knowledge—on student outcomes. We expect approximately volunteers. No one will be paid to be in the study. We will end enrollment on (10/31/2018). To be in the study, please complete this online survey. This will ask you questions about your online classroom, personal experiences and practices in using best practices in online instruction. Completing the survey should take less than 20 minutes of your time. The online survey is anonymous. We will not ask you any personal identifying information and we will have no record of who completes this survey.

There are no risks to participating in this study other than the everyday risk of your being on your computer as you take this survey. The benefit is your answers will help us understand the relationship between teachers' reported self-efficacy in writing and writing instructional choices. You could benefit by reflecting on your own beliefs and practices in writing instruction.

All data is collected anonymously. If you were to write something that made it to where we predict that someone could possibly deduce your identity, we would not include this information in any publication or report. And data you provide would be held privately. All data will be destroyed three years after the study ends.
You can stop answering the questions in this online survey if you want to stop.
Please print a copy of this for your records. If you have questions you can talk to or write the principal investigator, Anthony Spagnuolo at or . If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email obranch@cu-portland.edu or call 503-493-6390).

Click the button below to consent to take this survey.

- ○ Take Survey
- ○ End Survey

Appendix I: Employment Type by Respondent

	Count Respondents	Percentage
Adjunct Faculty Member	18	55%
Full–time Non–Tenured Faculty Member	4	12%
Full–time Tenured Faculty Member	11	33%
Grand Total	**33**	**100%**

Appendix J: Degree Type by Respondent

	Count Respondents	Percentage
Baccalaureate	2	6%
Doctorate	6	18%
Master's	25	76%
Grand Total	**33**	**100%**

Appendix K: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously- researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

> As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does "fraudulent" mean?

> "Fraudulent" work is any material submitted for evaluation that is falsely or improperly presented as one's own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate's final work without full and complete documentation.

What is "unauthorized" assistance?

> "Unauthorized assistance" refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:
>
> - Use of unauthorized notes or another's work during an online test
> - Use of unauthorized notes or personal assistance in an online exam setting
> - Inappropriate collaboration in preparation and/or completion of a project
> - Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.

2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*

Anthony Spagnuolo

Digital Signature

Anthony Spagnuolo

Name (Typed)

03/02/2019

Date