BEST PRACTICES IN TEACHING K-3 ONLINE: A CONTENT ANALYSIS OF DISTANCE EDUCATION JOURNALS, BLOGS, AND ELECTRONICALLY-DOCUMENTED SURVEYS

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DEDICATION

To my Lord Jesus Christ, thank you for providing me with the capability of even pursuing such a dream.

To my lovely parents, Joyce and Richard, thank you for the many years of encouragement toward pursuing this goal. You all have always encouraged me to reach my potential!

To my dear brother, sister-in-law, and nephews, thank you for all the kind and loving words of encouragement.

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ABSTRACT

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BEST PRACTICES IN TEACHING K-3 ONLINE: A CONTENT ANALYSIS OF DISTANCE EDUCATION JOURNALS, BLOGS, AND ELECTRONICALLY-DOCUMENTED SURVEYS

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The purpose of this study was to examine best teaching practices utilized by virtual K-3 instructors through a qualitative content analysis of distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. Two theoretical perspectives informed this study, socio-constructivism and activity theory. Socio-constructivism provided a lens addressing factors contributing to the implementation of best practices, while activity theory functioned as a descriptive means for considering the implementation of best practices within the context of varying activity systems (Vygotsky, 1978; Engestrom, 1987; Leont'ev, 1978; Luria, 1976). The sample consisted of 5 distance education journals, 4 dedicated virtual school blogs, and 11 electronically-documented surveys completed by virtual K-3 instructors. The qualitative content analysis revealed that in following best practices virtual K-3 instructors were responsible for setting clear expectations, personalizing instruction, accommodating diverse learners, building a community of learners, implementing evidence-based teaching practices, using technology effectively in the online classroom, participating in professional development activities, and actively working with parents and administrators to improve the learning environment for virtual K-3 students.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Within the past few decades, technological advancements have demonstrated a significant influence in a broad range of contexts, especially that of the educational setting. Notably, both public and private schools have begun to integrate technology within their programs for enhancing teaching methods to a diverse population (Cavanaugh, 2004). In 2011, the *National Association of Independent Schools Hybrid/Blended Learning in Independent Schools* (NAIS) report indicated an increasing number of schools as offering students a means of completing coursework partially or completely online. According to NAIS (2011), an estimated 20% of schools offer full- or part-time virtual K-12 programs with an additional 13% actively seeking the provision of virtual educational programs for students. Comparably, the *International Association for K-12 Online Learning* (2011) reported 40 out of 50 states as providing or initiating blended learning programs with 30 of those states offering students the option of receiving educational services solely online. Such was reflected in the enrollment period for the 2010 – 2011 school year in which K-12 virtual schools accommodated a student body of approximately 250,000 students, which was a considerable increase from the 200,000 enrollees serviced in the prior school year.

Advancement of Virtual Schools

The significant growth in enrollment for virtual schools has been attributed to individual school districts adopting and implementing policies to promote the incorporation of technologically-based programs into their curriculum, as well as in providing students with the choice of participating in state-led virtual schools on a full-time basis (Ash, 2012; Cress & Kimmerle, 2008). Relatedly, state-wide budget cuts have provided schools with the impetus to re-examine their role in distance education as policy-makers have been endorsing K-12 virtual schools through policy changes and monetary means (Hanover, 2011). As of 2006, Michigan was the first state to require its students to participate in a distance learning experience prior to graduating from high school (DiPietro, Ferdig, Black, & Preston, 2008). Similar trends occurred in Colorado as the Aurora Public School district launched a virtual school in order to reduce the attrition rate, 1100 annually, with students transitioning to a virtual program (Ash, 2012). Nationwide, individual school districts are attempting to accommodate their student population through offerings of blended and full-time virtual K-12 programs in order to maintain their competitiveness with the private sector, as well as their value at the state and federal levels (Ash, 2012; Booth, 2012).

Types of Virtual Schools

Descriptively, these virtual schools may be distinguished by their scope of reach within a geographical region and/or typology of providers offering educational services for the identified demographic group. Virtual K-12 programs can be categorized as (a)

state-sanctioned schools; (b) statewide supplemental programs; (c) university-based programs; (d) single-district programs; (e) multi-district programs; (f) virtual charter schools, and; (g) private virtual schools (Cavanaugh, Barbour, & Clark, 2009; Rice, 2006). Significantly, virtual K-12 programs have distinguished themselves from other programs as they offer full-time distance education to primary and secondary age groups (Cavanaugh, Barbour, & Clark, 2009). As the fastest growing division of virtual education, K-12 programs serviced approximately 250,000 full-time students with the enrollment of an estimated 1,816,400 part- to full-time students in the 2009-2010 school year (iNACOL, 2012).

Virtual Instruction

To address the learning needs of a diverse student population, virtual schools have a considerable responsibility for employing qualified teaching staff members. With virtual schools being a relatively new phenomenon, it may pose a new challenge for teachers deciding to transition from a traditional to non-traditional teaching environment. According to Connolly, Jones, and Jones (2007), teachers transitioning to teaching at virtual schools are being confronted with "challenges related to pedagogy and curriculum as it is not simply a case of taking traditional teaching materials and making them available electronically; instead, it invites critical pedagogical, technological, and organizational reflection and change" (p. 44). In emphasizing the realignment of instructional pedagogy with curriculum development, Adams (2004) proposed pedagogy as being the foundational component for structuring and facilitating effective teaching

practices within an online environment. However, pedagogy must not be considered an exclusive parameter guiding the instructional style of virtual instructors, but should be included in the consideration of innovative educational design as it plays a primary role in the development of an online learning environment.

According to Ferdig (2006), ". . . innovations must be steeped in academic content and practice as the innovation is tied to learning theory to create authentic and engaging activities for students." (p. 750). Research has indicated that powerful learning environments can be created through the combined expertise of educational web designers, online instructors, and students (Konings, Brand-Gruwel, & van Merrienboer, 2005). The failure to integrate a multi-faceted perspective may result in a less than comprehensive educational curriculum that does not reflect the pedagogy of online instructors desiring to follow established guidelines for implementing best practices.

Statement of the Problem

Although virtual instructors have been challenged to implement best practices in their teaching style, such may prove difficult in consideration of already established institutional guidelines in curriculum development, thus possibly reducing the level of autonomy displayed in implementing teaching methods that correlate with best practices within virtual programs at the primary and secondary grade levels. Considerably, an increasing number of virtual K-12 programs appear to be adopting a traditional model of teaching pedagogy and curriculum development for virtual programs that may or may not foster the incorporation of best practices (DiPietro, Ferdig, Black, & Preston, 2008). The

implementation of self-paced coursework being offered throughout the semester appears to be a sustained trend in many virtual school programs (DiPietro, Ferdig, Black, & Preston, 2008). According to Ash (2012), K-12 programs appear to be offering pre-tailored curriculum for teaching staff with virtual instructors appearing to take on the role of a proctor, instead of as a participant and facilitator in the learning process. This may reflect the need for virtual instructors teaching both primary and secondary grade levels to transition from the role of a proctor, who functions as a removed entity, to that of a facilitator, who is actively involved in the decision-making process for employing best teaching practices within the learning environment. If virtual K-3 instructors are assuming the role of a proctor within their virtual classrooms, with such being based on dictates of pedagogical, technological, and organizational constraints, such may present notable constraints on the implementation of best practices with their student population.

Statement of the Purpose

In accordance with current literature, best practices is a research topic that needs further examination when assessing the effectiveness of distance learning in virtual K-12 programs (Rice, 2009). Although, the topic of integrating best practices has been discussed at length for collegiate level virtual programs, such has received limited attention from the research reviewed at the primary and secondary grade levels, i.e. virtual K-3 and 4-12 (DiPietro, 2010; Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009). The limited attention given to best practices within virtual K-3 programs posed a

needed line of inquiry for distinguishing the teaching practices of virtual K-3 instructors in regard to their implementation of best practices.

The purpose of this study was to examine the best teaching practices utilized by virtual K-3 instructors. This was realized by collecting and evaluating distance education journals, dedicated virtual school blogs, and electronically-documented surveys with virtual K-3 instructors through a qualitative content analysis. The review of content gained from these sources assisted in determining the best practices being implemented by virtual K-3 instructors in the online classroom.

Research Question

In developing a research question addressing the implementation of best teaching practices by virtual K-3 instructors, the primary investigator sought to gain a heightened understanding of the given phenomenon. The research question was employed as a means of discovering recurring patterns in the content gathered from distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors (Denzin & Lincoln, 2008). The study purpose was addressed through the outlined research question.

Research Question. What are best practices implemented by virtual K-3 instructors as identified through journals, electronically-documented surveys, and dedicated virtual school blogs?

Theoretical Perspectives

For the current study, the primary investigator utilized the perspective of socio-constructivism and activity theory to analyze the collected data during the investigative process (Engestrom, 1987; Leont'ev, 1978; Luria, 1976; Vygotsky, 1978). The socio-constructivist framework was utilized as a lens for examining the implementation of best practices within the virtual K-3 setting. A socio-constructivist perspective allowed the primary investigator to analyze factors influencing the implementation of best practices utilized in virtual K-3 schools (Cavanaugh, 2004; Rice, 2009). For instance, the distance learning environment design may enhance or detract from effective teaching processes within a virtual environment as the design may or may not be in alignment with best teaching practices (Konings, Brand-Gruwel, & van Merrienboer, 2005).

In further analyzing best practices in virtual K-3 programs, the primary investigator incorporated activity theory (Engestrom, 1987; Leont'ev, 1978; Luria, 1976; Vygotsky, 1978) as a lens for examining the implementation of best practices by virtual K-3 instructors. Activity theory was used as an appropriate theoretical perspective for examining the implementation of best practices within a virtual K-3 school as it addressed how the interchange between individuals through varying mediating tools influenced cognitive development (Vygotsky, 1978). For this study, the virtual K-3 instructors and students were considered the individual users with the instructors mediating learning through a virtual interface allowing for the implementation of best practices (Vassilieva, 2010). Furthermore, the primary investigator utilized cultural-historical activity theory as a lens for gaining deeper understanding of pedagogical,

technological, and organizational factors influencing the implementation of best practices by virtual K-3 instructors (Egenstrom, 1999).

Socio-constructivist Perspective

Socio-constructivism is a theoretical perspective that situates cognitive development within the context of socio-cultural influences and social interactions. This theoretical perspective proposed that learning was accommodated through (a) socio-cultural context; (b) interpersonal interactions, and (c) intrapersonal influences on development (Vygotsky, 1978). As a socio-constructive perspective lent itself well to the discussion of cognitive processes being enhanced through self-paced activities and guided social interaction(s), the primary investigator used the afore-stated perspective to frame the study (Cavanaugh, 2004; Vygotsky, 1978). Specifically, the primary investigator assessed the implementation of best practices, as utilized by K-3 virtual instructors, for enhancing the learning processes of students through varying learning strategies. The socio-constructivist perspective was utilized to examine how the pedagogy of virtual K-3 instructors impacted their implementation of best practices, and how such was influenced by the course design, autonomy in teaching practices, and available technological tools (Cavanaugh, 2004; Konings, Brand-Gruwel, & van Merrienboer, 2005; Rice, 2009).

Activity Theory

Activity theory is a theoretical framework used as a means of explaining cognitive development within the context of mediating factors directing learning through the use of

psychological or physical tools (Vygotsky, 1978). Furthermore, activity theory functions as a descriptive framework considering the interaction occurring between activity systems and how such may influence changes between opposing systems (Engestrom, 1987). For this study, activity theory functioned as a framework for assessing the mediating factors that influenced the implementation of best practices at the (a) individual; (b) institutional; (c) technological; (d) community, and; (e) government level (Leont'ev, 1978; Luria, 1976; Vygotsky, 1971). Activity theory accommodated the assessment of multiple interactions between various mediating factors and activity systems, which allowed the primary investigator to distinguish the influential factors impacting the implementation of best practices (Barab, Barnett, Lynch-Yamagata, Squire, & Keating 2002; Leont'ev, 1978; Luria, 1976). For instance, a virtual K-3 instructor may have a primary goal of assisting students in successfully attaining a learning outcome. The mediating factors influencing the outcome of this goal may consist of instructional pedagogy, autonomy or input in curriculum development, or the availability of appropriate technological tools. Notably, these mediating factors may heavily determine whether or not the virtual K-3 instructor is successful in assisting his or her students in acquiring the determined learning outcome (Barab, Barnett, Lynch-Yamagata, Squire, & Keating 2002). Therefore, activity theory was considered an essential lens for examining best practices in virtual K-3 programs as such addressed pedagogical and technological factors impacting the implementation of best practices by virtual K-3 instructors.

Definition of Terms

For this study, the following terms were selected based on: (a) frequency of use in the current literature; (b) commonly associated meaning(s), and (c) ability to narrow the search criteria during the data collection phase of this study by adhering to the most commonly identified terms in research. During this process, the primary investigator acquired familiarity with research terminology relating to virtual K-3 programs as to incorporate widely recognized terms salient to the current study. As a result, the following terms were incorporated within the body of this paper:

1. *Asynchronous communication* – the exchange of information in intermittent time frames in which a user can communicate at his or her convenience (Bassett, 2011; Cook, Garside, Levinson, Dupras, & Montori, 2010).
2. *At risk* – students presenting as a high probability for dropping out of school due to socio-emotional, physical, and/or cognitive deficits (Barbour, M., Siko, J., Sumara, J., & Simuel-Everage, K 2012).
3. *Best practices* - teaching methods or techniques that have been shown to be an effective tool, as determined by current research, for facilitating enhanced learning processes in students (Watson & Gemin, 2008; Savery, 2005).
4. *Blended learning* – the incorporation of face-to-face and virtual learning classes (Ash, 2012).
5. *Brick and mortar* – the traditional setting of a school, i.e. face-to-face interactions (Booth, 2012).

6. *Collaborative learning* – when students are grouped together to explore a topic or project (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010).
7. *Developmentally appropriate practices* – teaching practices that are grounded in research that enhance the learning process for students presenting at diverse ages and experiences (Bredekamp & Copple, 1997).
8. *Interactive learning* – a method in which students take on an active role in their educational process as they interact with varying learning resources (Austin, et al., 2010; Baghdadi, 2011).
9. *Pedagogy* – the underlying philosophy that influences the teaching methods employed by online instructors (Adams, 2004; Porter, 2004; Waterson, 2009).
10. *Social networks* – practice of expanding the number of one's social contacts by making connections with individuals (Baghdadi, 2011).
11. *Synchronous communication* – the real-time interaction between online users via computer or other online tools (Cook, et al., 2010).
12. *Technology* (educational) – the incorporation of the Internet and other electronic information technologies into the learning experience (Konings, Brand-Gruwel, & van Merrienboer, 2005).
13. *Virtual learning environment* – a virtual classroom that allows teachers and students to communicate with each other online (Hanover, 2011; McClatchy, 2011).

14. *Virtual school* – refers to an institution that is not "brick and mortar" bound. Most, if not all, student services and courses are conducted through Internet technology (DiPietro, Ferdig, Black, & Preston, 2008).
15. *Virtual K-3 programs* – virtual schools providing a comprehensive educational program catering to students ranging from kindergarten to 3rd grade (Cavanaugh, 2004).
16. *Virtual K-12 programs* – virtual schools providing a comprehensive educational program catering to students ranging from kindergarten to 12th grade (Cavanaugh, 2004).
17. *Web accessibility* – refers to the inclusive practice of making a website usable by people of all abilities and disabilities (Cook, et al., 2010; Rose & Blomeyer, 2010).

Researcher's Assumptions

Reflectively, the primary investigator acknowledged personal assumptions relating to the (a) implementation of best practices in virtual K-3 grade levels as resulting in optimal outcomes for students; (b) theoretical perspectives of socio-constructivist and activity theory as being the most appropriate lenses for analyzing best practices for virtual K-3 grade levels; (c) adequacy of content on best practices to be obtained from journals and blogs; (d) credibility of sources gained from blogs and electronically-documented surveys, and (e) dedicated virtual blogs will contain an adequate amount of

information discussing best practices. Each assumption will be further explained in the following section.

Research Assumption One: The primary investigator assumed the implementation of best practices as integral to promoting optimal educational outcomes in K-3 students attending a virtual program. According to the National Association for the Education of Young Children (2009), the utilization of developmentally appropriate practices is paramount in accurately facilitating the learning process of children at varying ages and stages. Concurrently, the International Association for K-12 Online Learning has adopted a stance that encourages the implementation of promising practices within virtual K-12 programs, supporting pedagogically-based practices that promote effective learning processes in students (Watson & Gemin, 2009).

Research Assumption Two: The perspectives of socio-constructivist and activity theory were selected based on their goodness-of-fit quality for examining the implementation of best practices for virtual K-3 students attending a virtual school. Each theoretical lens provided a salient referential point for examining the implementation of best practices within a virtual K-3 educational setting.

Research Assumption Three: In accessing journal articles and dedicated virtual blogs, the primary investigator assumed that there is an adequacy of content within journals and blogs addressing best practices in virtual K-3 grade levels. The primary investigator selected scholarly journals and dedicated virtual blogs based on *a priori* codes established prior to the initiation of the study. The primary investigator selected

terms based on their: (a) frequency of use in the current literature; (b) commonly associated meaning(s), and (c) ability to narrow the search criteria during the content analysis phase of this study. The establishment of such parameters resulted in the primary investigator gaining sources that were adequate and relevant to the specified content area.

Research Assumption Four: On interviewing K-3 virtual instructors, the primary investigator assumed that the participants would understand the survey questions, and provide responses that were reflective of their true perceptions. The primary investigator provided participants the opportunity to request clarification of questions throughout the electronically-documented survey process.

Research Assumption Five: In reviewing the online blogs of virtual instructors, the primary investigator assumed that there was a qualitative depth of information addressing best practices for virtual K-3 grade levels in virtual schools. Furthermore, the primary investigator identified best practices that were in accordance with those identified in the selected scholarly journals.

Delimitations

For this study, the first delimitation was applied to the selection process for scholarly and non-scholarly journals. Journals were chosen based on their ability to address the topic of best practices in virtual K-3 grade levels.

The second delimitation was applied in the selection process of articles obtained from the scholarly and non-scholarly journals. Articles were chosen according to their

ability to answer the research question relating to the implementation of best practices in virtual K-3 grade levels.

The third delimitation was applied in the selection process of participants for this study. Specifically, the inclusion of participants was limited to virtual K-3 instructors volunteering to participate in this study. This purposive sample was restricted to virtual K-3 instructors teaching within the United States.

The fourth delimitation was applied in the inclusion process for blogs. The inclusion of blogs was limited to those found on dedicated virtual school websites. The reason being to maintain the authenticity of information gained from the website, and thus reaffirm the trustworthiness of study findings.

The final delimitation was applied in the selection of a qualitative content analysis for analyzing and interpreting the data. The primary investigator chose qualitative content analysis due to its capabilities for assessing textual data in an in-depth manner for gaining further insights. Qualitative content analysis was utilized to examine chosen research journal articles, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. Such assisted the primary investigator in gaining heightened insights in regard to the implementation of best practices by virtual K-3 instructors.

Summary

This chapter provided the reader with an introduction to the expansion of virtual K-12 schools and their capabilities for providing students with the means of learning

through a digitized framework. Further discussion was given to the types of virtual schools providing educational services to a diverse and growing population of students through their offerings of pre-tailored curriculum. As discussed in the problem statement, the use of pre-tailored curriculum may reduce the level of autonomy virtual K-3 instructors have in implementing best practices as the course design may not be in alignment with pedagogically-based practices. In utilizing a Delphi survey panel, Rice (2009) identified the implementation of best practices within a virtual school, for primary and secondary grade levels, as being a priority area in need of further research.

Responsively, the purpose of this qualitative study was outlined as the primary investigator purposing to examine best teaching practices utilized by virtual K-3 instructors with such being realized through the collection and evaluation of distance education journals, dedicated virtual blogs, and electronically-documented surveys with virtual K-3 instructors. For attaining this goal, the primary investigator provided a research question addressing what (a) has been identified in scholarly and non-scholarly journals regarding best practices, and (b) best practices are being utilized by virtual K-3 instructors as accessed through electronically-documented surveys and blogs, as influencing the implementation of best practices in virtual K-3 environments.

In following, further attention was given to (a) the theoretical perspectives of socio-constructivist and activity theory as a lens for examining the implementation of best practices within a virtual K-3 grade levels; (b) a definition of terms for clarifying uncommon terms used throughout the dissertation; (c) researcher assumptions relating to

the importance of best practices, and trustworthiness of findings, and (d) delimitations including the primary investigator selecting articles and dedicated virtual school blogs for their ability to address best practices.

In further evaluating the implementation of best practices for K-3 virtual grade levels, the remainder of the study will be disseminated in the following manner:

Chapter II will review the (a) history of virtual K-12 schools; (b) definition of a virtual school; (c) types of virtual schools; (d) virtual school structural components and constituents; (e) benefits; (f) challenges; (g) best practices; (h) theoretical perspectives of socio-constructivism and activity theory; (i) content analysis, and; (j) summary.

CHAPTER II

LITERATURE REVIEW

Chapter II will present a review of related literature on the following topics: (a) history of virtual K-12 schools; (b) definitions of virtual schools; (c) types of virtual schools; (d) virtual school structural components and constituents; (e) benefits; (f) challenges; (g) best practices; (h) theoretical perspectives of socio-constructivism and activity theory, and (i) content analysis.

Historical Perspective of Virtual Schools

In 1997, Florida Virtual School was the first public distance education program for high-school students to be launched in the United States (Findley, 2009). Florida Virtual School provided an innovative and interactive means of teaching diverse learners. By 2008, the school enrolled 77-full-time students (Findley, 2009). Importantly, Florida's Virtual School catapulted a national paradigm shift within the United States school systems by providing a unique means for educating K-12 students using a non-traditional delivery model. This shift encouraged the development of state-wide virtual high-schools to address the needs of diverse populations. Virtual schools are reflected in 45-statewide programs for primary and secondary school-aged children as of 2009 (Hawkins & Barbour, 2010). To a lesser degree, virtual K-3 programs represent a smaller

demographic of students transitioning from a traditional "brick and mortar" setting to that of a virtual school (Revenaugh, 2006).

Collegiate Distance Learning: A Precursor for Virtual Schools

Prior to Florida Virtual School launching the first comprehensive distance educational program for K-12 students in 1997, full-time distance learning had been exclusive to individuals attending post-secondary institutions such as Walden University and the University of Phoenix (Rice, 2006). In brief, individuals attending collegiate-level distance programs experienced the possible benefit of flexibility in course scheduling, accessibility to highly-qualified instructors, convenience of anywhere-anytime schooling, and accessibility to a diverse body of community inquirers (Konings, Brand-Gruwel, & van Merrienboer, 2005; Rice, 2006). Relatedly, providers addressing the educational needs of primary and secondary age groups began to consider how distance education could be applied to their demographic, especially in consideration of available technological innovations.

Technological Integration: Growing Expansion in Schools

Researchers have attributed the extension of distance learning to primary and secondary grade levels to the notable technological advancements that have occurred in recent decades (Anderson & Dron, 2011; Cavanaugh, 2001; Ferdig, 2006; Rice, 2006). According to Cavanaugh (2001), ". . . the number of instructional computers in schools increased over 200% between 1989 and 1996 with 70% of schools having Internet access by 1997" (p. 74). Prior to this period, distance education for this demographic was not

technologically-mediated through computers, but by postal correspondence and mass media outlets (Anderson & Dron, 2011). The advancement of interactive technologies, in combination with maintaining scholastic competitiveness, acted as a catalyst for encouraging schools to develop distance learning programs suited to the needs of their students (Rice, 2006). In reaching a diverse population of students, public and private school sectors began to integrate technology within their educational programs for enhancing teaching methods for students presenting with different learning styles, cultural values, and educational backgrounds (Cavenaugh, 2004).

Virtual Schools: Blended and Full-Time Programs

In 2011, the *National Association of Independent Schools Hybrid/Blended Learning in Independent Schools* identified an increasing number of schools as offering students a means of completing coursework partially or completely online. According to NAIS (2011), an estimated 20% of schools offer full- or part-time virtual K-12 programs with an additional 13% actively seeking the provision of virtual educational programs for students. Comparably, the *International Association for K-12 Online Learning* (2012) reported 40 out of 50 states as providing or initiating blended learning programs with 30 of those states offering students the option of receiving educational services solely online. Such was reflected in the enrollment period for the 2010 – 2011 school year in which K-12 virtual schools accommodated a student body of approximately 250,000 students, which was a considerable increase from the 200,000 enrollees serviced in the prior school year (iNACOL, 2012). According to Revenaugh (2006), K-3 programs represented

approximately 3-percent of the overall growth in virtual school attendance.

Policy Influences: Traditional and Virtual K-12 Schools

As previously mentioned, the significant growth in enrollment for virtual schools can be attributed to individual school districts adopting and implementing policies to promote the incorporation of technologically-based programs into their curriculum, as well as in providing students with the choice of participating in state-led virtual schools on a full-time basis (Ash, 2012; Cress & Kimmerle, 2008). Relatedly, state-wide budget cuts have provided schools with the impetus to re-examine their role in distance education as policy-makers have been endorsing K-12 virtual schools through policy changes and monetary means (Hanover, 2011). As of 2006, Michigan was the first state to require its students to participate in a distance learning experience prior to graduating from high school (DiPietro, Ferdig, Black, & Preston, 2008). In 2011, Republican governor Rick Snyder of Michigan proposed for the legislature to reduce restrictions on virtual school enrollment within the state in order to allow students to take courses partially or completely online (McClatchy, 2011). Responsively, the Michigan Department of Education revised their school code by allowing middle school students to attend virtual schools on a full-time basis, while allowing individual districts the option of expansion through the opening of additional virtual schools (McClatchy, 2011). In Colorado, the Aurora Public School district launched a virtual school in order to reduce the attrition rate, 1100 annually, of students transitioning to virtual programs (Ash, 2012). Nationwide, individual school districts are attempting to accommodate their student

population through offerings of blended and full-time virtual programs in order to maintain their competitiveness with the private sector, as well as their value at the state and federal levels (Ash, 2012; Booth, 2012).

Types of Virtual Schools

The rapid growth of virtual primary and secondary grade level programs within the distance learning sector has been accommodated through for-profit and non-profit institutions that proffer educational services to students within a specified geographical region. Virtual programs can be categorized as (a) state-sanctioned schools; (b) statewide supplemental programs; (c) university-based programs; (d) single-district programs; (e) multi-district programs; (f) virtual charter schools, and; (g) private virtual schools (Cavanaugh, Barbour, & Clark, 2009; Rice, 2006).

State-sanctioned schools are virtual K-12 programs that offer full-time coursework to students at a state-wide level. The oversight of virtual K-12 programs is conducted through the state, i.e. Florida Virtual School (Cavanaugh, Barbour, & Clark, 2009). State-wide supplemental programs offer students the ability to complete coursework online; however, the students attend a "brick and mortar" or virtual school in the same state. State educational agencies oversee these programs as well (Rice, 2006; Watson, Winograd, & Kalmon, 2004). University-based programs may work independently, or in conjunction with virtual K-12 schools, to offer students preparatory coursework, i.e. University of California College Prep Online (Cavanaugh, Barbour, & Clark, 2009).

Single-district programs are virtual schools that offer K-12 students within their district the opportunity to attend school on a full-time basis. Typically, single-district programs are not governed or overseen by state agencies (Cavanaugh, Barbour, & Clark, 2009; Rice, 2006). Multi-district programs are virtual schools that offer K-12 students within their state the opportunity to attend their school on a full-time basis, although the students may belong to another district. Typically, multi-district programs are not governed or overseen by state agencies (Rice, 2006; Watson, Winograd, & Kalmon, 2004).

Virtual charter schools are those that have been "created under the charter school legislation in many states, i.e. Connections Academy" (Cavanaugh, Barbour, & Clark, 2009, p. 3). Virtual charter schools operate within a single district, but are able provide services for students from other districts within the state (Rice, 2006). Private virtual schools are comparable to traditional "brick and mortar" schools as they are conducted in the same manner, i.e. Christa McAuliffe Academy (Cavanaugh, Barbour, & Clark, 2009). Notably, the afore-mentioned types of virtual schools reflect the diversity of organizations operating virtual K-12 programs for addressing the educational needs of primary- and secondary-school students.

Definitions of Virtual Schools

In considering the diversity of organizations addressing the educational needs of primary and secondary grade level students virtually it is important to discuss what defines a virtual school. As formally defined, a virtual school is "institution-based, formal

education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors" (Schlosser & Simonson, 2002, p. 1). In extending this definition, Rice (2009) states that virtual schools may utilize synchronous or asynchronous communication platforms, as well as various content delivery methods based on the available technological innovations. Schlosser and Simonson (2002) state that virtual schools are characterized by four distinct components: (a) virtual schools are associated with an institution; (b) teachers and students must be separated by space, time, and expertise within a specific content area; (c) teachers and students must have a communication platform that allows for interaction regardless of distance, and; (d) the educational context and content delivery method promotes positive learning outcomes in students.

In further explanation of the terminology, virtual schooling has often been used interchangeably with "distance education, distance learning, e-learning, web-based instruction, and online learning" (Cavanaugh, 2001; Rice, 2006). However, virtual schools should be viewed as being a subdivision of distance education as they only represent a segment of distance education (DiPietro, 2010; Rice, 2009; Watson & Gemin, 2009). According to Rice (2009), distance education programs addressing the learning needs of primary and secondary aged students "are often referred to as 'virtual schools' or 'cyber-schools'" (p. 163). For this study, the primary investigator utilized the term virtual schools when referencing distance programs catering to the educational needs of K-3 students.

Virtual School Structural Components and Constituents

Virtual schools are characterized by synchronous (time delay between participant interactions) and/or asynchronous (no time delay between participant interactions) learning opportunities; occasional face-to-face meetings with majority of interactions online; and instructional services delivered primarily online (Berge & Clark, 2005). Virtual schools are comprised by a diverse demographic group, which includes those students who are home-schooled; attending a charter school; at-risk for truancy and/or dropping out of school; hospitalized frequently; seeking scholastic equity; experiencing bullying, or presenting with cognitive and/or physical disabilities (Grubbs, Pate, & Leech, 2009). The heterogeneity of K-3 students attending virtual schools may provide increased exposure to (a) a diversity of cultural backgrounds and (b) diverging perspectives when completing collaborative activities.

Advantages

Parental Choice

Subsequently, the innovation of virtual schools has allowed parents seeking an alternative means of educating their children access to a potentially advantageous opportunity. According to Klein and Poplin (2008), a prolific number of parents from varying social backgrounds are choosing to place their children in virtual schools. Parental choice has been attributed to ". . . freedom from traditional structure, innovation, and tuition-free education" (p. 370). Furthermore, virtual schools have shown demonstrable gains in enhancing the learning opportunities of a diverse demographic

group, which has appeared to be a strong determinant in parental decision(s) regarding enrollment (Repetto, Cavanaugh, Wayer, & Liu, 2010).

Accessibility

An additional advantage of virtual K-3 schools is their provision of increased accessibility to qualified instructors that would not be accessible within an individual student's district or state. Notably, state-sanctioned programs offer tuition-free education, and address accessibility-related hindrances for their students, i.e. provision of technological tools required for virtual schooling (Berge & Clark, 2005; Rice, 2006). Furthermore, virtual primary and secondary programs are gaining students who are unable to attend a traditional school program as a result of health or schedule issues, as well as those who are home-schooled based on religious or non-religious belief systems (Cavanaugh, Barbour, & Clark, 2009).

Cultural Diversity

Virtual programs may reflect a higher level of diversity than traditional "brick and mortar" schools as they can encompass a broader geographical region (Cavanaugh, 2001). According to DiPietro (2010), the participation of K-12 students in a culturally-diverse virtual program prepares students for effectively interacting with diverse individuals within the global workforce. As noted previously, current research has cited virtual K-12 students as participating in globally-based collaborative projects, which may be influential in setting the groundwork for successful personal and professional relationships in the future (Cavanaugh, 2001; Rice, 2006).

Flexibility

Notably, virtual K-3 programs have been commended for their flexibility in scheduling practices as students are able to participate in self-paced curriculum that may allow for increased attention to more challenging subjects. Furthermore, virtual primary and secondary grade level students may have the increased flexibility of completing their coursework in the "anywhere, anytime" framework, which may provide families with an outlet in times of crises, celebrations, or other life events. (Cavanaugh, Barbour, & Clark, 2009).

Disadvantages

Motivation

As virtual K-3 students are often able to participate in self-paced curriculum, they are afforded the ability to demonstrate more autonomous behavior in completing their coursework. The individualized component of virtual learning requires students to demonstrate an increased level of motivation for completing coursework in an environment where there is reduced face-to-face supervision by an instructor (Austin, Smyth, Rickard, Bolt, & Metcalfe, 2010; Cavanaugh, 2001). If students lack motivation or parental oversight, then student outcomes may be affected in an adverse manner within a virtual K-12 program (Cavanaugh, 2001). For virtual K-3 students, parental oversight may be a key indicator predicting the students' success in a virtual classroom.

Student Readiness and Retention

Notably, motivation is only a single component utilized for assessing student readiness and retention within a virtual program. Distance learning research has provided an outline for assessing student readiness for participation in a virtual program, which is entailed in the following: (a) high level of motivation; (b) self-disciplined; (c) high level of autonomy in completing coursework; (d) proficient or gaining proficiency in literacy skills; (e) supportive family framework; (f) a strong interest or ability with technology; (g) accessibility to technological tools required for participation in the program, and; (h) good time management skills (Cavanaugh, 2001; DiPietro, 2010; Smith, Murphy, & Mahoney, 2003). Notably, Rapp, Eckes, & Plurker (2006) reported "at-risk" students as representing a high proportion of the student population within virtual K-12 programs. Simply defined, "at-risk" students present with a higher probability for dropping out of school due to socio-emotional, physical, and/or cognitive deficits (Barbour & Siko, 2012). Therefore, if "at-risk" students do not possess the skills that are deemed necessary for school readiness in a virtual program, then they may demonstrate difficulty in maintaining a strong commitment to completing the program (Cavanaugh, 2001).

Social Isolation

In "*Everybody is Their Own Island": Teacher Disconnection in a Virtual School,* Hawkins, Graham, and Barbour (2012) examined the reported communicative interactions between virtual K-12 instructors and their students. The virtual instructors reported a perceived disconnection with their students based on the (a) asynchronous

delivery model; (b) perception of reduced social presence of students; (c) perception of reduced teaching presence, and; perception of reduced cognitive presence for students. Integratively, these key markers constitute the components required for creating a community of inquiry within a virtual learning environment, and will be discussed further within the body of this dissertation. According to Cavanaugh (2001), the absence of social presence, for either the virtual instructor or student, can result in less than optimal educational outcomes for the student. Further reiterated, ". . . teacher practices and policies play the most important roles in student success in virtual schools . . . teacher communications may be vital factors for virtual school success" (Belair, 2012, p. 106). The disconnection between students and teachers may result in poor outcomes for students presenting with or without risk factors. For virtual K-3 students, the components of (a) social presence, (b) teacher presence, and (c) cognitive presence may be even more essential in establishing community presence amongst this demographic group. Furthermore, the communicative connection not only involves the student and teacher, but includes the parent(s) as well. For K-3 students, parents may demonstrate increased involvement in fostering the social and cognitive presence of the student.

Design Issues

As previously mentioned, social isolation or reduced communicative opportunities may be a result of the chosen delivery method, i.e. synchronous versus asynchronous communication platforms, or course design utilized within the virtual programs at the primary and secondary grade levels (Hawkins, Graham, & Barbour,

2012; Konings, Brand-Gruwel, & van Merrienboer, 2005). Ferdig (2006) argued that virtual learning environments must be strongly based on pedagogically-sound doctrine that promotes effective interaction and collaboration on both a student-student and student- teacher level. Pedagogically-based designs should ". . . be imbued with opportunities for active participation, collaboration and social interaction" (p. 750). Furthermore, he states that the design of the virtual learning environment determines the type and range of teaching practices that can be incorporated into the designed learning platform.

Frequently, virtual programs teaching primary and secondary grade levels appear to be offering pre-tailored curriculum for their teaching staff with virtual instructors appearing to be taking on the role of a proctor, instead of a participant and facilitator in the learning process. In implementing best practices, it is imperative for virtual K-12 instructors to transition from being a proctor, functioning as a removed entity, to that of a facilitator, who is actively involved in the decision-making process for employing best teaching practices within the learning environment (Konings, Brand-Gruwel, & van Merrienboer, 2005). As virtual K-12 instructors may frequently be assuming the role of a proctor within their virtual classrooms, they may be hindered in implementing best practices as constrained by established pedagogical, technological, and organizational structures (Ferdig, 2006). Similarly, the same recommendation may be applied to virtual K-3 instructors in implementing best teaching practices within the virtual classroom. Virtual K-3 instructors may be experiencing similar challenges in regard to integrating

best practices into their teaching processes which may be unduly influenced by pedagogical, technological, and organizational structures.

Best Practices

For this study, best practices was defined as a teaching method or technique that has been shown to be an effective tool, as determined by current research, for facilitating enhanced learning processes in students (Zemelman, Daniels, & Hyde, 2005). In synthesis of the current research on best practices, the following components were deemed to be integral in the implementation of best practices within virtual programs for primary and secondary grade level students: (a) establishing social presence; (b) building a sense of community; (c) providing prompt and descriptive feedback; (d) demonstrating good organizational skills; (e) fostering autonomy and self-regulating behavior(s) in students; (f) using multiple methods for assessing students' learning; (g) maintaining frequent communication with the student and his/her parents; (h) participating in social and learning activities outside of the online environment; (i) providing opportunities for collaboration on projects between students, and; (j) demonstrating extensive knowledge of the content area being taught (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010; DiPietro, Ferdig, Black, & Preston, 2008; Ferdig, 2006; Hawkins, Graham, & Barbour, 2012; Mayes, Luebeck, Ku, Akarasriworn, & Korkmaz, 2011; Savery, 2005; Watson & Gemin, 2008). The afore-stated outline is not meant to be a comprehensive detailing of best practices, but to act as a representative sample of the key components in implementing best practices in a virtual context for K-3 students.

Online Learning Community

The expansion of online learning communities has provided K-3 programs the opportunity to produce resources that are not exclusionary, but accessible and meaningful to a diverse population through the development of culturally diverse curriculum. In agreement, Azer and El-Sherbini (2011) recognized that "the challenge is not to use new technologies to recreate traditional systems, but rather to create a new learning environment accommodating the learning needs of different cultures in order to promote equitable learning outcomes for targeted students. . ." (p. 11).

Responsively, the North American Council for Online Learning (2010) issued a brief discussing the topics of access and equity in virtual schools, while dispelling myths in relationship to exclusionary guidelines in the selection process of enrollees in virtual primary and secondary grade level programs. In issuing this brief on accessibility and equity in online learning programs, virtual schools have been given a supportive framework for providing accessible and equitable services to a diverse population of students. However, as noted in the Aurora Virtual School, a large number of online learning programs appear to be purchasing pre-tailored curriculums from third party vendors. Notably, these third party vendors may or may not be tailoring their product according to the divergent needs of a diverse population or in alignment with the guidelines for using best practices. According to Azer and El-Sherbini (2011), effective curriculum development occurs within a participatory framework in which both the teacher and students establish goals and guidelines within the virtual learning

environment. Importantly, this collaborative approach in which students' input is considered valuable may provide an increased level of motivation for participatory learning in a virtual environment; especially, that of students presenting from diverse cultural backgrounds. Such provides the structural framework for creating a virtual learning community in which students have the freedom to share their ideas and knowledge on mutual topics.

According to Baghdadi (2011), a virtual learning community fosters the relationship, interaction, and creativity of individual students as they interact with other users. Specifically a virtual learning community is defined as "a group of people who communicate with each other across the Internet to share information, learn more about a topic, or work on a project of mutual interest" (Porter, 2004, p. 193). Furthermore, Porter (2004) distinguished between internal and external learning communities by categorizing individuals participating in a specified course, i.e. instructor and students, as belonging to an internal learning community. Whereas, external learning communities included individuals not directly enrolled within a course, but being utilized in a referential manner, i.e. topic expert.

Regardless of the type of virtual learning community, McMillan and Chavis (1986) have identified four key factors for programs developing a sense of community within the virtual context: "(a) membership; (b) influence; (c) fulfillment of individuals' needs, and (d) shared events and emotional connections" (p. 8). Each of these components plays an integral role in allowing individual members to experience a sense

of community in an environment in which their membership allows them to wield some influence over the learning context. Furthermore, sharing in best practices-based learning activities allows individual members the opportunity for the fulfillment of personal goals related to knowledge acquisition through the emotional bond built within a virtual environment (Baghdadi, 2011).

In congruence, the National Association for the Education of Young Children (2009) emphasizes the importance of "creating a caring community of learners" (p. 16) as the development of positive relationships contributes to the developmental and learning process of students. Notably, relationship building is not solely relegated to that of the teacher and student, but extends to student-student and teacher-parent relationships as well. Positive relationship building is considered an important aspect of facilitating development as it provides learners with a respectful and secure context for exploration within a structured climate (Moore, 2011). As implemented, teachers' responsibilities include: (a) maintaining a secure and respectful environment; (b) recognizing participating members as valuable; (c) guiding interactive learning activities, and; (d) encouraging participating members to act in a manner that does not inhibit the learning of others (DiPietro, Ferdig, Black, & Preston, 2008; Hawkins, Graham, & Barbour, 2012; NAEYC, 2009).

Teacher Communicative Patterns

Within a virtual K-3 program, prompt and frequent communication is an imperative factor in building a secure relationship between instructors and their students,

as well as the respective families of each student. For practically enhancing communication patterns with students, virtual instructors should provide timely feedback to students' and/or parents' questions relating to and outside of coursework (Mayes, Luebeck, Ku, Akarasriworn, & Korkmaz, 2011). Additional responsibilities relating to the enhancement of communication between instructors, students, and parents consists of the following: (a) explicitly stating course expectations in multiple communicative forms; (b) responding to student/parent queries within a 24-hour period; (c) providing the student/parent with in-depth and considered responses to queries or assignments; (d) participating in structured conversations, online and offline; (e) demonstrating compassion in communication with student/parent; (f) responding to student/parent e-mails within a 24-hour period, and (g) contacting the student and family on at least a monthly basis by telephone (Belair, 2012; DiPietro, 2010; Hawkins, Graham, & Barbour, 2012; Savery, 2005; Watson & Gemin, 2008).

Of considerable importance are the communication patterns that occur between virtual K-3 instructors and student family members as they may heavily influence the success or failure of a student. As reflected in the National Association for the Education of Young Children (2009) guideline, "establishing reciprocal relationships with families" (p. 22) is imperative in the implementation of developmentally appropriate practices as parents, especially, are considered to be an integral part of child development as they directly or indirectly influence the development of their child. In implementing best

practices, parents are to be integrated into the educational progress as they are able to provide key insights into the learning process of their child.

Specifically, the establishment of reciprocal relationships with families includes the: (a) demonstration of reciprocated respect and responsibility for attaining shared goals; (b) establishing and maintaining a regular level of communication between parents and teachers; (c) encouraging parental involvement in the educational process, and; (d) respecting parental preferences in the educational process, but affirming an approach in alignment with best practices (Cavanaugh, Bosnick, Hess, Scott, & Gillan, 2005; DiPietro, 2010; NAEYC, 2009). This reciprocal relationship is especially important for families of students presenting as "at-risk" due to physical, cognitive, and/or socio-emotional constraints (Rice, 2006).

Social Presence

Relatedly, social presence has been defined as a key factor in establishing positive communication patterns between instructors and students. Furthermore, it has been cited as a determinant of student success or failure within a virtual environment, especially virtual primary and secondary grade level schools (DiPietro, 2010). Social presence has been defined as the ability for online participants to interact with each other in an authentic and reciprocated manner in a community building process. Importantly, ". . . social presence is not a property of the medium but the individual's ability to move past the medium and establish a sense of immediacy, connection, and co-presences between participants" (Hawkins, Graham, & Barbour, 2012, p. 126). Social presence may be

evidenced by an individual's ease in sharing personal information, demonstrating consideration for others, joking, etc. (Hawkins, Graham, & Barbour, 2012).

The construct of social presence has been strongly associated with the concept of visibility. Savery (2005) argued that the visibility of a virtual instructor is especially imperative in an online environment as students aren't able to infer meaning from face-to-face interactions with the instructor. Furthermore, a perceived low level of instructional visibility may result in misguided inferences impacting student performance in a negative manner as students attempt to gauge the level of importance given to a course by online instructors. Considerably, social presence is not limited to students, but includes virtual instructors as well, with each party contributing significantly to the success of a virtual program (Hawkins, Graham, & Barbour, 2012; Moore, 2011). For K-3 students, virtual instructors may need to foster a higher level of visibility and social presence with not only students, but their families as well, as such may enhance the quality of learning for virtual K-3 students.

Community of Learners

According to Palloff and Pratt (1999) an online community of learners is developed through (a) active interaction; (b) collaborative learning; (c) socially constructed meaning; (d) sharing of resources, and (e) expressions of support and encouragement. In explanation, active interactions constitute the individual demonstrating active involvement when interfacing with the course content and other individuals through various means of communication. Collaborative learning addresses

individuals' collective participation in learning activities. Socially constructed meaning refers to individuals' collective ability to arrive at a shared understanding of a given concept. Sharing of resources considers the diverse background(s) and skill sets of individuals, and how such yields a rich learning environment for participating students. Finally, expressions of support and encouragement refer to the quality of relationships established between individuals participating in the online classroom. Collectively, the components of an online community have been shown to enhance the learning opportunities for students participating in an online classroom (Moore, 2011; Palloff & Pratt, 1999).

In *Best Practices in Teaching K-12 Online,* DiPietro, Ferdig, Black, and Preston (2008) identified the formation of an online learning community by virtual instructors as being an integral part of implementing best practices in the online classroom. Specifically, virtual instructors needed to "facilitate the formation of community by encouraging content and non-content related conversations among students" (pp. 24-25). This practice was deemed as being integral to best practices as virtual instructors provided an online framework that fostered opportunities for students to interact in structured and unstructured activities (Watson & Gemin, 2008). In "*Everybody is their own Island": Teacher Disconnection in a Virtual School,* Hawkins, Graham, and Barbour (2012) stressed the importance of teaching presence, cognitive presence, and social presence in cultivating a community of inquiry among online students. Teaching presence referred to the online instructors' ability to effectively direct and facilitate the learning

processes of students participating in the online classroom. Teacher presence was "indicated through the clear communication of course objectives and instructions, facilitation of student progress and learning, and in the provision of meaningful feedback" (Hawkins, Barbour, & Graham, 2012, p. 125). Cognitive presence addressed the students' ability to construct knowledge through interaction with the course content, as well as in collaboration with peers. The existence of cognitive presence in the online classroom was revealed in students' critical thinking skills in which they inquire, explore, and construct new knowledge while interfacing with the course content (Hawkins, Barbour, & Graham, 2012). Social presence referred to "the ability of participants to project their personality and conversely feel a sense that others in the community are real people. Participants identify with the community and develop relationships" (Hawkins, Barbour, & Graham, 2012, p. 126). Indications of social presence were displayed in participants' ability to demonstrate a sense of connection with other students and the teacher, the use of humor in discussions, as well as their comfort level in sharing personal information about themselves (Hawkins, Barbour, & Graham, 2012). Cumulatively, the constructs of teaching presence, cognitive presence, and social presence provided the foundational framework for virtual instructors as they sought to establish a community of learners among their students.

Knowledgeable of Content Area

According to DiPietro, Ferdig, Black, and Preston (2008), virtual instructors teaching primary and secondary grade levels need to demonstrate a deep understanding of

their respective content areas being taught. This deep understanding should lead to pedagogically-based practices that allow for "active participation, collaboration, and social interaction" (Ferdig, 2006, p. 750). In incorporating pedagogically-based practices, virtual instructors teaching primary and secondary grade levels are challenged to continually (a) advance skill sets relating to their content knowledge and technological proficiency; (b) build on course design components by incorporating learning activities that will address student interests; (c) academic content should be interesting, require problem-solving, and realistic in nature; (d) research new technological innovations that may be appropriate within the virtual K-12 environment; (e) demonstrate an in-depth knowledge of the diverse learning styles within the classroom; (f) offer assistance to students needing additional help in successfully completing assignments; (g) institute guidelines for the completion of assignments by students in a timely manner who are participating in self-paced coursework; (h) provide a highly organized content structure for effectively guiding students through the coursework; (i) supervise the educational progress of each student; (j) monitor venues of public communication in their course to identify students in personal crisis, as such may be impacting them at a socio-emotional and academic level; (k) employ a multi-faceted means of assessing student progress, and; (l) utilize student and course feedback for completing self-assessments to determine if the techniques employed are effective and appropriate (DiPietro, 2010; DiPietro, Ferdig, Black, & Preston, 2008; Ferdig, 2006; Konings, Brand-Gruwel, & van Merrienboer, 2005; Moore, 2011).

In further emphasis of teaching responsibilities in implementing best practices, the National Association for the Education of Young Children (NAEYC, 2009), established a guideline for addressing curriculum planning for those teaching traditional students in K-8 programs. However, these suggested practices should be considered applicable within the virtual context for primary and secondary grade levels as confirmed by additional peer-reviewed sources (DiPietro, 2010; DiPietro, Ferdig, Black, & Preston, 2008; Ferdig, 2006). As dictated by NAEYC (2009), the *Planning of Curriculum to Achieve Important Goals* involves the effective implementation of an established program curriculum developed with the consideration of targeted learning outcomes. Although, teachers follow an established curriculum, they have considerable autonomy in deciding which activities to employ for facilitating the learning process of students. The specified guideline for implementing best practices in curriculum planning includes (a) an encompassing curriculum that addresses all developmental domains; (b) a well-planned approach to integrating prior knowledge with the current learning target for facilitating increased understanding, and; (c) the continual consideration of the established curriculum as a framework guiding daily teaching practices (DiPietro, 2010; Moore, 2011; NAEYC, 2009). In culmination, these guidelines provide instructors with an established framework for guiding their daily teaching practices within a virtual K-3 environment.

Multi-Faceted Assessment

In implementing best practices, it is imperative that virtual K-3 instructors employ a multi-faceted means of assessing student progress which considers what the student is able to achieve independently and in collaboration with others. The assessment process provides curriculum developers and instructors with feedback pertinent to evaluating the effectiveness of a particular curriculum program or design in addressing the learning needs of individual students. Specifically, the implementation of best practices in assessment include: (a) evaluations being performed at a continual process; (b) modifications to teaching strategies based on continual assessment; (c) assessments being based on individual students developmental level and experience(s); (d) a variety of assessment techniques utilized by the teacher; (e) assessments being conducted to assess progress individually and collaboratively, and; (f) using multiple assessment materials to provide fair and balanced treatment of children with varying learning abilities (DiPietro, 2010; DiPietro, Ferdig, Black, & Preston, 2008; Ferdig, 2006; Konings, Brand-Gruwel, & van Merrienboer, 2005; Moore, 2011; NAEYC, 2009).

Organizational Skills

For instructors teaching within a virtual setting for primary and secondary grade levels it is imperative that they present with a high level of organizational skills (DiPietro, Ferdig, Black, & Preston, 2008). A well-organized online classroom provides learners with the structural format required for being successful in a virtual K-3 program. Organizational components can consist of a syllabus outlining course requirements, due

dates for assignments, and instructor expectations (Savery, 2005). The organizational structure established by the virtual instructor provides students with the "opportunity to take on a self-regulating role in their learning process" (Ferdig, 2006, p. 751) in expanding their role to incorporate self-directed learning behaviors and time-management skills required for completing coursework successfully.

In practice, virtual K-3 instructors need to include the following process in the organization of their course for assisting students in reaching their full potential: "(a) gain learners attention; (b) inform learner of objectives; (c) stimulate recall of previous information; (d) present stimulus material; (e) provide learner guidance; (f) elicit performance; (g) provide feedback; (h) assess performance, and; (i) enhance transfer opportunities" (Anderson & Dron, 2011, p. 82). Furthermore, Watson and Gemin (2008) recommend that virtual primary and secondary grade level instructors maintain a weekly progress record addressing the educational regression or advancement of each student with instructors meeting with a senior staff member in review of their weekly findings.

Collaborative Activities

In the guideline of *Teaching to Enhance Development and Learning*, NAEYC (2009) focuses on the responsibility of the teacher in facilitating learning through instructor-guided and student-guided activities. Such is considered imperative to developmentally appropriate practices as children are considered to be active participants in their own learning process as they construct knowledge based on selected experiences salient to them. As expected, the teacher is responsible for "stimulating, directing, and

supporting children's development and learning by providing the experiences that each child needs" (p. 17). Teacher responsibilities include: (a) planning effective learning experiences; (b) providing a learning rich environment in which children have access to a variety of learning materials; (c) scaffolding the learning of students, and; (d) maintaining the accessibility of learning experiences for students with diverse abilities (NAEYC, 2009). Notably, the incorporation of collaborative learning processes within the virtual setting for primary and secondary grade levels, are in alignment with current research dictating such as being a best practice (Belair, 2012; Mayes, Luebeck, Ku, Akarasriworn, & Korkmaz, 2011; NAEYC, 2009).

In Anderson and Dron's (2011) discussion on *Three Generations of Distance Education Pedagogy*, they discussed the markers associated with implementing a socio-constructivist pedagogy. A socio-constructivist pedagogy stresses the importance of the following in the learning process: (a) social context; (b) active participation; (c) scaffolding skills; (d) learner-centered teaching; (e) diversity of perspectives; (f) metacognition, and; (g) the use of mediators for constructing knowledge (Anderson & Dron, 2011; Greenhow, Robelia, & Hughes, 2009; Savery, 2005). Further stated, "learning is located in contexts and relationships rather than merely in the minds of individuals" (Anderson & Dron, 2011, p. 85).

In promoting collaborative processes within a virtual K-3 environment, instructors should provide students with opportunities for participating in group projects. Each student should have the opportunity to participate in a teacher and student-led

collaborative activity (Konings, Brand-Gruwel, & van Merrienboer, 2005). In participating in a student-led activity, students have the opportunity for demonstrating their organizational and self-directed skill sets, as well as cooperative abilities in completing an assignment or project with classmates (Savery, 2005). In guiding student-led projects and their communication with fellow students, it is important for the virtual instructor to model appropriate online discourse by personally monitoring online demeanor, word-choices, promptness of responses, etc. Furthermore, the virtual primary and secondary grade level instructor maintains responsibility for correcting and resolving online communications that are not in congruence with appropriate online discourse as modeled by the instructor (DiPietro, Ferdig, Black, & Preston, 2008).

Finally, virtual K-3 instructors should provide students with opportunities to participate in social interactions or activities outside of the formal classroom. Extra-curricular activities may consist of a social network used for social interactions, a chess team, or even a book club. Furthermore, Watson and Gemin (2008) recommend that virtual programs offer their students the chance to participate in activities outside of the virtual school as these social outlets may assist in reducing the social isolation that may be experienced by primary and secondary grade level students attending a virtual school (Mayes, Luebeck, Ku, Akarasriworn, & Korkmaz, 2011).

According to current research practices, the apex of learning and development are achieved when the afore-discussed guidelines are taken under critical consideration, at an individual and joint level, by instructors, program directors, administrative staff,

institutional programs, communities, government agencies, and families (Belair, 2012; DiPietro, 2010; NAEYC, 2009; Picciano & Seaman, 2006). Reflectively, the effectiveness of these guidelines is determined by the inter-connectivity between the various contributing parties that provide input in the learning and developmental process of individual children (NAEYC, 2009; Savery, 2005).

In assessing the individualized components of the established guidelines for implementing best practices, the primary investigator will seek to apply the established guidelines for assessing the implementation of best practices in teaching virtual K-3 students. Accordingly, each aspect of this guideline is considered integral in the provision of best practices to a divergent student body.

Theoretical Perspectives

Socio-constructivist Perspective

In further addressing best practices in virtual K-3 programs, social constructivism was an appropriate referential point for assessing best practices within this demography. The concept of social constructivism was first introduced by Lev Vygotsky (1978) in his contention that cognitive processes developed within the context of social interactions. Vygotsky (1978) proposed that learning was accommodated through (a) socio-cultural context; (b) interpersonal interactions, and; (c) intrapersonal influences on one's own development. The socio-constructivist framework may be characterized by internal and external influences that may either detract from or enhance the online learning opportunities for individual users within a virtual setting (Anderson & Dron, 2011).

In a *Systematic Multicultural Model for Online Education,* Barbera and Linder-VanBerschot (2011) utilized a socio-constructivist framework to address a myriad of factors influencing the success of students participating in online education. Factors were designated as follows: (a) learner factors; (b) institutional factors; and, (c) outcome factors. *Learner factors* addressed the unique experiences and knowledge brought to the learning context by the student. *Institutional factors* were embodied by the support given to learners; social presence; learning platform; instruction style; instructor interaction; learner interaction; learning content, and; course design. Finally, *outcome factors* included learner satisfaction; knowledge acquisition, and; ability to transfer knowledge to a new context. In culmination, the afore-stated factors provide a multi-contextual framework in which providers can incorporate a culturally relevant approach to developing and implementing best practices in the curriculum for a diverse student population within the online K-3 environment.

In reaching this broad spectrum of students and their families, virtual schools have employed foundational key concepts from a socio-constructivist perspective. According to Hill, Song, and West (2009) "several factors influence teaching and learning per socio-constructivist perspective: context, culture and community, and learner characteristics" (p. 89). Explicatively, context is an essential component for learning from face-to-face or online interactions with other individuals. Contextual influences propel the learner in his/her advancing cognitive abilities through individual and collaborative efforts. In turn, these guided collaborative efforts create a cultural climate conducive to

addressing the learning needs of individuals from varying cultures. Integrally, the culmination of these practices stresses the importance of considering individual learning styles, self-efficacy, motivation, and student perspectives (Hill, Song, & West, 2009).

Importantly, a socio-constructivist framework lent itself well to the implementation of an approach that is in alignment with best practices as it purports knowledge acquisition to be a socially constructed entity. As defined, collaborative learning is characterized by the conjoined effort of students participating in shared activities with the explicit purpose of spurring each others' knowledge base on a specific task or goal (Gokhale, 1995). According to Austin, Smyth, Rickard, Bolt, and Metcalfe (2010), "a collaborative approach places much of the responsibility for learning on the pupil; knowledge is socially constructed and is facilitated by peer interaction, authentic assessment and cooperation" (p. 328). This statement may reflect a qualitative change in the perceived role of students and teachers within the learning context. In the recent past, teachers were often perceived to be the primary catalyst propelling and generating the learning processes of students. As indicated, this paradigm shift may demonstrate the increasingly active role of students in the learning process with teacher's adopting a more participatory facilitative role, thus signaling a change in what is considered to be pedagogically-sound in implementing best teaching practices (Baghdadi, 2011). Reflectively, research has indicated a demonstrable shift from "teacher-centered to student-centered and community-based learning models" (Baghdadi, 2011, p. 13).

Activity Theory

Stemming from the work of Lev Vygotsky, A.N. Leontiev, and Luria, activity theory was introduced as means of explaining cognitive development within the context of mediating factors directing learning through the use of psychological tools or signs (Vygotsky, 1978). This first generation model of activity theory introduced the concept of activity being directed through the use of psychological tools mediating the interactions between the individual subject and object (Luria, 1976; Vygotsky, 1978). As an example, language can be categorized as a mediating tool which human beings utilize as a means of exchanging ideas, thoughts, and knowledge with each other as they have a shared symbol system for communication. In this instance, language is acting as the mediating factor in that individuals are able to use it as a conduit to share knowledge that can advantageously influence the thinking patterns of individuals (Vygotsky, 1978). In applying activity theory to virtual K-3 programs, the mediating factor may be that of the online communications system facilitating interactions between users. Expressly, this mode of communication functions as the fundamental unit for structuring communication exchanges. In addressing this fundamental requirement, virtual programs often provide students with the technological equipment, i.e. computer, required to participate in online coursework. In this example, the technological equipment would be identified as the tool(s) mediating between the subject and the object (Vygotsky, 1978).

Whereas, the first generation of activity theory emphasized the individual actions of participants within an activity system through the use of mediating tools, the second

generation focused on the collective activity of persons within an activity system (Leont'ev, 1978). Comparatively, Vygotsky (1978) did not address the capability of mediating tools to be utilized by other persons, outside of the individual participant, to direct the activity of the individual participant. The concept of mediating tools being utilized within a cultural-historical context that allowed for other human beings to guide the activity of individuals was accomplished through the work of Leont'ev (1978). During the first generation of activity theory, Vygotsky (1978) introduced a triangular model of activity theory that depicted the interaction between the subject and object through the use of mediating tools. Although, Leont'ev (1978) failed to graphically expand Vygotsky's original model, he did provide a conceptual framework that addressed activity occurring within the context of a collective group. In doing so, he extended activity theory to include the structural components of rules, community, and division of effort. In integrating these components, Leont'ev (1981) expanded the capability of activity theory to address activity within the framework of a collective group, not only those activities carried out by individual persons. In 1999, Engestrom expanded the original triangular model introduced by Vygotsky to include the conceptual framework adressed by Leont'ev in his seminal research on the collective activity system. The following triangular representation of activity theory in Figure 1 will include the terms, which are detailed in a summary to follow.

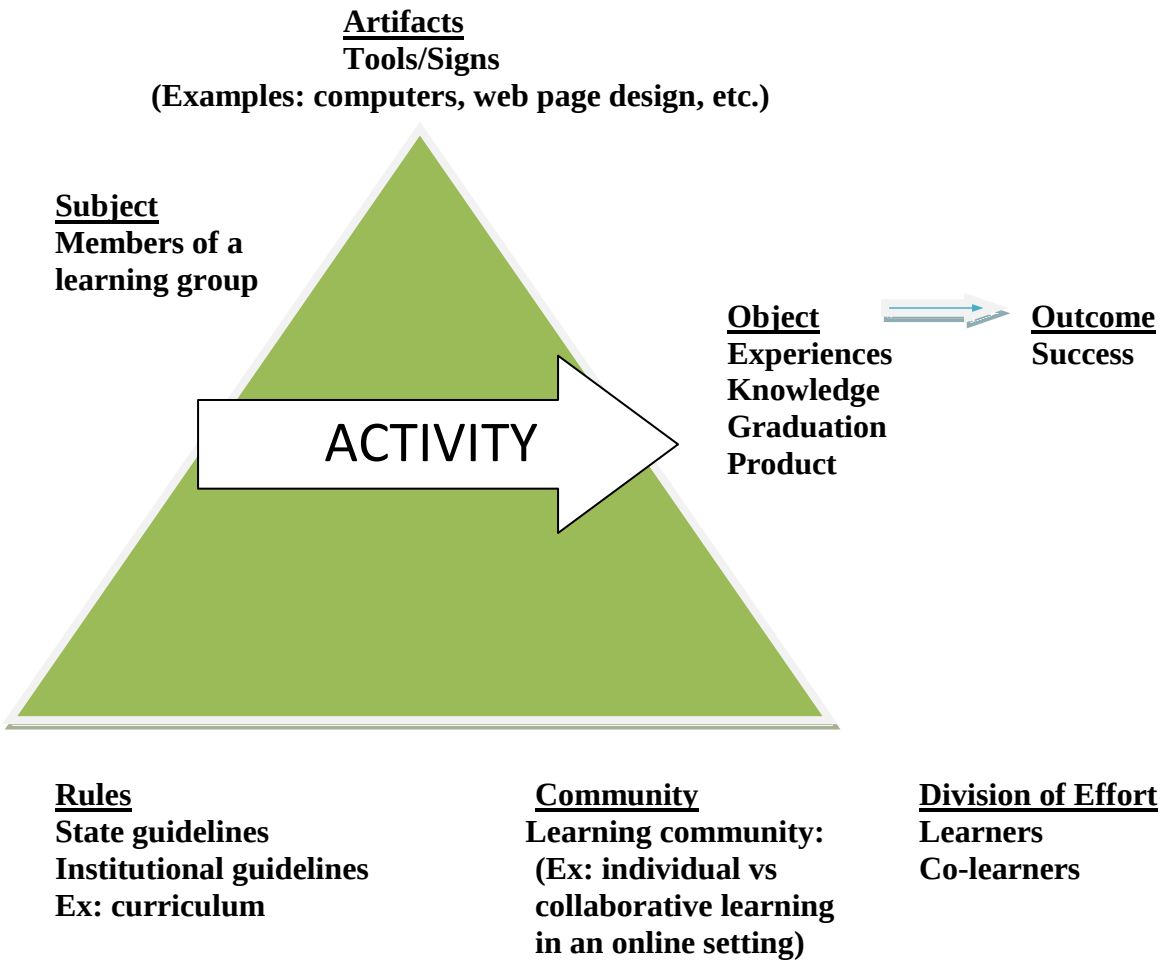

Figure 1: Model of activity theory. Adapted from Engestrom (2001: 133-157); Mwanza & Engestrom (2005: 453-463).

As referenced in Figure 1, (a) the subject constitutes the person; (b) the object consists of the immediate goal or objective; (c) the artifacts represent those items mediating between the subject and the object; (d) the outcome is an indication of overall success; (e) rules are the established guidelines influencing the type of artifacts that may be used by the subjects; (f) the community represents the immediate and extended community that can influence learning, and; (g) the division of effort indicates how labor

is distributed among group members (Barab, Barnett, Lynch-Yamagata, Squire, & Keating, 2002).

The given exemplar is meant to reflect the perspective and agency of the student, and the teacher to a lesser degree, within the context of a virtual school. As outlined, (a) the students and teachers are representative of the subjects; (b) the objective being to complete a shared or non-shared task or product; (c) the outcome possibly being self-satisfaction and educational success; and, (d) the remaining factors (artifacts, rules, community, division of effort) acting as mediators between the subject(s) and objective(s). This multi-component theory can also be applied to view the virtual school organization as the subject under inspection. At the organizational level, the objective(s) might be adapted according to rule- and community-based mediators that may act as determinants of state funding based on the virtual schools graduation rate. When considering the virtual instructor as the subject, the teacher may have the express goal of utilizing an instructional style that is in alignment with best practices and conducive to producing positive learning outcomes in the immediate and successive time period leading to graduation. The mediating factors between the teacher and the ultimate goal may be that of instructional pedagogy, autonomy or input in curriculum development, available technological tools, etc.

The dynamicity of activity theory accommodates for multiple levels of subjects/groups with differing goals and mediating factors influencing the outcome. These diverging goals may inadvertently produce tension between subjects as they may

not necessarily be presenting with a mutual objective or shared means of achieving a mutual objective (Barab, et al., 2002; Engestrom, 1999). In returning to our scenario, virtual K-3 instructors and the K-12 governing body may have a shared goal of achieving a 100% passing rate; however, their means of doing so might differ according to mediating factors with such possibly intensifying tension between the two groups, i.e. policies restricting instructor autonomy in curriculum design as guided by best practices. Importantly, tensions may bespeak the diverging value placed on a particular outcome. In the given example, virtual K-12 organizations may be associating the passing rate with monetary support received from the government in order to maintain the integrity and competitiveness of the school. Comparatively, virtual instructors may be associating the passing rate with pedagogically-based teaching and curriculum development that provides students with a dynamic learning system that increases the overall success rate. Arguably, tensions may arise from differing views on curriculum development in that organizational members may purchase or design a curriculum without the input of instructional members who consider such to be in contrast to pedagogically appropriate teaching practices for a virtual K-3 environment. Importantly, ". . . tensions are critical to understanding what motivates particular actions and in understanding the evolution of a system more generally" (Barab, et al., 2002, p. 80). Such may be evident in the curriculum development of virtual K-3 programs in which organizational providers have a key interest in maintaining outside investors, while instructors may not share the immediate concern of pleasing an external entity.

The prior example demonstrates the aspects of cultural-historical activity theory (CHAT) that was proposed by Engestrom (1987). In this third generation of activity theory, Engestrom (1999) focused on the capability of CHAT to accommodate multiple perspectives being presented by diverging activity systems. The consideration of diverging perspectives within and between activity systems is considered a key component of cultural-historical activity theory as it acts as a catalyst for producing change and improvements within and between activity systems (Engestrom, 1987). In *Activity Theory and Individual and Social Transformation*, Engestrom (1999) stated that "instability (internal tensions) and contradiction are the motive force of change and development, and the transitions and reorganizations within and between activity systems are part of its evolution; it is not only the subject, but the environment, that is modified through mediated activity . . . the reflective appropriation of advanced models and tools are ways out of internal contradictions that result in new activity systems" (Cole & Engestrom, 1993, p. 40). In considering a virtual school program, virtual instructors and administrative staff may be focused on the same object of assisting K-3 students to be successful participants in their online classrooms, however, each may demonstrate diverging perspectives on how such can be achieved successfully through the use of various mediating tools. For instance, virtual administrators may select a learning management system (LMS) considered to be an appropriate tool for mediating learning in the online classroom, whereas, virtual instructors may find the LMS to be an insufficient means for facilitating interactive and collaborative learning processes in K-3 students.

The expression of these diverging perspectives on the learning management system's effectiveness in mediating student learning may result in a transformative dialogue that results in the modification of the mediating tool, i.e. LMS, being utilized to foster student learning.

Content Analysis

Content analysis is an analytic technique appropriate for reviewing textual- and non-textual sources that address a specified content area of interest to the researcher. This analytic technique provides the researcher with a means of identifying, coding, and categorizing data based on associated contextual meanings (Saldana, 2009; Schilling, 2006). Often, content analysis is a technique utilized in both qualitative and quantitative research practices (Hsieh & Shannon, 2005; Schilling, 2006).

As characterized by Laswell (1952), content analysis originated as a purely quantitative technique for quantifying the ascertained content based on their frequency of occurrence within a given text. In quantitative research, content analysis has been employed in a myriad of areas, such as verbal print media, visual media, visual print media, artistic productions, personal documents, legal interviews, journalistic interviews, and judicial rulings (Hall & Wright, 2008; Owens, 2008; Wimmer & Dominick, 2005). In exemplifying the diversity of professions utilizing content analysis, Joshi, Peter, and Valkenburg (2011), from the Amsterdam School of Communication Research, examined popular press magazines targeting teenagers in the United States and Netherlands. The purpose being to identify and quantify stories, published from 2006-2008, featuring

topics related to sexual desire and sexual danger through the analytic technique of quantitative content analysis. Specifically, the researchers applied the analytic technique of content analysis for establishing pre-defined categories into which related content could be assigned for further analysis through means of a general linear model and logistic regression. Findings indicated differences according to the publications' originating country, the targeted demographic group, and gender typologies.

In the field of public health, quantitative content analysis has been utilized to examine health-related issues portrayed in various media outlets, such as on the internet, television, radio, blogs, etc (Buis & Carpenter, 2009; Manganello & Blake, 2010; Pierre, 2001). In 2010, Manganello and Blake examined peer-reviewed journals containing health-related articles that employed quantitative content analyses as their analytic technique. Specifically, the researchers' interest was in ascertaining the number of studies addressing the communication of health messages through the public media from 1985 to 2005. Following the categorization and coding process of the defined articles, chi-square tests were utilized to assess the qualitative changes in publications over the expressed time period. Findings indicated a significant increase in health-related messages being published in peer-reviewed journals over the 20-year period with articles focusing on "substance use, violence, sex, obesity, and body image" (Manganello & Blake, 2010, p. 387).

An additional exemplar of quantitative content analysis may be found in a study of *College Students' Descriptions of Everyday Gender Prejudice*, in which the

researchers examined the virtual journals of male and female college students to ascertain their perception of discrimination based on their respective gender (Brinkman & Rickard, 2009). On examination of the journals, Brinkman & Rickard (2009) identified the following emergent themes: "(a) target of the event; (b) perpetrator, and; (c) setting" (p. 463). In following, these themes were coded and analyzed through chi square tests. Findings indicated this demographic group as experiencing the same level of frequency for discriminatory events; however, further results showed women as exhibiting increased levels of distress in comparison to their male counterparts.

In implementing the analytic technique of quantitative content analysis, both communication and non-communication professions have employed this measure in addressing their respective research inquiries, albeit in differing fields. Notably, the discussed uses of content analysis in quantitative research is by no means a comprehensive account of the various fields employing this analytic technique, and such should be taken into consideration when reviewing this dissertation.

In addressing qualitative practices, content analysis has been employed as a qualitative means of identifying, categorizing, and coding meaningful textual data for gaining in-depth insights into a particular phenomenon (Hall & Wright, 2008). Comparatively, qualitative content analysis is not concerned with quantifying data, but extracting meaningful units of information from the content that can be analyzed in a combinatory manner (Saldana, 2009; Tao & Pudlowski, 1998).

Qualitative researchers have employed content analysis for addressing textual and non-textual data provided in interviews, transcripts, case records, books, diaries, audiotapes, videotapes, etc. (Hsieh & Shannon, 2005; Saldana, 2009). The implementation of qualitative content analysis was exemplified in Zeman, Swanke, and Doktor's (2011) study of maternal diaries virtually documenting the successes and failures of their children diagnosed with autism spectrum disorder. The sample population consisted of blogs obtained from 24-mothers of children diagnosed with autism spectrum disorder (ASD), who had documented on their children for an 18-month period. The blogs were examined at an in-depth level prior to the analysis process in which the examiners formulated themes according to the defined categories of risks and successes. Furthermore, emergent themes were identified within the defined categories of risks and successes as i.e. "testing, structured class activities, transportation, playground, and whole school activities" (pp 66-67). In reviewing the blogs, the research findings indicated risk factors as being associated with transitional experiences of children with ASD. Categorically, mothers of children with ASD reported their children as exhibiting a negative response to environmental changes; however, such was successfully mediated through alternative supportive frameworks as shared by mothers online. For this study, the authors utilized a qualitative means of analyzing maternal blogs to gain meaningful insights into the supportive frameworks utilized by mothers in their parenting practices of children diagnosed with ASD. The afore-mentioned study distinguishes qualitative from quantitative content analysis as the former technique determines to extract meaningful

themes from the examined content in order to gain a holistic perspective of the phenomenon under study (Hsieh & Shannon, 2005; Saldana, 2009).

In further expansion on the uses of qualitative content analysis, Mevorach and Miron (2011) conducted a study examining the qualitative changes in the perceptions of professional educators upon entering a graduate program in early childhood education. The researchers utilized a questionnaire with open-ended questions asking participants to describe "the concept of learning within their definition of their role as early childhood education teachers" (p. 10) during the initial and final phase of the study. In following, the journal writings were collected and analyzed through means of qualitative content analysis. Such guided the identification and formation of themes, which were agreed upon by research team members and affirmed by study participants. During the initial phase of the study, generated themes consisted of participants often viewing their defined role as being "organizational managerial and/or educational pedagogical" (p. 12) in nature. However, there was a significant qualitative shift in this role perception as identified in the final written submissions provided by the study participants. At this period, the participants demonstrated an ecologically-based mind set in which they identified their role as being multi-faceted in approach. This final phase of analysis allowed the researchers to gain a heightened understanding of the qualitative changes in the perceptions of professional educators as they entered as first year graduate students in an early childhood education program.

Content analysis has proven to be an analytic technique inclusive of multiple disciplines as it has shown a unique ability to address research inquiries within both qualitative and quantitative methodological practices. Although, content analysis originated as a quantitative analytic technique accounting for similarities in quantified data, it has developed into a qualitative means of categorizing data within a meaningful context based on interpretive processes (Saldana, 2009). According to Babbie (2010), content analysis distinguishes itself by allowing the researcher to formulate plausible connections based on identified themes through the analytic process. The development of content analysis has proved to be a valuable tool in qualitative research as it provides an established technique for qualitative researchers to employ for gaining further in-depth insights into a chosen phenomenon.

Philosophical and Theoretical Basis of Content Analysis

As developed by Friedrich Schleiermacher, hermeneutics is a philosophical approach to deciphering the contextual meaning of a specified linguistic or non-linguistic phenomenon with an emphasis on the interpretive process employed by persons as a collective or individually (Patton, 2002). Historically, hermeneutics has been applied in the interpretation of phenomenon relating to visual artifacts or text-based documents (Hall & Wright, 2008; Patton, 2002).

As derived from the philosophical perspective of hermeneutics, semiotics is a methodological technique utilized in the examination of textual data through an interpretive approach (Van Leeuwen, 2005; Zittoun, 2008). The interpretative approach

provides the investigator with a means of categorizing data into cohesive groups based on textual similarities. Thus, this analytic technique is considered especially appropriate when completing the interpretive process in content analysis as it provides the researcher with a deeper understanding of the intended meaning within the data source (Hall & Wright, 2008; Patton, 2002). Specifically, this interpretive technique emphasizes understanding the inter-relationship of the constituent parts and how they fit together to provide a holistic perspective of the text under scrutiny (Patton, 2002; Zittoun, 2008).

Current Research

In the study of virtual primary and secondary programs, content analysis has been applied in addressing research questions related to (a) best practices; (b) interactive technologies; (c) current research and practices; (d) impact of policy on virtual schools; (e) student achievement; (f) student characteristics; (g) instructor characteristics; (h) attrition, and; (i) parental involvement (Barbour, Siko, Sumara, Simuel-Everage, 2012; Glass & Welner, 2011; Lukemeyer, Crippen, & Archambeault, 2007).

In 2009, Cavanaugh, Barbour, and Clark utilized qualitative content analysis as a means of examining open-access literature examining the research and practices surrounding virtual K-12 education. The investigators utilized their research questions as a guide for assisting in the selection process of relevant resources from open-access resources published between 1997 and 2008, i.e. “refereed conference proceedings, refereed journals, dissertation indexes, and reports in the education press” (p. 6). In the methodological phase of the study, the investigators utilized a form of qualitative

metasynthesis, known as template analysis, in which a pre-set template was created for categorizing and coding purposes. In the analysis phase of the study, the researchers descriptively outlined thematic components from each study. Thematic components consisted of (a) types of virtual schools; (b) benefits of virtual schooling; (c) challenges of virtual schooling; (d) professional roles and responsibilities within virtual schools, and; (e) approval and accreditation in virtual schools. Findings indicated a high level of congruency between open-access literature addressing the afore-mentioned thematic components.

In 2010, Hew and Cheung (2010) examined empirical research addressing the uses of 3-D programs, such as *Second Life* and *Active Worlds*, in K-12 and university programs. Comparatively, the researchers selected articles based on scholarly rigor as determined in the peer-review process conducted by the associated journals. As in the previously discussed study, the current investigators utilized their research questions as a guide for analyzing their collected data. For instance, the researchers wanted to know "how virtual worlds are used by students and teachers" (p. 35). Importantly, *a priori* codes of "illusion of 3-D space, avatars that serve as visual representations of users and the ability to 'act' on the world" (p. 35) were developed prior to the collection of data. However, the researchers emphasized the trustworthiness of the analytic process as they did not impose their *a priori* codes on ill-qualified data sources. In answering this question, the researchers coded and analyzed the given data, as well as allowed for emergent themes to guide their understanding of the studied topic. Findings indicated

virtual worlds as being utilized for (a) enhancing interactive processes among students, (b) creating a sense of community through simulated environments, and; (c) increasing constructive learning processes.

Notably, qualitative researchers have begun to employ content analysis as a methodological approach for analyzing research and practices within virtual primary and secondary programs. This analytic technique provides researchers with an effective approach for analyzing textual- or non-textual data to gain a deeper understanding of the phenomenon under study.

Current Study Construction

For examining the implementation of best practices by virtual K-3 instructors, the primary investigator utilized a content analysis to survey related themes and patterns addressing best practices. Content analysis distinguishes itself as a qualitative means of allowing researchers to examine and make meaningful inferences from text data (Hsieh & Shannon, 2005). According to Patton (2002), ". . . content analysis is used to refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings" (p. 453). For this study, the primary investigator identified recurring words and themes based on the specified content areas in order to extract meaningful information relating to the status and trends being employed in the teaching process for virtual K-3 programs.

Summary

This chapter provided the reader with an overview of virtual schools and their origin within the United States for primary and secondary age groups. The primary investigator discussed the influential role of collegiate-level distance learning, technological advancements, and policy changes encouraging the development of varying types of virtual schools. In identifying the diverse array of virtual schools, the primary investigator presented a discussion on frequently used definitions for virtual schools in combination with a brief review on structural components and constituents within these programs. In following, the advantages and disadvantages associated with attendance at virtual schools provided the reader with a more in-depth understanding of these programs. Advantages including increased autonomy in school-choice, accessibility, cultural diversity, and flexibility. Whereas, disadvantages included social isolation, design issues, reduced student readiness and retention, as well as how the lack of personal motivation can result in poor results for individual students.

Subsequently, the primary investigator provided a definition of best practices in conjunction with an outline of best practices in virtual primary and secondary schools as identified through current research. Identified best practices included (a) creating an online learning community; (b) prompt and frequent teacher-student communication; (c) teacher and student social presence; (d) knowledgeable of content area being taught; (e) use of multi-faceted assessments; (f) excellent organizational skills, and (g)

implementation of collaborative activities (Anderson & Dron, 2011; NAEYC, 2009; Watson & Gemin, 2008).

In following, further attention was given to (a) the theoretical perspectives of socio-constructivist and activity theory as a lens for examining the implementation of best practices within virtual K-3 programs; (b) qualitative content analysis in analyzing textual data for this study, as well as a review of quantitative and qualitative content analysis utilized in similar and non-similar studies; (c) the philosophical and theoretical basis of content analysis; (d) the state of current research on virtual schools, and (e) the current study construction.

In further evaluating the implementation of best practices in K-3 virtual schools, the remainder of the study will be disseminated in the following manner:

Chapter III will re-address the (a) purpose and rationale for selecting the current topic; (b) institutional review board process; (c) researcher's role; (d) research design; (e) procedure; (f) sample; (g) data collection; (h) categories for coding; (i) credibility and trustworthiness; (j) transferability; (k) plan of data collection and analysis, and (l) summary. This chapter by chapter outline should function as a guide for readers as they navigate through the presented dissertation.

CHAPTER III

METHODOLOGY

The advent of virtual schools has provided students with a broadening range of choice when selecting whether or not to attend a "brick and mortar" or virtual school for the educational process. Recent polls indicate an increasing number of families are selecting the virtual environment for the educational process of their children (iNACOL, 2011). To accommodate this rapid growth, many virtual schools appear to be adopting prefabricated curricular materials in order to address the mainstream educational needs of its student population (Ash, 2012; DiPietro, Ferdig, Black, & Preston, 2008). However, the introduction of pre-established curriculum materials may stifle the implementation of best teaching practices by virtual K-3 instructors. Furthermore, the implementation of best practice(s) may be heavily influenced by teaching pedagogy, available technological resources, and the organizational structuring of curriculum.

After an exhaustive search of literature addressing issues relating to virtual schools, the primary investigator determined the topic of implementing best practices in virtual K-3 schools as being a research area in need of further exploration. Therefore, the purpose of this study was to examine the best teaching practices utilized by virtual K-3 instructors. Such was realized by collecting and evaluating distance education journals, dedicated virtual school blogs, and electronically-documented surveys with virtual K-3

instructors through a qualitative content analysis. The review of content gained from these sources assisted in determining the best practices being implemented by virtual K-3 instructors within the virtual school setting. The primary investigator triangulated the examined articles by interfacing their content with informational insights gained from identified virtual school blogs and electronically-documented surveys completed by virtual K-3 instructors.

The current study was representative of an exploratory study in that the primary investigator identified, analyzed, and interpreted textual data from distance education journals, dedicated virtual school blogs, and electronically-documented surveys with virtual K-3 instructors. Furthermore, journals and virtual blogs were chosen based on their inclusion of the following or related key terms: (a) interactions; (b) collaboration; (c) pedagogy; (d) technology; (e) virtual schools; (f) instructors; (g) virtual K-3 programs, (h) curriculum; (i) virtual K-12 programs, and (j) best practices. The inclusion of distance education journals, dedicated virtual school blogs, and electronically-documented surveys with virtual K-3 instructors were considered imperative to the review as triangulating the findings proved salient to ensuring the obtained data was a current and accurate representation of virtual K-3 programs.

Institutional Review Board

As the current study involved surveying virtual K-3 instructors, the primary investigator sought approval through the Institutional Review Board at Texas Woman's University, in order to protect the best interest of participants, prior to initiating the

survey process. Also, virtual K-3 instructors were informed of their ability to withdraw from the study at any time. For consenting virtual K-3 instructors, the primary investigator provided a link to the *PsychData* website, which was attached to the recruitment letter, for completing the online survey. On completion of the survey, virtual K-3 participants were given a Respondent ID number, which allowed them to maintain privacy and confidentiality as a participant of this study. In further protecting the identity and privacy of participants, the primary investigator agreed to maintain all survey data for a time period of three years.

Researcher's Role

Empathic neutrality distinguishes qualitative research by addressing the role of the researcher as one of an inquirer that exhibits an adherence to a neutral stance when completing research. Such neutrality is an indication of the ". . . investigator not setting out to prove a particular perspective or manipulate the data to arrive at predisposed truths" (Patton, 2002, p. 51). However, it is the responsibility of the investigator to delve deep enough into the research in order to accurately identify, analyze, and interpret salient information relating to the research topic. Importantly, Patton (2002) states that "neutrality does not mean detachment" (p. 51), which is a key foundational aspect of qualitative research as it relies on the allowance for in-depth research on budding phenomena. To reduce bias, the primary investigator strove to approach textual and non-textual data in a neutrally empathic role by participating in peer-debriefing with doctoral

and/or post-doctoral students in the field of child development and/or early childhood education.

Research Design

Content analysis is an analytic technique appropriate for reviewing textual- and non-textual sources that address a specified content area of interest to the researcher. This analytic technique provides the researcher with a means of identifying, coding, and categorizing data based on associated contextual meanings (Saldana, 2009; Schilling, 2006). The primary investigator reviewed data obtained from scholarly and non-scholarly journals, virtual school blogs, as well as the surveys electronically-disseminated to virtual K-3 instructors.

As previously discussed, an exhaustive search of the literature addressing issues relating to virtual K-12 schools has yielded limited results for the implementation of best practices in virtual K-3 programs. Therefore, the purpose of this study was to examine the best practices being implemented by virtual K-3 instructors. In this qualitative study, the primary investigator utilized a descriptive technique during the process of identifying, analyzing, and interpreting textual data from scholarly and non-scholarly sources, as well as when reviewing the content from posted blogs and electronically-documented surveys.

Procedure

Sample

For this study, the sample consisted of scholarly and non-scholarly journals, dedicated virtual school blogs, and electronically-documented surveys completed by

virtual K-3 instructors. These content areas were chosen based on their ability to address best practices in virtual K-3 learning environments. There was an inclusion of dedicated virtual school blogs that were freely accessible through the Internet, electronically-documented surveys obtained from participating virtual K-3 instructors, as well as open-access and subscriber only journals. The primary investigator used the Internet, Texas Woman's database, and *PsychData* for accessing the specified content.

Resources were purposively selected on the primary basis of demonstrating a related research interest in best practices, and their implementation within virtual K-3 programs. Furthermore, resources were selected for their breadth of information held on the current topic.

When selecting journals, the primary investigator searched for primary and secondary sources, such as *Technology, Pedagogy, and Education*, as well as *The International Review of Research in Open and Distance Learning*. As an example, *Technology, Pedagogy, and Education,* is a peer-reviewed journal freely accessible to subscribers of the publication. The journal provides its readership with access to research articles addressing teaching and learning practices through the use of information and communication technologies. This primary journal is indexed in *ERIC and PsychINFO* (*Technology, Pedagogy, and Education*, 2012). *The International Review of Research in Open and Distance Learning* is a peer-reviewed journal freely accessible to online users. This secondary journal provides its readership with open access to articles addressing topics relating to theory, research, and the application of best practices in the field of

distance learning (*The International Review of Research in Open and Distance Learning*, 2012).

In addressing virtual school blogs, the primary investigator selected openly accessible blogs that were directly located on virtual K-12 websites to enhance verification of the authenticity of data obtained for the current study. As previously stated, dedicated virtual school blogs were selected in accordance with their ability to address the outlined research question.

For the survey process, the primary investigator utilized a purposive sample of 11-participants for data collection on examining the implementation of best practices within virtual K-3 programs. Participants consisted of practicing virtual K-3 instructors based in the United States. Participation in the study was voluntary. Virtual K-3 instructors participated in an electronically-disseminated survey by completing a questionnaire electronically accessible on the *PsychData* website. The questionnaire consisted of 5-questions relating to the implementation of best practices in the virtual classroom. The survey questions were adapted from the study *Best Practices in Teaching K-12 Online: Lessons learned from Michigan Virtual School Teachers* in which researchers utilized the questions to ascertain the best practices being implemented by virtual instructors teaching at the high school level (DiPietro, Ferdig, Black, & Preston, 2008).

Data Collection

In the data collection process, the primary investigator completed the following procedure for obtaining information from scholarly and non-scholarly journals, virtual school blogs, and electronically-documented surveys from virtual K-3 instructors. The collection of data from these sources provided the primary investigator with a deeper understanding of the implementation of best practices in virtual K-3 programs.

For journals, data collection consisted of acquiring articles through the Texas Woman's University Library database system, as well as through publishers that presented with open-access to their online resources addressing issues relating to virtual schools. In addition to accessing scholarly journals, the primary investigator reviewed appropriate articles from non-scholarly journals in order to access the most current information in regard to best practices in virtual K-3 programs. For the majority of the peer-reviewed and non-peer-reviewed journals, the journal title and the *a priori* terminology relating to best practices, technology, and pedagogy, were typed individually and in combination into the search component box, i.e. "virtual school" and "best practices". *A priori* terminology included the following terms and related concepts: (a) interactions; (b) collaboration; (c) pedagogy; (d) technology; (e) virtual schools; (f) instructors; (g) virtual K-3programs, (h) best practices; (i) virtual K-12 programs, and; (j) curriculum. In following, the search results were reviewed by the primary investigator to determine the level of appropriateness based on the *a priori* criteria for inclusion, which can be found in the *Categories for Coding* section. Then, the primary investigator

determined whether or not the presenting article addressed the posed research question for the study.

Research Question: What are best practices implemented by virtual K-3 instructors as identified through journals, electronically-documented surveys and dedicated virtual school blogs?

The primary investigator reviewed the article title and abstract to determine the need for inclusion or exclusion of an article. If articles met the above-stated criteria, then they were printed out for review by the primary investigator. If the article was unavailable in the full-text, then the primary investigator requested access through an Interlibrary Loan. To ensure maximal inclusion of articles addressing the specified content area, the primary investigator completed a peripheral reading of the articles in question. Following the determination of articles appropriate to the study, the primary investigator completed an in-depth reading of the selected articles.

For virtual school blogs, the primary investigator utilized the research question as a guide for selecting blogs posted by virtual K-3 instructors or students in addressing topics relating to best practices. Furthermore, the inclusion of data sources obtained from freely accessible virtual school blogs was based on their goodness-of-fit with the *a priori* codes established by the primary investigator. As in the journal articles, the primary investigator completed a preliminary and secondary reading of the data obtained from virtual school blogs to ensure their appropriateness within the current study.

For the survey process, the primary investigator used the research question as a guide for identifying survey responses that were relevant to the current study. The inclusion of electronically-documented responses was based on *a priori* codes established by the primary investigator at the onset of the study. The primary investigator utilized survey questions developed by DiPietro, Ferdig, Black, and Preston (2008) in their study of best practices being implemented by virtual high school instructors. The chosen survey questions assisted in the development of an *a priori* coding system that was expected to accommodate the responses of virtual K-3 instructors as they completed the online survey.

Categories for Coding

Content analysis is an analytic technique which "refers to searching text for recurring words or themes" (Patton, 2002, p. 453). Prior to data collection, the primary investigator utilized provisional coding, i.e. establishing *a priori* codes, to identify content areas relating to the implementation of best practices in virtual K-3 programs (Saldana, 2009). Such is considered to be an appropriate qualitative coding method for "building on or corroborating previous research" (Saldana, 2009, p. 121). According to Saldana (2009), "these codes can be developed from anticipated categories or types of responses/actions that may arise in the data yet to be collected . . . being derived from literature reviews, research questions, a study's conceptual framework, etc. (p. 120). First cycle codes consisted of (*P*) for pedagogy, (*T*) for technology, (*O*) for organization, (*C*) for collaboration, (BP) best practices, and (*I*) for interaction.

After completing the preliminary and in-depth reading(s) of the chosen articles, virtual school blogs, and survey responses, the primary investigator downloaded the documents into *MAXQDA 11,* then grouped them according to their content category, i.e. distance education journals, virtual blogs, and survey responses. Using MAXQDA 11, the primary investigator began to apply the provisional coding system to the obtained data using the *a priori* codes, i.e. pedagogy, technology, curriculum, barriers, etc. As re-iterated, the primary investigator assigned the provisional code(s) to the corresponding textual data identified in the read articles, blogs, and electronically-documented survey responses. As guided by Schreier (2012), the primary investigator utilized MAXQDA 11 in the coding and categorization process for all identified textual data in this first cycle of coding.

During the peer debriefing process, the primary investigator reviewed the preliminary findings with a doctoral and postdoctoral reviewer, in the field of Early Childhood Education and Child Development, to determine whether a second cycle of coding methods was warranted in review of preliminary findings. Notably, second cycle coding methods were utilized to acknowledge converging themes that needed to be classified and/or re-classified in a combinatory manner that were not addressed in the first phase of coding. Most importantly, second phase coding allowed for the coherent integration of concepts, ideas, and themes from the original data that expectantly provided the researcher with a more holistic perspective of the data (Saldana, 2009).

Credibility and Trustworthiness

According to Shenton (2004), ". . . ensuring credibility is one of the most important factors in establishing trustworthiness" (p. 64). In *Strategies for Ensuring Trustworthiness in Qualitative Research Projects,* Shenton (2004) revisited Guba's method for addressing concerns relating to validity, reliability, and objectivity in qualitative research. He argues that qualitative research can attain an enhanced level of trustworthiness through means of "credibility, transferability, dependability, and confirmability" (p. 64). In determining to increase the credibility of research findings in this study, the primary investigator employed the following criteria as recommended by Shenton (2004):

(a) *The adoption of well-established research methods*. The primary investigator employed content analysis as a means of examining the data obtained from distance education journals, virtual school blogs, and electronically-documented surveys completed by K-3 instructors. This analytic technique was chosen due to its being a well-established means for assessing textual data.

(b) *The development of an early familiarity with the culture participating organizations*. Before data collection and analysis, the primary investigator became familiarized with the virtual organization through open-access company websites, associations, and newsletters in order to gain a better understanding of the organization. Following data collection, the primary investigator read and re-read the articles, blogs, and documented interviews to enhance trustworthiness of findings.

(c) *Triangulation*. Triangulation refers to the corroboration of findings through the use of combined methods for assessing the accuracy of findings. For this study, the primary investigator utilized data triangulation and investigator triangulation. Data triangulation was implemented by incorporating scholarly and non-scholarly journals, as well as data from identified virtual school blogs and the survey process. Also, investigator triangulation was employed as two independent researchers, i.e. a doctoral and/or postdoctoral reviewer, read and reviewed a randomly selected article, blog, and survey response completed by a virtual K-3 instructor. The peer-reviewers were provided with the following study parameters for guiding their review of the 3-content areas coded by the primary investigator: (a) purpose; (b) research question, (c) coding system, and (d) definitions. Following their review, the primary investigator corresponded with the two research members in order to discuss identified codes, categories and themes for comparative purposes. Furthermore, the primary investigator solicited their expertise in regard to methods for improving the overall quality of the study.

(d) *Debriefing sessions.* The primary investigator participated in at least 2 debriefing sessions with peer reviewers in order to gain insights that would enhance the research process, and understanding of the phenomenon under study.

(e) *Peer scrutiny of the research project*. The primary investigator sought critical feedback by peer reviewers to improve the quality of the research product. Input was sought on the research design, findings, implications, etc.

(f) *The researcher's reflective commentary*. The primary investigator participated in a reflective commentary process by recording "initial impressions of data collection sessions, patterns appearing to emerge in the data collected. . ." (p. 68). This reflective commentary was completed when using the technique of memo-writing in MAXQDA 11.

(g) *Thick description of the phenomenon under scrutiny.* The primary investigator implemented a detailed description of the phenomenon under study in order to increase the credibility of findings.

Transferability

According to Rodon and Sese (2008), ". . . transferability of research results from one setting to another depends on the fit between those common features and characteristics of the setting" (p. 8). For this study, the "goodness of fit" was qualified based on the previously outlined delimitations:

In referencing the selection process for journals, the primary investigator selected scholarly and non-scholarly journals that address the implementation of best practices in virtual K-3 programs. When selecting articles obtained from scholarly and non-scholarly journals, the primary investigator chose articles that were able to answer the research question relating to the implementation of best practices in virtual K-3 programs.

For the selection of participants, the primary investigator restricted study participants to virtual K-3 instructors. This convenience sample consisted of virtual K-3 instructors practicing within the United States.

In determining the inclusion process for virtual school blogs, the primary investigator selected blogs that were found on dedicated virtual K-12 websites. Thus, this delimitation enhanced the authenticity of content gained from the blog source, as well as reinforced the trustworthiness of study findings.

In selecting qualitative content analysis for the analysis and interpretive phase of the study, the primary investigator sought to gain a deeper understanding of the phenomena under study. As content analysis demonstrates itself to be a capable tool for examining textual data in an in-depth manner, the primary investigator considered such to be appropriate for addressing the content area in this study. Specifically, qualitative content analysis was utilized to examine chosen research journal articles, virtual school blogs, and electronically-documented survey responses obtained from virtual K-3 instructors.

Summary

This chapter addressed the methodological process for examining best practices utilized by virtual K-3 instructors within the presented context. In the introductory portion, the primary investigator discussed the need for further inquiry into the implementation of best practices within virtual K-3 programs, as well as how such would be conducted through a qualitative content analysis. In following, the primary investigator outlined the Institutional Review Board process relating to protecting the identity and privacy of individual virtual K-3 instructors during the survey process. Additionally, empathic neutrality was presented as a means for enhancing the

trustworthiness of study findings as the primary investigator will strive to maintain a neutral role throughout the process of identifying, analyzing, and interpreting obtained content.

In addressing the research design, the primary investigator discussed the employment of qualitative content analysis in examining the implementation of best practices in virtual K-3 programs. As addressed, qualitative content analysis was applied when reviewing data obtained from scholarly and non-scholarly journals, dedicated virtual school blogs, and electronically-documented survey responses obtained from virtual K-3 instructors. In the data collection process, the primary investigator selected scholarly and non-scholarly journals, as well as dedicated virtual school blogs, and electronically-documented survey responses based on their ability to address the research question relating to the implementation of best practices. Following this process, the primary investigator completed an in-depth reading of content sources in order to categorize the content according to a provisional coding system, as well as for non-predetermined codes generated throughout this process.

To enhance credibility and trustworthiness, the primary investigator followed a guideline addressing the selection of a credible research method, developing an emic role within the organization, incorporating triangulation methods, completing a reflective journal, providing a thick description, seeking critical feedback from peer researchers, and participating in peer debriefing sessions (Shenton, 2004). In following these

guidelines, the primary investigator determined to increase "credibility, transferability, dependability, and confirmability" (Shenton, 2004, p. 64).

Chapter IV will address: (a) description of sample; (b) research question; (c) procedures for collection of data; (d) analysis of data; (e) *a priori* codes; (f) other, non-specified codes; (g) themes, and (h) summary.

CHAPTER IV

DATA ANALYSIS

The lens of qualitative content analysis was utilized to examine the implementation of best practices by virtual K-3 instructors. Qualitative content analysis is a technique allowing for the examination of both textual and non-textual data sources (Hsieh & Shannon, 2005). The researcher is able to identify, code, categorize and analyze data based on their contextual meaning (Saldana, 2009; Schilling, 2006). For this study, qualitative content analysis enabled an in-depth investigation of best practices employed by virtual K-3 instructors as obtained through the textual data sources of distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. As obtained, the primary investigator analyzed content from 5-distance education journals, 4-dedicated virtual school blogs, and 11-virtual K-3 instructors. The research question was the primary guide utilized for determining which sources to include in the study.

Research Question

The research question was designed to address the goal of examining the implementation of best practices by virtual K-3 instructors. Such was realized by collecting and evaluating content from distance education journals, dedicated virtual

school blogs, and electronically-documented surveys completed by virtual K-3 instructors. The purpose of the study was addressed with the following research question.

Research Question: What are best practices implemented by virtual k-3 instructors as identified through journals, electronically-documented surveys, and dedicated virtual school blogs?

Survey Questions

In addressing the research question within the context of the electronically-documented surveys completed by the virtual K-3 instructors, the primary investigator posed the following survey questions:

1. What are the best practices you use to teach your students?
2. Why are you using these practices?
3. How do you use different technologies (such as discussion boards, chat tools, online games, etc.) within the course(s) to support your best practices?
4. What barriers make it difficult for you to implement best practices?
5. What supports are present to assist you in implementing best practices?

Description of Sample

The primary investigator selected distance education journals, dedicated virtual school blogs, and virtual instructors that addressed the implementation of best practices within a virtual K-3 setting. This purposive sample provided a means for data triangulation in that the primary investigator was able to collect and analyze the content in an integrated manner for gaining a more comprehensive understanding of the findings

obtained from the distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors.

Distance Education Journals

In selecting distance education journals, the primary investigator utilized the research question as a parameter for selecting appropriate journals and articles addressing the implementation of best practices within a virtual K-3 environment. In an attempt to increase the credibility of findings, both scholarly and non-scholarly journals were selected when reviewing the topic of best practices within virtual schools. The inclusion of both scholarly and non-scholarly journals was considered appropriate for gaining access to the most current literature addressing the topic of best practices being implemented by virtual K-3 instructors. A total of 5-distance education journals were chosen for inclusion in this study. Below is Table 1 outlining the distance education journals that were included in this study.

Table 1

Distance Education Journals

The Journal of Educators Online (S)
Distance Education (S)
Online Journal of Distance Learning Administration (S)
The International Association for K-12 Online Learning (NS)
Journal of Technology and Teacher Education (S)

Scholarly = S, Non-Scholarly = NS

Dedicated Virtual School Blogs

For virtual school blogs, the primary investigator looked for openly accessible virtual blogs that were sponsored by virtual K-12 schools. The inclusion of virtual school blogs was restricted to those that were accessible from the school website. In selecting virtual blogs that were directly located on virtual K-12 websites, the primary investigator sought to enhance the verification of the authenticity of the content obtained from the virtual blogs. In accessing dedicated virtual school blogs, the primary investigator strove to act in an ethical manner by protecting the privacy and confidentiality of online contributors by not divulging identifiable information. As stated by Denzin and Lincoln (2005), "research based on a content analysis of a public website need not pose an ethical problem . . . and it is probably acceptable to quote messages posted on public message boards . . .as long as the privacy of identifiable correspondents is not breached by the researcher" (p. 742). In accordance with this commendation, the primary investigator excluded identifiable information that would breach the confidentiality and privacy of online persons contributing to virtual school blogs. For this study, there were a total of 4-virtual K-12 blog sites that were considered appropriate for inclusion.

Virtual K-3 Instructors

For completing the electronically-documented survey, the primary investigator chose practicing virtual K-3 instructors based in the United States. Participation in the study was voluntary. Virtual K-3 instructors participated in an electronically-disseminated survey by anonymously completing a questionnaire electronically on the

PsychData website. As presented earlier in this chapter, the electronically-disseminated survey consisted of the 5-interview questions addressing the implementation of best practices, barriers and supports that make it easier or harder to implement best practices, as well as how available technology impacts the implementation of best practices in the teaching environment. There were a total of 11-virtual instructors who chose to participate in completing the online survey.

Procedures for Collection of Data

Prior to initiating the procedures for data collection, the primary investigator obtained permission from Texas Woman's University Institutional Review Board. Upon approval, the primary investigator initiated the procedures for collecting data from distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. These content sources were chosen based on their ability to address the implementation of best practices by virtual K-3 instructors. There was an inclusion of distance education journals that were accessible through open-access and subscriber only journals, dedicated virtual school blogs that were freely accessible on virtual K-12 school websites and electronically-documented surveys that were completed by virtual K-3 instructors on the *PsychData* site.

Sample

As previously stated, the study sample consisted of distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. This convenience sample was selected in accordance with its

ability to address the implementation of best practices within the virtual setting by K-3 instructors.

Distance education journals addressing a related interest in the implementation of best practices by virtual K-3 instructors were identified through the Texas Woman's University Library database system, as well as through publishers that presented with open-access to their online resources addressing issues relating to virtual schools, i.e. International Association for K-12 Online Learning. When searching the Texas Woman's University database, the primary investigator applied search queries that included the journal title and the *a priori* terminology relating to best practices, technology, and pedagogy. The *a priori* terminology was typed individually and in combination into the search component box, i.e. "virtual school" and "best practices". *A priori* terminology included the following terms and related concepts: (a) interactions; (b) collaboration; (c) pedagogy; (d) technology; (e) virtual schools; (f) instructors; (g) virtual K-3programs, (h) best practices; (i) virtual K-12 programs, and; (j) curriculum. In following, the search results were reviewed by the primary investigator to determine the level of appropriateness based on the criteria for inclusion, which can be found in the *Categories for Coding* section. Then, the primary investigator determined whether or not the presenting article addressed the posed research question for the study.

The primary investigator reviewed the article title and abstract to determine the need for inclusion or exclusion of an article. If articles met the above-stated criteria, then they were printed out for review by the primary investigator. If the article was

unavailable in the full-text, then the primary investigator requested access through an Interlibrary Loan. To ensure maximal inclusion of articles addressing the specified content area, the primary investigator completed a peripheral reading of the articles in question. Following the determination of articles appropriate to the study, the primary investigator completed an in-depth reading of the selected articles. There were a total of 5-journals identified as appropriate for inclusion in this study. Within these journals, the primary investigator identified 5-articles that were considered appropriate for inclusion in this study.

Virtual school blogs addressing the topic of best practices being implemented by virtual K-3 instructors were identified through open-access virtual school websites. Initially, the primary investigator identified virtual schools that provided educational services to K-3 students by completing a general Internet search query. For instance, the primary investigator utilized the search engine *Google* and searched for virtual schools with key terms in an individual and/or combinatory manner, i.e. virtual elementary schools, virtual K-12 schools, virtual K-5 schools, virtual K-3 schools, online elementary schools, etc. On identifying virtual schools that provided educational services for K-3 students, the primary investigator reviewed individual virtual school websites in search of blog sites associated with the respective school. Following the identification of virtual school blogs, the primary investigator reviewed individual blog sites for blog posts addressing best practices for primary grade level students. Again, the *a priori* codes were utilized as a guide for identifying blog posts that addressed components of best practices

within the K-3 instructional setting. To determine appropriateness for inclusion, the primary investigator reviewed the blog sites and their individual blog posts by completing a peripheral reading of the blog post to determine if it addressed the research question. If blog post addressed the topic of best practices, the primary investigator completed secondary and tertiary reading of the selected post to gain a deeper understanding of the content material. There were a total of 4-blog sites considered appropriate for inclusion in this study.

As identified from the blog sites, there were a total of 34-blog posts that addressed the topic of best practices being implemented by virtual K-3 instructors. Blogs were restricted to those displayed on the virtual school websites. The virtual school websites focused directed their blog posts to virtual K-12 administrators, instructors, learning coaches, and parents of attending students. The blogs addressed topics for improving the overall quality of the learning process for primary and secondary grade students through the use of best practices, innovative technological tools, online applications, authentic and creative learning activities, etc.

In seeking virtual K-3 instructor to complete the PsychData survey, the primary investigator identified virtual K-3 instructors and administrators through (a) a general Internet search; (b) virtual K-12 schools rosters for K-3 instructors; (c) research article citations, and (d) online social networks. In conducting a general Internet search, a general search query was utilized with the terms “virtual schools” and “virtual elementary schools” to identify virtual schools providing educational services for elementary aged

students. Following the identification of virtual schools, the primary investigator would search the individual school websites for virtual K-3 teachers contact information through staff directory pages in order to send the recruitment letter directly to their e-mail addresses. As needed, the primary investigator would first contact individual virtual school administrators to gain access to the contact information for virtual K-3 instructors in their respective schools or organizations who were not listed on the school website. For consenting administrators, the recruitment letter was e-mailed to each administrator with their agreement to forward the letter with the attached survey to their respective virtual K-3 instructors. Additionally, the recruitment letter was sent to virtual K-3 instructors who were identified through research article citations. If their contact information was not explicitly stated in the citation, the primary investigator would complete a general Internet inquiry with the individual's name and educational affiliation in search of their e-mail address. On finding the contact information, virtual K-3 instructors were sent the recruitment letter with the linked *PsychData* survey by e-mail. Finally, the primary investigator employed social networks, such as Facebook, in the recruitment process for virtual K-3 instructors by posting the recruitment letter on virtual school Facebook pages and messaging potential participants in regard to the study. In locating potential participants on Facebook, the primary investigator typed in a search query with the name of the specified virtual school with a request for the employees list. For instance, the query was typed as "Connections Academy employees" or "Connections Academy instructors". In following, the results page displayed the profiles

of employees with instructors frequently specifying what course(s) and grade level(s) they taught. Some instructor profiles did not specify the grade level taught, but stated employment as an elementary level instructor. These potential participants were directly messaged with the recruitment letter for participation in the study. Within a 2- to 3-week period, the primary investigator sent a follow-up e-mail with the recruitment letter to request participation for a final time. There were a total of 11 virtual K-3 instructors who completed the 5-question online survey through the PsychData website.

PsychData ©

Virtual K-3 instructors considering participation in the study had the option of previewing the consent form, as well as the online survey, which were attached to the e-mailed recruitment letter. For virtual K-3 instructors choosing to participate, the primary investigator provided an "I Agree" tab for instructors to select at the bottom of the consent form. In selecting the "I Agree" tab, the instructors expressed their understanding of the consent form, as well as their agreement to participate in the study. In following, the participants were transferred to the online survey, which contained the 5-interview questions outlined earlier in the chapter.

For collecting the online survey responses, the primary investigator utilized the *PsychData* website. As explained, *PsychData* is a third party site that provides researchers with the capability to create online surveys for participants to complete anonymously by providing respondents with an identification number. For this study,

participants were assigned a Respondent ID number, which allowed for the completion of the survey anonymously by virtual K-3 instructors.

Analysis of Data

Content analysis was considered the most appropriate tool for examining the implementation of best practices by virtual K-3 instructors as ascertained from distance education journals, dedicated virtual school blogs, and electronically-documented surveys. Content analysis distinguishes itself as an analytic technique suitable for examining and making meaningful inferences from textual and non-textual data (Hsieh & Shannon, 2005). According to Patton (2002), ". . . content analysis is used to refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings" (p. 453). For this study, the primary investigator identified recurring words, themes, and ideas from distance education journal articles, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. The specified content areas presented in written form at the stage of collection, thus allowing the primary investigator to forego the process of transcribing the data. In following, the transcripts were read and re-read in order to determine the most appropriate code application for recurring words, phrases, and concepts. During the coding process, *a priori* codes were utilized for sorting and categorizing data obtained from distance education articles, dedicated virtual school blog posts, and electronically-documented surveys. Furthermore, the primary investigator generated additional codes for content that did not fit into the pre-determined coding

system. To enhance the coding process, the primary investigator employed a peer-reviewing process, as well as wrote memos addressing insights gained from the collected data in order to achieve a better understanding of the presented content.

Peer-Reviewing Process

As previously stated, the primary investigator implemented a peer-reviewing process to enhance not only the coding technique, but the general quality of the study as well. As proposed by Houghton, Casey, Shaw, and Murphy (2013), the credibility of qualitative research can be enhanced through the peer-reviewing process as the investigator employs peer debriefing strategies. For this study, peer reviewers consisted of a postdoctoral fellow presenting with a degree in Early Childhood Education and a doctoral student completing a degree in Child Development. Prior to the data collection process, the primary investigator solicited the participation of the afore-mentioned persons in the peer-reviewing process. On acceptance, the peer-reviewers were provided a copy of the dissertation proposal with noted emphasis on reviewing the study purpose, research question, provisional and generated codes. In following is a list of the provisional and generated codes with their stated definitions:

1. Interactions - a method in which students take on an active role in their educational process as they interact with varying learning resources (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010; Baghdadi, 2011).
2. Collaboration – when students are grouped together to explore a topic or project (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010).

3. Pedagogy - the underlying philosophy that influences the teaching methods employed by online instructors (Adams, 2004; Porter, 2004; Waterson, 2009).
4. Technology - the incorporation of the Internet and other electronic information technologies into the learning experience (Konings, Brand-Gruwel, & van Merrienboer, 2005).
5. Curriculum – the learning that is guided by the school, i.e. chosen textbooks (Kelly, 2009).
6. Autonomy – the instructors' ability to independently choose learning activities for students (Kupetz & Ziegenmyer, 2006).
7. Barriers – anything that hinders the instructor in implementing best practices (Cavanaugh, 2004).
8. Recommendations – recommended best practices for virtual instructors (Watson & Gemin, 2008; Savery, 2005).
9. Supportive Framework – organizational entities that support the implementation of best practices by virtual instructors, i.e. virtual school principals (Bredekamp & Copple, 1997).

Other Non-Predetermined Codes – additional codes discovered during the process of coding that do not fit into the above-stated *a priori* codes. These additional codes are listed in the remaining definitions:

1. Instruction/Course Development/Content Development – the content designed and/or developed by an instructor and how the instructor implements teaching in the classroom (Cavanaugh, 2004).
2. Assessment – how the teacher assesses the student to determine his or her progress within the class (iNACOL, 2011).
3. Diversity in Learning (Styles) – the various learning modalities or methods students use to learn information (Barbour & Siko, 2012).
4. Flexibility – the teachers ability to adjust to different challenges that are presented within the online environment (Kupetz & Ziegenmyer, 2006).
5. Professional Development – the teachers participation in continuing education to advance his/her knowledge or practice in the online environment (Bredekamp & Copple, 1997).
6. Credentialing – maintaining the credentials required for their profession (iNACOL, 2011).
7. Privacy Standards – being knowledgeable of privacy standards for protecting their students' identity and privacy (iNACOL, 2011).
8. Academic Integrity – demonstrating academic integrity in their work, as well as assisting their students in doing the same (iNACOL, 2011).
9. Relationship Building – striving to strengthen the relationship between themselves (as teachers), as well as their students and parents (Watson & Gemin, 2008).

10. Communication – communicating with students via varying platforms, i.e. face-to-face, by phone, online, etc. (Baghdadi, 2011).
11. Organization – demonstrating good organizational skills for the online classroom setting (iNACOL, 2011).

In following, the primary investigator provided the peer reviewers with a guideline entailing the responsibilities associated with the peer-reviewing process for this study. In addition, the peer reviewers were provided with a copy of one randomly selected article, virtual school blog, and electronically-documented survey for the reviewing process. The early dissemination of these data sources to the peer reviewers was due to the primary investigator allotting a lengthened amount of time for reviewers to become familiar with the content area under scrutiny.

In the following 3-months, the peer-reviewers became familiar with the study purpose, research question, and coding system, as well as with one randomly selected journal article, virtual blog post, and electronically-documented survey completed by a virtual K-3 instructor. In doing so, the peer-reviewers were better able to provide salient feedback regarding the coding method employed by the primary investigator. At the end of this period, the primary investigator sent coded copies of one journal article, virtual blog post, and electronically-documented survey for review by the peer-reviewers. The primary investigator directed the peer reviewers to review the coded article, blog, and electronically-documented survey to determine if the appropriate coding application had been utilized by the primary investigator. At this time, the peer reviewers were able to

express affirmation to the coding application used by the primary investigator or provide feedback on modifications necessary for ensuring the appropriate coding process applied to the distance education journal article, dedicated virtual school blog, and electronically-documented survey completed by a virtual K-3 instructor.

Following the review of coded materials, one peer-reviewer gave no immediate recommendations relating to revisions needed for the coding process, but shared insights for improving the study. Recommendations for improving the study consisted of the need to clarify the description of online K-3 students, parental choice in choosing online schooling, and how young students are engaged in the virtual classroom. Also, the specified reviewer provided recommendations addressing future research needs relating to examining the teaching backgrounds of virtual K-3 instructors, structure of a typical virtual K-3 classroom, possible advantages of a virtual classroom in comparison to a brick-and-mortar school, and the personality type of K-3 students attending a virtual school.

Comparatively, the second peer-reviewer provided revisions to the coding process by providing recommendations for re-coding specified phrases, sentences, paragraphs and/or concepts. As taken from the randomly selected electronically-documented survey, the primary investigator coded the following passage as relating to *technology* and *relationship building*:

Question 3: How do you use different technologies (such as discussion boards, chat tools, online games, etc.) within the course(s) to support your best practices?

> Respondent 1: “I like using google chat. The kids use that to seek help. I also use that to develop a relationship with my students. I really like using google “hangout” (video chat). I use it to tutor my students online. I also use it as an incentive. They have games and apps that the kids love. I deliver my instruction through odyssey learning (an online platform). I use websites with games and youtube videos to remediate my students.”

In addition to the applied codes of technology and relationship building, the second peer-reviewer recommended the additional code of *autonomy* being added to this passage. Overall, inter-rater agreement was judged to be at 80% or more for the coding process.

Memo-Writing Process

According to Birks, Chapman, and Francis (2008), memoing in qualitative research provides a means of documenting insights gained from the raw data. The documentation of these insights provides a concrete point of reference for the researcher as he/she reviews, examines, and interprets information within its contextual framework. For this study, the primary investigator integrated memo writing into the coding process in order to achieve a better understanding of the data obtained from distance education journal articles, dedicated virtual blog posts, and electronically-documented surveys completed by virtual K-3 instructors. Memos were recorded using the MAXQDA 11 software program, which demonstrated the capability of attaching memos to specified content areas. The primary investigator utilized memos to document gained insights, as

well as arising questions, during the coding process. For instance, the primary investigator (PI) wrote a memo in response to the following excerpt from a blog post:

> ". . . I love the philosophy of teaching the big ideas and presenting a curriculum that is spiral in nature. Material and themes are reintroduced each year and built upon as the student gains mastery and maturity. This spiraling along with the complementary nature of the different courses all work together to present those big ideas to our students. Our organization believes that 'Big Ideas + Consecutive Down Payments + Practice = Mastery'."
>
> PI Memo:
>
> "How exciting it is that this school promotes the use of Spiral Curriculum in its teaching philosophy. In reflecting on the Spiral Curriculum, I think of Bruner and his focus on cognition occurring in three stages: (a) enactive, in which the child manipulates or interacts with an object; (b) iconic, in which the child interacts with an image of the object, and (c) symbolic, in which the child interacts with a representation of the object. Also, there is a focus on revisiting the information or concept learned in order to ensure a true sense of learning in the student. This program seems to present with a strong pedagogical background for providing best teaching practices for its students."

MAXQDA 11 ©

As mentioned in the previous section on memo writing, the primary investigator utilized MAXQDA 11 to organize the data obtained from distance education journals,

dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. The MAXQDA 11 series is a software program allowing for the computer-assisted management of qualitative data for purposes of analysis. The primary investigator employed MAXQDA 11 for transferring documents, organizing data, coding data, analyzing data, and writing memos. MAXQDA 11 proved to be very user-friendly as the company provided easily accessible and brief video clips that showed the user how to work through the program step-by-step. Furthermore, the primary investigator was able to select and watch video clips, as well as read the *Tip of the Month* newsletter posted by staff members, addressing the specific research needs that were unique to this study. During the initial phase of data collection, the primary investigator was unsure of how to transfer documents into the MAXQDA 11 software program. As a result, the primary investigator went to the MAXQDA 11 website and located the *MAXQDA Video Tutorials* tab, which then provided a list of introductory videos to the program. The *Importing Documents* tab was then selected with the primary investigator being directed to the corresponding page. On accessing the video tutorials page, the primary investigator was able to view a 2-minute video clip demonstrating how documents can be imported into the MAXQDA 11 software program. As an additional example, the primary investigator chose to implement a memo-writing process for enhancing the credibility of this study. Prior to initiating the memo-writing process, the primary investigator went to the MAXQDA 11 website and located the *MAXQDA 11 Tip of the Month* newsletter titled the "MAXQDA Memo Manager", which provided a brief, but thorough description

of how to complete memo-writing using their software program. The specified newsletter proved to be very helpful in guiding the memo-writing process. Additionally, the memo-writing application presented with a helpful information tab that was present in the MAXQDA 11 software program purchased by the primary investigator.

Coding System

According to Saldana (2009), "a code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (p. 3). Furthermore, an initial code can be elaborated upon using second cycle coding methods in which the researcher is able to modify or expand the codes associated with the existing data set (Patton, 2002; Saldana, 2009).

For this study, the primary investigator began with a provisional coding system of *a priori* codes that were further elaborated through the inclusion of additional codes derived from distance education journal articles, virtual school blog posts, and electronically-documented surveys. The *a priori* codes consisted of interaction, collaboration, pedagogy, technology, curriculum, autonomy, barriers, recommendations, supportive framework, and other, non-predetermined codes. The *a priori* code of other, non-predetermined codes was included as a means of addressing recurring words, phrases, and concepts that were not in alignment with the provisional coding system. As generated from the 3-content areas, non-predetermined codes addressed instruction, organization, assessment, diversity in learning styles, flexibility, professional

development, credentialing, privacy standards, academic integrity, relationship building, and communication.

Triangulation

According to Patton (2002), triangulation is a comparative means of strengthening the trustworthiness of one's findings through the juxtaposition of informative resources that are being analyzed from varying perspectives. For this study, the primary investigator aimed to increase the credibility of findings through the implementation of data triangulation and investigator triangulation. For data triangulation, the primary investigator completed a comparison of content obtained from distance education journal articles, dedicated virtual school blog posts, and electronically-documented surveys completed by virtual K-3 instructors. For investigator triangulation, the primary investigator recruited a doctoral student and post-doctoral fellow to participate in the peer-reviewing process with their responsibilities consisting of critically reviewing and revising the coded data sets, as well as providing the primary investigator with helpful suggestions for improving the overall quality of the study. The integration of triangulation methods yielded the following themes and sub-themes: (a) *Setting Clear Expectations* with sub-themes of *Organizational skills* and *Instructional Guidelines;* (b) *Personalizing Instruction* with sub-themes of *Diverse Learners* and *Multi-Faceted Assessments*; (c) *Building a Community of Learners* with sub-themes of *Fostering Student Relationships, Fostering Parental Relationships,* and *Communication;* (d) *Effective Teaching in the Online Classroom;* (e) *Using Technology Effectively in the*

Classroom with sub-themes of *Promoting Classroom Interaction* and *Promoting Classroom Collaboration;* (f) *Improving Virtual Instruction through Professional Development,* and (g) *Barriers in Virtual Teaching*. In following, Table 2 entails the generated themes derived from the expressed coding system, while Table 3 outlines the sub-themes and their associated codes.

Table 2

Themes Associated by Code

Themes	Associated Codes
Setting Clear Expectations	a. Organization b. Instruction
Personalizing Instruction	a. Diverse Learning Styles b. Assessments
Building a Community of Learners	a. Communication b. Support
Effective Teaching in the Online Classroom	a. Pedagogy b. Curriculum c. Autonomy
Using Technology Effectively in the Classroom	a. Technology b. Supportive Frameworks c. Recommendations
Improving Virtual Instruction through Professional Development	a. Credentialing b. Content knowledge c. Recommendations
Barriers in Virtual Teaching	a. Administrative Support b. Barriers

Table 3

Sub-themes Associated by Code

Sub-Themes	Associated Codes
Organizational Skills *Instructional Guidelines*	Organization Instruction
Diverse Learners *Multi-Faceted Assessments*	Diverse learning styles Assessments
Fostering Student Relationships *Fostering Parent Relationships* *Communication*	Establishing Relationships
Promoting Classroom Interaction *Promoting Classroom Collaboration*	Interaction Collaboration

As assumed by the primary investigator, there was a significant inter-relatedness among the codes that became a theme and sub-theme. The remainder of the chapter will be devoted to discussing the themes generated following the examination of distance education journal articles, dedicated virtual school blog posts, and electronically-documented surveys.

Themes

As previously stated, triangulation was a methodological tool utilized for enhancing the credibility and trustworthiness of findings obtained in the study of best practices being implemented by virtual K-3 instructors. Importantly, data triangulation allowed for the examination of data in a more comprehensive and integrated manner. Following the examination of distance education journal articles, virtual school blog posts, and electronically-documented surveys, the primary investigator designated the information according to its fitting into the provisional coding system or other, non-

predetermined coding system. The provisional and generated codes provided the foundation for creating themes that reflected the integrated perspectives obtained from distance education journals, dedicated virtual school blogs, and electronically-documented surveys. The generated themes all addressed the research question for identifying best practices being implemented by virtual K-3 instructors in the online classroom. Although, the electronically-disseminated survey questions were constructed specifically for virtual K-3 instructors completing the online survey, the questions provided a natural framework for organizing the generated themes. Below is Table 4 categorizing each theme and sub-theme in accordance with its ability to answer the posed survey question(s).

Table 4

Themes and Sub-themes Associated with Survey Questions (SQ) 1-5

Survey Questions	Associated Themes and Sub-themes
SQ1. What are the best practices you use to teach your students?	a. *Setting Clear Expectations* • Organizational Skills • Instructional Guidelines b. *Personalizing Instruction* • Diverse Learners • Multi-faceted Assessments c. *Building a Community of Learners* • Fostering Student Relationships • Fostering Parent Relationships • Communication d. *Improving Virtual Instruction through Professional Development*
SQ2. Why are you using these practices?	a. *Effective Teaching in the \ Online Classroom*
SQ3. How do you use different technologies within the course(s) to support your best practices?	a. *Using Technology Effectively in the Online Classroom*
SQ4. What barriers make it difficult for you to implement best practices?	a. *Barriers in Virtual Teaching*
SQ5. What supports are present to assist you in implementing best practices?	a. *Effective Teaching in the Online Classroom*

The remainder of the chapter will be devoted to discussing the themes generated following the examination of distance education journal articles, dedicated virtual school

blog posts, and electronically-documented surveys. As all of the themes and sub-themes address the presented research question, the primary investigator chose to discuss the themes and sub-themes in accordance with the assigned survey question(s) that was addressed by each theme and sub-theme. The reader may refer to Table 4 as a guide for recalling the survey questions that are associated with the generated themes and sub-themes.

Setting Clear Expectations

When interviewing the data, the primary investigator utilized the first survey question addressing what best practices were being utilized in virtual classrooms for teaching K-3 students as a guide addressing the importance of setting clear expectations for students and their families as they participated in the online classroom. The first survey question was designed to understand the virtual K-3 instructors' perspectives in relation to best practices being integrated into their online classrooms.

Survey Question 1 (SQ1): What are the best practices you use to teach your students?

SQ1-Best Practice-Theme 1: Setting Clear Expectations

The information obtained from distance education articles, dedicated virtual school blog posts, and electronically-documented survey responses converged on the discussed theme. The theme of *Setting Clear Expectations* was derived from the codes of organization and instruction. As shown in the data, *Setting Clear Expectations* presented itself in accordance with best practices for virtually teaching K-3 students as it provided clear criteria for students and their parents to follow, and thus enhanced the motivational

component for completing assignments in a timely manner. As shown in Figure 2, such was confirmed in a distance education journal article addressing virtual instructors and their need for setting clear expectations in the following manner:

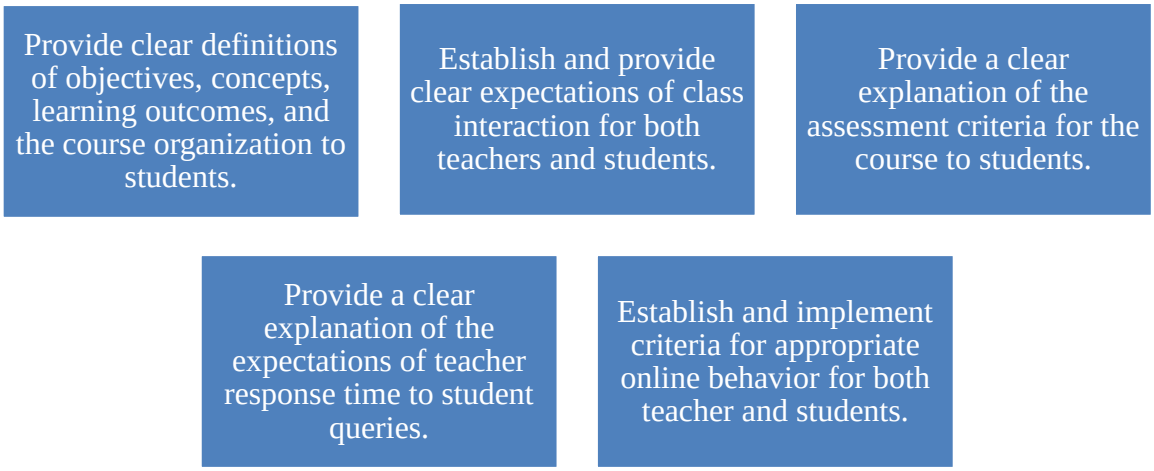

Figure 2. Setting Clear Expectations . (International Association for K-12 Online Learning, 2011, p. 8).

Further credence was given to the importance of setting clear expectations in a virtual school blog as it stated, "Virtual instructors need to establish expectations with specified rules and guidelines for students, especially for those who are novice online learners" (VS Blog 1, 2010). In answering *SQ1*, Respondent 11 (2013) stated, "I set clear expectations right from the beginning. Communication is also key in the virtual environment. I have guided questions to ask the students to facilitate discussion. I have a focus question at the end of each lesson to evaluate their understanding." In a series addressing the topic of *Making a Virtual School Family Planner* (2013), a virtual

instructor stressed the importance of "setting clear standards for behavior and performance during the virtual school year as it helps kids and parents alike as a detailed family plan can help with the avoidance of unnecessary conflict and keep students headed toward online school success."

As reflected in the above examples, the distance education journal articles, dedicated virtual school blogs, and electronically-documented surveys converged on the theme of *Setting Clear Expectations.* As previously stated, *Setting Clear Expectations* was a theme devised when examining the codes of organization and instruction with such resulting in the further development of sub-themes *Organizational skills* and *Instructional guidelines.*

Organizational Skills

SQ1-Best Practice-Subtheme 1a: Organizational skills. Organizational skills presented as a sub-theme of *Setting Clear Expectations* as it addressed how the structuring of the virtual classroom impacted the virtual K-3 students' success in the online learning environment. The level of structure provided by virtual K-3 instructor is of importance as it gives students and their families a concrete guideline for meeting the stated criteria. In accordance with identified best practices, the virtual K-3 instructor must demonstrate organizational skills in the areas of recording student attendance, documenting student progress, outlining course materials in a clear and understandable manner, providing timelines for due assignments, using deadlines to motivate assignment completion, contacting students in regard to modifications in course requirement(s),

encouraging time management skills, as well as in organizing and structuring online instructional content (Black, DiPietro, Ferdig, & Polling, 2009; Ferdig, Cavanaugh, DiPietro, & Black, 2009; iNACOL, 2011; VS Blog 1, 2010; Respondent 11, 2013). As previously stated, the organizational skills of a virtual K-3 instructor may be reflected in the success level of the student. For instance, Respondent 9 stated that referring to student data allowed him/her to see the needs of individual students and how such could be addressed in lesson plans and small groups. As illustrated in the prior example, *Organizational skills* is considered an essential factor in the implementation of best practices within a virtual K-3 teaching environment as it provides a demonstrable link to the educational success of virtual K-3 students.

Instructional Guidelines

SQ1-Best Practice-Subtheme 1b: Instructional guidelines. Similarly, virtual K-3 instructors can implement best practices by including *Instructional guidelines* in their teaching environment. As a sub-theme of *Setting Clear Expectations, Instructional guidelines* are a means of providing K-3 students and their families with a structured format that outlines the instructional framework to be expected in the virtual classroom. In following best practices, the virtual K-3 instructor should provide students and their parents with instructions on how the virtual classroom is structured, the course content, how to navigate through course content, and various means of contacting the virtual instructor when experiencing difficulty in understanding taught concepts (Academy Blog 5, 2013). As demonstrated in the following blog post, a virtual instructor stated the

importance of establishing guidelines for students and their parents to use when experiencing difficulty navigating through instructional materials:

> "Because they aren't facilitating students' learning face-to-face, it is critical for online teachers to be able to explain tough concepts and answer questions over the phone, through online tools, or via a one-on-one web-conferencing session-and to know which approach will work best for which students. . ."(Academy Blog 5, 2013).

Although the above example may overlap with the concepts of communication and technology integration, it seems to connote a pre-established guideline for addressing issues that may arise throughout the instructional process. Seemingly, this instructor recommended an established plan of communication with each student, thus reflecting a perceivable link between *Instructional guidelines* and *Setting Clear Expectations*. This association may be reflected in the virtual K-3 instructor providing students and their families with a stated means of communication that is most conducive for the student and his/her family. In having an established mode of communication with the instructor, the students and their families are able to clarify given instructions that will heavily impact success in the virtual classroom (Ferdig, Cavanaugh, DiPietro & Black, 2009; iNACOL, 2011). Specifically, the virtual K-3 instructor should provide parents and students with an outline that includes contact information, office hours, and available modes of communication for addressing instructional needs (Respondent 7, 2013). Setting clear

expectations for virtual classroom instruction may further contribute to the educational success of young learners as their parents guide them through this learning process.

Personalizing Instruction

Further examination of distance education journal articles, virtual blog posts, and electronically-documented survey responses yielded a theme of *Personalizing Instruction.* The theme of *Personalizing Instruction* was derived from the codes of diversity in learning styles and assessments. The first survey question was designed to understand the virtual K-3 instructors' perspectives in relation to best practices being integrated into their online classrooms.

Survey Question 1 (SQ1): What are the best practices you use to teach your students?

SQ1-Best Practice-Theme 2: Personalizing Instruction

For this study *Personalizing Instruction* focused on the virtual K-3 instructors need to be knowledgeable of students' respective learning styles, instructional tools that are conducive for addressing different learning styles, ways to modify instructional materials to align with students interests and abilities, and how to work with student family members to tailor a personalized plan for instruction. In an online school blog (2012), a virtual K-3 instructor stated that "online teaching provides a wonderful opportunity for parents, students, and teachers to work together to create unique and personalized education plans that really work." Notably, the teaching strategy of differentiated instruction is an approach that provides students with varying means of learning a concept in an effective manner, regardless of learning style. In this blog post, a

virtual K-3 instructor discussed the importance of addressing the different learning styles of individual students:

> I absolutely love challenging myself and the teachers here to create meaningful Class Connect sessions that really engage students in helping them to critically think and apply knowledge. I research strategies and attend workshops for fun! Differentiation is so very important, and when we look at every child as an individual, really the sky is the limit in what we can do for them, and help students achieve. (K12 Blog 11, 2012)

Further discussion was given to instructional differentiation by Respondent 9 in his or her use of "break-out rooms to address different levels of learning" among K-3 students. The importance of using differentiated instructional strategies was affirmed in the International Association for K-12 Online Learning (2011) report stating that ". . . online teachers need to be able to use differentiated strategies in conveying ideas and information, and be able to assist students in assimilating information to gain understanding and knowledge" (p. 5).

Further discussion was given to this topic in Academy Blog 2 (2010) posted by a virtual K-3 instructor:

> Virtual schools are ADAPTABLE. Students learn best when lessons match their interests and abilities. Studies have shown that in conventional classrooms many instructional tasks are not matched to students' skill levels. At our school, we help each student maximize his or her potential and meet the highest performance

> standards through a uniquely individualized learning program. At our school, each student receives individualized instruction, including lessons tailored to that student's academic strengths and weaknesses. This is our Personalized performance Learning (PPL) approach – a dynamic process through which we evaluate each student's strengths and needs. We then develop individual approaches that work for the student along with our curriculum – all year long.

As noted, differentiation is a vital factor in providing best practices as the virtual instructor pursues an instructional method that is personalized to address the learning needs of the student. In continuing with the theme of *Personalized Instruction*, the primary investigator discovered an association with the stated theme and the codes of diversity in learning styles and assessments. The following discussion will be devoted to addressing the sub-themes of diverse learners and multi-faceted assessments.

Diverse Learners

SQ1-Best Practice-Subtheme 2a: Diverse learners. As a sub-theme of *Personalizing Instruction, Diverse learners* primarily focused on the virtual K-3 instructors' ability to adapt his or her instructional approach to address the diverse learning needs of students. According to Black, DiPietro, Ferdig, and Polling (2009), virtual K-3 instructors need to be skilled in understanding different learning styles, identifying at-risk students, using assistive aids to help struggling students, identifying and/or providing ancillary services for struggling students, interacting appropriately with students from various cultural backgrounds, and accommodating student interests in the

course content. In a virtual blog post addressing the benefits of online schooling for virtual students, a virtual K-3 instructor stated:

> We're always coming up with new ideas and best practices for how to effectively teach online. We're on the cutting edge of virtual education practices, which is really cool for us and extremely beneficial for your children. Virtual learning is highly personalized. As you know, being the same age doesn't mean that your kids are always at the same place mentally, physically, or emotionally as their peers. With online learning, kids can get extra help or take gifted and talented courses that match their learning levels. Teachers work one-on-one to develop plans that meet each student's needs (CA Blog 3, 2012).

In the presented blog post, the virtual K-3 instructor distinguished how vital it is to align the course content with the specific needs or interests of the individual student, thus reinforcing a demonstrable connection between diverse learners and the need for personalized instruction. Furthermore, such was reinforced by Respondent 1 (2013) in the statement that "I hope to make my instruction dynamic so it can help a wide variety of students." According to Black, DiPietro, Ferdig, and Polling (2009), it is important for the virtual K-3 instructor to modify course content to fit individual students' interests and abilities as they accommodate various learning styles and preferences. Considerably, the virtual K-3 instructors ability to effectively accommodate the diverse learning needs of individual students is imperative to aligning one's teaching methods with best practices

(Black, DiPietro, Ferdig, & Polling, 2009; Academy Blog 3, 2012; iNACOL, 2011; Respondent 9, 2013; Respondent 10, 2013).

Multi-Faceted Assessments

SQ1-Best Practice-Subtheme 2b: Multi-faceted assessments. In using best practices for addressing the diverse learning needs of virtual K-3 students, instructors must integrate assessments that are multi-faceted in their ability to accurately assess the level of gained knowledge in individual K-3 students. According to the International Association for K-12 Online Learning (2011) virtual instructors need to do the following when conducting multi-faceted assessments:

> . . . assess the students' prior knowledge on varying concepts, employ ways to assess student readiness for course content and method of delivery, use non-traditional assessments, monitor academic integrity with assessments, create or select and implement a variety of formative and summative assessments that assess student learning progress and utilize student feedback to improve the online learning experience, and create opportunities for student self-assessment within courses (pp. 12-13).

For virtual K-3 instructors, the sub-theme of *Multi-faceted assessments* is featured as an important component of best practices for implementing in their classrooms as it is an established criteria for examining and determining students' learning abilities. Such was noted as an important practice by Respondent 1 stated "I vary my method of assessment to keep student interest. I sometimes ask for written responses,

comprehension phone calls, video chats, book chats, multiple choice quizzes, powerpoints, video presentations, and I hope more choices as my online knowledge base expands." This response exemplified how a virtual K-3 instructor is incorporating a multi-faceted approach to assessing student progress in a dynamic and effectual manner.

Not only are multi-faceted assessment methods useful for examining student progress, but can have a positive impact on student engagement. According to a virtual blog post, student engagement can be positively influenced by multi-faceted assessment when there is "timely and meaningful feedback on assessments, graphic displays of growth over time, student ownership of their own learning, and information about student achievement relating to growth and knowledge gained on specific topics" (VS Blog 2, 2009). As noted, a multi-faceted approach to assessing student knowledge is considered a vital factor in the implementation of best practices for virtual K-3 instructors.

Building a Community of Learners

Building a Community of Learners was a recurring theme noted in the review of distance education journal articles, virtual school blog posts, and electronically-documented survey responses. *Building a Community of Learners* was derived from the codes of communication and support. The first survey question was designed to understand the virtual K-3 instructors' perspectives in relation to best practices being integrated into their online classrooms.

Survey Question 1 (SQ1): What are the best practices you use to teach your students?

SQ1-Best Practice-Theme3: Building a Community of Learners

As dictated by the study sample, *Building a Community of Learners* addressed the importance of fostering the relationship between the virtual K-3 instructor and student, as well as the respective parent of each student. *Building a Community of Learners* was considered to be integral to younger students' success in the virtual classroom as they need a higher level of socio-emotional support in the online environment (Oliver, Kellogg, Townsend, & Brady, 2010). According to the International Association for K-12 Online Learning (2011), it is imperative that virtual instructors are able to utilize strategies that are conducive to building a community of learners within the virtual classroom. Principal Blog 7 (2008) gave further credence to developing a community of learners by stating that the success of virtual schools is dependent on there being a community of learners that contribute their knowledge and skills to the overall advancement of the virtual school. As stated, building a community among young learners not only benefits individual students and their families, but the overall credibility of the virtual school as well. For virtual K-3 instructors, *Building a Community of Learners* among students can establish the foundation for student success within the educational context of virtual schooling. Furthermore, *Building a Community of Learners* is heavily influenced by the communicative practices implemented by the virtual K-3 instructors. The importance of communicative practices will be further discussed in the following sub-themes of *Fostering Student Relationships* and *Fostering Parental Relationships*.

Fostering Student Relationships

SQ1-Best Practice-Subtheme 3a: Fostering student relationships. As a sub-theme of *Building a Community of Learners, Fostering student relationships* was considered a key component for virtual K-3 instructors implementing best teaching practices within the virtual classroom. The virtual K-3 instructors' ability to foster a positive student-teacher and student-student relationship has been shown to significantly influence educational outcomes for young learners. According to Oliver, Kellogg, Townsend, and Brady (2010), "some teachers had to think about supporting the emotional needs of younger learners by incorporating tools that provided for communication with others and for constant reinforcement or feedback on their work" (p. 72). In supporting the emotional needs of younger students, the virtual K-3 instructor may increase the sense of security and belonging within the classroom, thus allowing for enhanced academic performance. Such sentiments were reflected in a virtual K-3 instructor's blog post stating "I will bring my joy of learning and my motivation to instill a love of learning in children. I am excited to build a community among my students . . . by creating authentic learning experiences that will help my students gain knowledge and become continuous learners" (VS Blog 7, 2008).

In the prior scenarios, the fostering of student relationships has been viewed as a means of enhancing the learning experience for K-3 students attending a virtual school. However, *Fostering Student Relationships* should be considered from the perspective of socio-emotional development in that such can provide quality experiences for virtual K-3

students as they interact with other students using various communication platforms. As noted in the research, virtual K-3 instructors may often have the opportunity to coordinate activities that foster relationship building among students and their respective teachers. For instance, a virtual school hosted a *Jeopardy Jamboree* in which virtual K-3 students were able to participate, face-to-face, in a simulated game of Jeopardy (Online School Blog, 2012). Another example of how such friendships frequently extend outside of the classroom was given by a virtual K-3 instructor who stated ". . . the kids who form friendships in real-time online classroom sessions, virtual study groups, clubs, and online activities often meet outside of school, attending each other's birthday parties and spending time together. It's so great to watch them form such supportive, cohesive groups, and often at young ages" (Academy Blog 3, 2012). In *Fostering Student Relationships,* the virtual K-3 instructor may act as a catalyst for positively influencing the cognitive and socio-emotional development of a child as well.

Fostering Parent Relationships

SQ1-Best Practice-Subtheme 3b: Fostering parent relationships. The sub-theme of *Fostering Parent Relationships* was identified as being a best practice for virtual K-3 instructors to conduct when forming relationships with the parents of virtual students. Although, the formation of positive relationships may be considered important for elementary aged students, it was especially important for virtual K-3 instructors to establish a positive relationship with the parents of virtual K-3 students as parents often donned the role of learning coach for assisting young learners in the virtual classroom.

Briefly explained, learning coaches consist of physically present persons who are able to assist the virtual student in navigating through the virtual education program. Most often, virtual K-3 students' parents are maintaining the role of learning coaches as they assist their children in navigating the virtual classroom, interacting with the virtual instructor, completing assignments, as well as when collaborating with peers on learning activities. The establishing of relationships with students and their families was discussed by a virtual K-3 instructor in the following response:

> As a virtual teacher, the first thing I did was to just sit and have a conversation with my learning coaches and then my students. I asked personal things like hobbies, activities, etc. Then I dug into learning styles, organization of the online school, and academics. It was my personal way of showing that I cared for families first, and then we could focus on student needs. I felt even closer to my virtual students and their families than I did to some of my brick and mortar students. It is all in communication.
>
> (K12 Blog 11, 2012)

In this blog, the virtual instructor stresses the importance of forming a strong relationship with the learning coach and/or parent(s) of individual virtual K-3 students as such may provide the supportive framework for families as they navigate through the virtual learning environment. It is imperative that virtual K-3 instructors provide a supportive atmosphere in which parents have a sense of security when making inquiries into the educational process for their respective student(s).

Considerably, parents of virtual K-3 students should take an active role in fostering the parent-teacher and student-teacher relationship as they interact with instructors. The following scenario presents an example of parents seeking a deeper relational connection with not only virtual instructors, but other parents of virtual students as well. The following blog was posted by an administrative staff member:

> This fall, we have had many requests for a place where parents can build relationships with teachers and other parents. In response to this request, we have created the Parent Teacher Partnership Facebook Page. This is a closed group with a mission to partner with parents and build relationships between the home and school that ensure the education of the whole child via an academically excellent, Bible-based education.
>
> (Online School Blog 1, 2012)

In this scenario, virtual school parents took the initiative in requesting a means of building a deeper relationship with virtual instructors and the parents of those attending the online program. However, it is imperative for the virtual K-3 instructor to form a cooperative relationship with parents of children attending virtual programs as such may significantly influence the educational outcomes for young learners. Such sentiments were shared by Respondent 1 (2013) as he/she responded to a question regarding what best practices were used to teach students: “First, building a relationship with the student and the student’s family. I have visited face-to-face, in their home, as 90% of my families

live throughout the state. With a foundation of this professional relationship comes the ability for the student to succeed at maximum potential."

As discussed, *Fostering parent relationships* has been shown to be a best practice that can have significant influence on the educational outcomes for virtual K-3 students attending an online school.

Communication

SQ1-Best Practice-Subtheme 3c: Communication. Underlying the theme of *Building a Community of Learners* is the sub-theme of *Communication*. Communication has been shown to be an essential factor in the implementation of best practices for virtual K-3 instructors. As employed by virtual K-3 instructors, communicative practices may have a positive or negative impact on students and their families as they navigate through the online classroom. *Communication* is integral to the provision of proper student-family support, establishing a criteria for prompt and regular feedback, providing constructive criticism, encouraging student feedback on progress, discussing student needs with support staff, demonstrating professional writing skills, using various modes of communication, setting office hours, and communicating available tech support (Ferdig, Cavanaugh, DiPietro, & Black, 2009; K12 Blog 1, 2011; Respondent 4, 2013; Respondent 11, 2013). According to the International Association for K-12 Online Learning (2011), "the online teacher knows and understands techniques for using appropriate communications in support of student engagement through prompt and regular feedback, and setting and communicating high expectations" (p. 7). Furthermore,

the importance of communication was stressed by a virtual K-3 instructor in the following statement:

> Because students don't see their online teachers every day in person, they have to be able to get in contact with them when they need help. Online teachers have to know their discipline so well that they can respond quickly and appropriately to student requests, especially when working with students one-on-one. Answering email messages, taking questions over the phone, holding known and predictable office hours, and providing feedback on assessments in a timely manner are all necessary-and incredibly important-parts of the job.
>
> (Academy Blog 5, 2013)

Additionally, Respondents 2 and 4 (2013) cited using a closed group Facebook site, weekly educational newsletters, educational tutoring websites, emails, and Edmodo as a means of regularly communicating with virtual K-3 students and their parents. In furthering arguing the importance of communication in the virtual classroom a virtual K-3 blogger expressed that:

> The best online teachers know how to encourage their students from a distance. How, when, and how often they provide feedback, ask and answer questions, and interact through virtual classrooms directly impacts each student's learning experience. The effective online teacher needs to be there for each of his or her students, encouraging them all to learn and succeed at the highest levels.
>
> (Academy Blog 5, 2013)

As so aptly stated, the communication patterns of virtual instructors have a seemingly significant influence on the academic outcomes for students attending a virtual school. Responsively, virtual K-3 instructors need to demonstrate communicative practices that are in alignment with the above-stated best practices for interacting with students and their families.

Effective Teaching in the Online Classroom

In reviewing distance education journal articles, dedicated virtual school blogs, and electronically-documented surveys, the primary investigator noted *Effective Teaching in the Online Classroom* to be a recurring theme present in the above-mentioned content areas. The theme of *Effective Teaching in the Online Classroom* was derived from the codes of pedagogy, curriculum, and autonomy. The second and fifth survey questions were designed to understand the reasoning of virtual K-3 instructors as they selected specific teaching practices to integrate into their online classrooms, as well as the available supportive frameworks assisting them in the implementation of best practices.

Survey Question 2 (SQ2): Why are you using these practices?

Survey Question 5 (SQ5): What supports are present to assist you in implementing best practices?

SQ2-Effective Teaching – Theme 4: Effective Teaching in the Online Classroom

SQ5-Effective Teaching - Theme 4: Effective Teaching in the Online Classroom

Effective Teaching in the Online Classroom was considered to be heavily influenced by administrative choice in curriculum selection, the virtual K-3 instructor's personal teaching philosophy, as well as his or her level of autonomy in implementing various teaching approaches and activities within the virtual classroom. In the following statement, a virtual K-3 instructor expressed:

> I love my virtual school's philosophy of teaching the big ideas and presenting a curriculum that is spiral in nature. Material and themes are reintroduced each year and built upon as the student gains mastery and maturity. This spiraling along with the complementary nature of the different courses all work together to present those big ideas to our students. Our virtual school believes that 'Big Ideas + Consecutive Down Payments + Practice = Mastery'.
>
> (Prep Academy Blog 2, 2010)

The above statement reflected the pedagogical approach to teaching that is representative of the underpinning philosophy guiding virtual K-3 instructors as they implement various teaching methods in the online classroom. As implied, the virtual instructor attributed the incorporation of the Spiral curriculum to an overseeing party of individuals who selected a research-based approach for effectively teaching virtual K-3 students. In *A Comparison of Organizational Structure and Pedagogical Approach: Online versus Face-to-Face*, McFarlane (2011) stated:

> . . . that institutional context and learning environment affect teachers' pedagogy and that the teaching self is shaped by the organizational structure of educational

> institutions that differ in their value and support of teaching. The degree to which such differences in pedagogy prevail as a result of organizational structural and teaching value and support difference needs to be seriously examined, especially as virtual schools seek to develop more robust academic image and survive the competition (p. 16).

As outlined in the above statement, virtual instructors' philosophy of teaching is directly influenced by organizational level choices. Organizational level choices may determine the curriculum selection, online educational delivery model, accessible technological tools, etc. For the virtual K-3 instructor, the virtual school organization may provide the supportive framework needed for implementing best practices within the virtual classroom as it encourages creativity and autonomy in developing and integrating course content or strategies that enhance the quality of online learning for K-3 students.

According to the International Association for K-12 Online Learning (2011), ". . . online teachers need to be able to use and incorporate subject-specific and developmentally appropriate software in an online learning module" (pp. 14-15). As addressed in this guideline for best practices, virtual instructors should experience a certain level of autonomy in being able to select supplementary resources to implement within the virtual classroom for enhancing the learning of students. In responding to question 5, which addressed what supports are present that assist in the implementation of best practices, a virtual K-3 instructor stated that ". . . my boss gives me quite a bit of creative freedom. Without that it would be VERY difficult to implement best practices. .

." (Respondent 1, 2013). In a blog post discussing the need for a paradigm shift in how teachers are viewed in the online classroom, a virtual school administrator stated that:

> true reform begins at the systems level with the system needing to change in order to impact the teacher in the classroom as he or she has the greatest impact on student achievement. . . Furthermore, Marzano stated that 'if schools and districts find ways to ensure effective practices occur in every classroom, but still provide flexibility to the classroom teacher,' they too impact student achievement. (Academy Blog 2, 2009)

As exemplified in these statements, there is strong evidence of an association between the level of autonomy afforded to virtual K-3 instructors by overseeing virtual school members and the effective implementation of best practices within the online classroom.

Using Technology Effectively in the Online Classroom

The continued review of distance education journal articles, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors yielded a theme of Using Technology Effectively in the Online Classroom. The theme of Using Technology Effectively in the Online Classroom was derived from the codes of technology, supportive frameworks, and recommendations. The third survey question was used to understand the effective incorporation of technology into the online teaching practices of virtual K-3 instructors in the online classroom.

Survey Question 3 (SQ3): How do you use different technologies (such as

discussion boards, chat tools, online games, etc.) within the course(s) to support your best practices?

SQ3- Technology-Theme 5: Using Technology Effectively in the Online Classroom

As stated, the theme of *Using Technology Effectively in the Online Classroom* was derived from the codes of technology, supportive frameworks, and recommendations. Although the code of recommendations may seem an unlikely source relating to the concept of technology, the primary investigator discovered a convincing connection as each content area addressed recommendations in regard to improving technological use within the virtual classroom (McFarlane, 2011; Oliver, Kellogg, Townsend, & Brady, 2010; Academy Blog 5, 2009). As recommended by McFarlane (2011), the "effective use of technology in the classroom requires increased opportunities for instructors or educators to learn how to use technology and this should be a major motivating factor for virtual schools to increase their pedagogical effectiveness given their existing and acquired technology to facilitating teaching and learning" (p. 35). In this statement, McFarlane (2011) addressed the influence of virtual K-12 organizations in providing virtual instructors with training resources for assisting in the implementation of pedagogically-sound practices for effectively using technology in the online classroom.

Again, the above discussion stresses the importance of organizational structures as they influence the pedagogically-based teaching practices implemented by virtual instructors. In a blog post titled *Where We've Come. . .Where We're Going*, a virtual school administrator provided the following statement:

> When our online school was conceived, it was done so in the spirit of teaching and learning . . . we created courses, trained teachers and selected a learning management system (LMS) with these values in mind. We began to apply the theory quickly realizing some of our tools fell short of the goal. We amended, modified and improved all communication tools. And now as we wrap up the school year and prepare for our next endeavors, we re-teach. However, this time, the teachers are the students actively engaged in a remarkable course called "Best Practices for Online Teaching and Learning". Participants are immersed in the tools their students will utilize. They are applying a multitude of fascinating web 2.0 technologies designed to inspire, intrigue and hook the learner. . .not to mention prepare them for their future. Ahhh, the places we will go!
>
> (Academy Blog 3, 2009)

When considering the technological needs of virtual K-3 students, research suggests that virtual instructors should use a multi-faceted approach for integrating technology effectively into the online classroom. For instance, research indicated that the use of asynchronous communication platforms could be useful tools for assisting the cognitive advancement of young learners, while synchronous communication tools could enhance the interactive and collaborative nature of online learning for elementary-aged students (iNACOL, 2011; McFarlane, 2011; Oliver, Kellogg, Townsend, & Brady, 2010).

In *Needs of Elementary and Middle School Teachers Developing Online Courses for a Virtual School*, Oliver, Kellogg, Townsend, and Brady (2010) found that:

> Younger learners are likely to have difficulty in navigating environments originally designed for adult learners in higher education and the corporate sector. Designers can affect the usability of a course to some degree by ensuring clear instructions for assignments and establishing expectation for student performance. Audio and video clips may also help supplement traditionally text-based instructions for younger learners with lower reading abilities (p. 58).

For virtual instructors teaching students ranging between Kindergarten and 3rd grade, it is imperative to use pedagogically-sound practices when selecting technological tools for facilitating learning, communication, collaboration, and interaction. As noted in the above discussion, technological tools must be easily accessible, navigable, and understandable for the young learner, although he or she is most likely being assisted by an overseeing family member.

In addressing the afore-discussed topic, the primary investigator posed a question regarding how the virtual K-3 instructors implemented different technologies within their course(s) to support best practices. The following presents a sample of responses obtained from virtual K-3 instructors on Interview Question 3:

> Respondent 1: I like using Google chat. The kids use that to seek help. I also use that to develop a relationship with my students. I really like using Google 'hangout' (video chat). I use it to tutor my students online. I also use it as an incentive. They have games and apps that the kids love. I deliver my instruction

through an online platform. I use websites with games and YouTube videos to remediate my students.

Respondent 3: Adobe Connect offers many venues to communicate with my students. Students can answer questions using their microphones, poll pod, chat pod or whiteboard tools. One of the best tools I have as an online teacher is my document camera for reading practice.

Respondent 8: I use Blackboard Collaborate to teach my lessons (using a Powerpoint that has been carefully constructed). We use Study Island as a learning tool. Study Island is the best tool I have seen to cover the standards that are on the Criterion-Referenced Competency Tests (CRCT). It is wonderful! We also access websites and use YouTube frequently for instructional videos that support our teaching.

As exemplified in these responses, virtual K-3 instructors are implementing technological tools that enhance the academic experience of young learners as they are able to participate in online classes using developmentally appropriate tools for interacting with the instructor and peers.

Promoting Classroom Interaction

SQ3-Technology-Subtheme 3a: Promoting classroom interaction. Promoting Classroom Interaction was discovered to be a sub-theme of *Effective Teaching in the Online Classroom* as it addressed virtual K-3 students actively participating in the learning process as they interacted with varying educational resources provided by their

virtual instructor (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010; Baghdadi, 2011). In reviewing the distance journal articles, dedicated virtual school blogs, and electronically-documented survey responses, the concept of *Promoting classroom interaction* was identified as a best practice being implemented by virtual K-3 instructors (iNACOL, 2011; Academy Blog 2, 2009; Respondent 1, 2013; Respondent 8, 2013). For exploring the interactive approaches being utilized by virtual K-3 instructors, the primary investigator posed the question addressing what best practices are being utilized when teaching students. The following responses provide a view of how one virtual K-3 instructor is integrating interactive teaching processes into the online classroom:

> Respondent 9: Our virtual classrooms have chat and polling tools, both of which I use in every lesson for students to answer questions. I can hide these tools from the rest of the class so only I can see everyone's answer. That gives me a true assessment of what students know. Students also talk on the microphone to the class. I use a lot of online games. The students enjoy taking turns playing for a few minutes. Sometimes I push games out so they can play on their own. Our classroom is like a smart board and the students can be given tools to move pieces, draw lines, etc. I am starting a blog this year . . . I'm not sure how it will work with second grade, but I am going to give it a try.

A blog post provided an additional example of interactive learning strategies being implemented in a virtual school. The specified virtual school's elementary department conducted a *Celebrate Flag Day* lesson addressing the historical aspects of

the American flag, as well as analyzed the poetic nature of the *Pledge of Allegience*. In following, virtual elementary students were instructed to draw a picture of a flag representing their family or neighborhood. Additionally, elementary aged students were to provide a 1-paragraph summary explaining the colors and representations chosen for their picture. The virtual school elementary department chose the following student summary to display in their school newsletter:

The Family Flag

> This flag represents my family and who we are. The most important part of our family is that we believe in God. You will find the cross in the center of the flag because it is more important than everything else that we do. Above the cross is our last name. On the bottom left is Daddy preaching. Daddy leads us and others to Christ. On the upper left is the Zumba sign that represents Mama. She does Zumba to help herself and others to stay healthy. On the top right is a girl reading. My sister reads all the time. On the bottom right is me dancing. I love to dance at dance class, home, and at church. Our family has many gifts from God, and we thank Him for all of them.
>
> (Online School Blog 4, 2012)

In the given example, virtual elementary instructors are implementing a lesson plan that provides an interactive means for teaching novel concepts to elementary-aged students attending the virtual school. Importantly, the virtual educators were able to provide students with an interactive and engaging activity that allowed elementary-aged

students to generate a personalized interpretation of the learned material. According to McFarlane (2011), learning is highly effective within the context of purposeful and consistent communicative interactions, engaging content materials, participation in collaborative learning activities, and when content is situated in a pragmatically-appropriate context. Considerably, all of the afore-mentioned components are integral to the implementation of best practices within the online classrooms catering to the learning needs of virtual K-3 students.

Promoting Classroom Collaboration

SQ3- Technology-Subtheme 3b: Promoting classroom collaboration. Promoting classroom collaboration was discovered to be a sub-theme of *Teaching in the Online Classroom* as it addressed virtual K-3 students actively participating in educational activities as they were grouped together for exploring a given topic or project (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010). In reviewing the distance journal articles, dedicated virtual school blogs, and electronically-documented survey responses, the concept of *Promoting Classroom Collaboration* was identified as a best practice being implemented by virtual K-3 instructors (Academy Blog 3, 2012; McFarlane, 2011; VS Blog 2, 2009; Respondent 5, 2013). Collaboration or cooperative learning was often cited throughout the 3-content areas examined by the primary investigator. Respondent 5 (2013) answered a question addressing what best practices were used when teaching students with "I try to utilize cooperative learning strategies to teach my students. It helps students at all levels to best interact and learn from one another. I use Marzano strategies

to get the most out of our time together and to be effective." Briefly, Marzano strategies are nine instructional research-based strategies that have been shown to be an effective means for student instruction. The strategies include the provision of real-world applications, cooperative learning activities, generating and testing hypotheses, setting objectives and providing feedback, etc. As indicated, the above-mentioned respondent has adopted a pedagogically-based approach to implementing cooperative or collaborative learning activities into her virtual classroom.

As previously mentioned in the discussion on the foundational framework for effecting positive outcomes in learning processes, McFarlane (2011) outlined participation in collaborative learning activities as being a key component for using a pedagogically-appropriate teaching model. For virtual K-3 students, the virtual instructor should be "able to build learner capacity for collaboration in face-to-face and online environments. . ." (iNACOL, 2011, p. 2). This may be especially important for virtual K-3 students as they, more than likely, present with a reduced level of computer literacy, online etiquette, and collaborative skills due to their immature developmental age.

Improving Virtual Instruction through Professional Development

Data obtained from distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors revealed the importance of virtual K-3 instructors' participation in ongoing professional development courses. The ongoing participation in continuing education allowed virtual K-3 instructors the opportunity to enhance their knowledge and skill level in regard to

providing effective instruction in the online classroom. The first survey question was designed to attain the perspective of the virtual K-3 instructor in regard to best practices when teaching in the online classroom.

Survey Question 1 (SQ1): What are the best practices you use to teach your students?

SQ1-Professional Development – Theme 6: Improving Virtual Instruction through Professional Development

As stated, *Improving Virtual Instruction through Professional Development* was a recurring theme identified in distance education journal articles and dedicated virtual school blog posts (Academy Blog 5, 2012; Ferdig, Cavanaugh, DiPietro, & Black, 2009; iNACOL, 2011). Although, there were no identified methods for improving virtual teaching skills examined in the electronically-documented survey responses completed by virtual K-3 instructors, such may have been due to the posed survey questions not directly addressing the topic of professional development. As accounted for in the distance education journal articles and dedicated virtual school blog posts, *Improving Virtual Instruction through Professional Development* was derived from the codes of credentialing, content knowledge, and recommendations. *Improving Virtual Instruction through Professional Development* was considered to be a best practice for virtual K-3 instructors purposing to use pedagogically-sound approaches in their teaching methods.

Foremost, virtual K-3 instructors needed to present with the appropriate credentials and/or licensure for teaching in their content area ,as well as compliance with the governing organization. In responding to a question about what makes an online teacher effective, a virtual K-3 instructor stated:

> Almost a given is that a virtual school teacher needs to be state-certified. However, exceptional online schools look for teachers who are exceptionally knowledgeable about their discipline's content area. Not only do these teachers respond quickly and appropriately to students, but also their expertise enables them to engage students more thoroughly.
>
> (Academy Blog 5, 2012)

Additionally, *Improving Virtual Instruction through Professional Development* should occur as the virtual K-3 instructor participates as a member in professional organizations that are congruent with their goals for knowledge advancement in their particular field of interest. Furthermore, the virtual K-3 instructor needs to demonstrate active participation in collaborative learning activities with other professional colleagues as such may provide further access to pedagogically-based resources for implementing in the online classroom (iNACOL, 2011). Such was the case in the following scenario for one virtual K-3 instructor as she described the benefits of participating in an online education to parents:

> Online educators build strong relationships with one another, sharing ideas, brainstorming solutions, and completing projects together. Because we use a very

> collaborative teaching approach, you and your kids have access to teachers who provide a seamless learning experience. We're always coming up with new ideas and best practices for how to effectively teach online. We're on the cutting edge of virtual education practices, which is really cool for us and extremely beneficial for your children.
>
> (Academy Blog 3, 2012)

As seen in this statement, professional development not only benefits the virtual K-3 instructors, but their respective students and their families as the instructors are able to translate their learned knowledge into pedagogically-appropriate teaching strategies for the online classroom.

Barriers in Virtual Teaching

The review of content from distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors addressed the perceived barriers impeding the implementation of best practices in the virtual classroom. Survey question 4 was employed as a means of understanding the perspective of virtual K-3 instructors in regard to barriers reducing their ability to utilize best teaching practices when instructing their students.

Survey Question 4 (SQ4): What barriers make it difficult for you to implement best practices?

SQ4-Barriers – Theme 7: Barriers in Virtual Teaching

Barriers in Virtual Teaching were a recurring theme identified by the primary investigator following the examination of distance education journal articles, dedicated

virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. *Barriers in Virtual Teaching* was defined as conditions or circumstances that negatively impacted the implementation of best practices within the virtual classroom. The current theme was derived from the codes of administrative support and barriers. Barriers influencing the implementation of best practices within a virtual K-3 classroom were related to difficulty in identifying credible resources addressing best practices, students not being provided time to acclimate to the established learning management system, reduced parental involvement, parents or learning coaches lack of educational knowledge, reduced student participation and/or lack of motivation, instructors experiencing a reduced sense of community with students, inaccesibility to concrete manipulatives when teaching specific content areas, and a lack of support from administration members (Ferdig, Cavanaugh, DiPietro, & Black, 2009; Oliver, Kellogg, Townsend, & Brady, 2010; Virtual School Blog 6, 2008; Respondent 3, 2013; Respondent 5, 2013; Respondent 8, 2013; Respondent 9, 2013; Respondent 10, 2013).

For virtual K-3 instructors attempting to implement best practices in their classrooms, barriers were exemplified in the following responses to interview question 4: *What barriers make it difficult for you to implement best practices?*

> Respondent 1: "It is tricky to get a grasp on what kids know and what they don't know when they are physically not in front of me.
>
> Respondent 2: Time is the main barrier. Difference of schedule between teacher and student can be a problem too.

Respondent 3: It is more difficult to get to know my students on a personal level when we're not face-to-face. The teacher-student relation is a large asset in teaching and the online environment makes that difficult.

Respondent 6: Honestly, at the present time we are not experiencing any barriers.

Respondent 8: Most of the parents (learning coaches) are not teachers. We often have to 'teach the teachers' and the students are not able to learn as effectively because of this. A lot of the learning coaches do a good job, but this is an obstacle. Also, if students don't attend class and conferences, there is no way for us to help them.

Respondent 9: Those cases where there is not sufficient parental support. Students not showing up for class or participating like they should. It also makes it difficult if there is not the proper amount of data to go by. For instance, if a student does not spend time in Study Island, it can be difficult to know if you are meeting their needs entirely. Parental support is so important! We need parents to support us in the Class Connect sessions by making sure their child is there and active in class.

The prior responses obtained from virtual K-3 instructors may reflect the need for a strengthened organizational infrastructure that monitors and enforces a measure of accountability for students and parents deciding to attend a virtual school. A participatory process that involves parent-student accountability may assist in remediating some of the potential barriers impacting the effective implementation of best practices for K-3 students attending a virtual school.

Summary

This chapter addressed the analytic process utilized for examining best practices being implemented by virtual K-3 instructors within the presented context. In the introductory portion, the primary investigator discussed the use of qualitative content analysis as an analytic means of examining distance education journals, dedicated virtual school blogs, and electronically-documented surveys. In following, the primary investigator outlined the research and interview questions employed for the investigatory process in examining the specified content areas. Also, a detailed description of the sample and the criteria used for determining inclusion was given in the both the sample and procedures for collection of data sections. The primary investigator provided a brief discussion of the website, *PsychData*, used to collect survey responses, as well as the software program, *MAXQDA11*, utilized for managing the collected data. Further discussion was given to the use of content analysis in analyzing the data with reference to *a priori* and other, non-predetermined codes generated throughout the analysis phase of the study. In following, there was a explanation of the peer-reviewing and memo-writing process with both being incorporated as a means of enhancing the credibility of the current study. These processes reinforced the coding system that was established in accordance with findings obtained from triangulation methods employed by the primary investigator, thus resulting in the discussed themes.

Chapter V will provide a (a) summary of the study; (b) discussion of themes; (c) researcher reflection on qualitative research process; (d) conclusions; (e) implications; (f) limitations of study; (g) recommendations for further research, and (h) summary.

CHAPTER V

DISCUSSION OF FINDINGS

This qualitative research study utilized content analysis to explore the best practices being implemented by virtual K-3 instructors through the review of distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. The content was reviewed from the perspectives of activity theory and socio-constructivism in order to decipher influential factors impacting the implementation of best practices within K-3 virtual programs. In review, socio-constructivism was utilized to examine factors possibly influencing the implementation of best practices by virtual K-3 instructors, while activity theory was employed to address how the mediated interchange between K-3 instructors and their students influenced classroom performance (Leont'ev, 1978; Luria, 1976; Vygotsky, 1978). Referentially, the primary investigator utilized the following research and interview questions to determine the research data that qualified as being appropriate for inclusion in this study:

> Research Question: What are the best practices implemented by virtual K-3 instructors as identified through journals, electronically-documented surveys, and dedicated virtual school blogs?
>
> Survey Question One: What are the best practices you use to teach your students?
>
> Survey Question Two: Why are you using these practices?

Survey Question Three: How do you use different technologies (such as discussion boards, chat tools, online games, etc.) within the course(s) to support your best practices?

Survey Question Four: What barriers make it difficult for you to implement best practices?

Survey Question Five: What supports are present to assist you in implementing best practices?

As stated, the above research and survey questions functioned as a parameter for determining the inclusion or exclusion of collected research data for the current study. In following, triangulation methods were employed as a means of analyzing the data obtained from the given content areas. In combination, distance education journal articles, virtual school blog posts, and completed surveys provided the primary investigator with a broadened perspective of best practices being implemented by virtual K-3 instructors in the online environment.

For the following sections the primary investigator will provide the reader with a (a) summary of the study; (b) discussion of themes; (c) researcher reflection on the qualitative research process; (d) conclusions; (e) implications; (f) limitations of the study; (g) recommendations for further research; (h) chapter summary, and (i) summary of the study.

Summary of the Study

For the current study, a qualitative content analysis was utilized to examine the implementation of best practices by virtual K-3 instructors teaching in virtual school programs. The current topic was chosen due to the limited attention given to best practices within virtual K-3 programs as it posed a needed line of inquiry for distinguishing the teaching practices of virtual K-3 instructors in regard to their implementation of best practices in the virtual classroom (DiPietro, 2010; Ferdig, Cavanaugh, DiPietro, Black, & Dawson, 2009).

As previously stated, qualitative content analysis was applied to data obtained from distance education journal articles, dedicated virtual school blog posts, and electronically-documented surveys completed by virtual K-3 instructors anonymously. In explanation, content analysis is an analytic technique suitable for examining content obtained from textual and non-textual data sources. As this research study utilized textual data collected from 3-content areas, content analysis presented as an apt tool for analyzing the gathered data. This analytic technique provided the researcher with a means of identifying, coding, and categorizing data based on their associated contextual meanings (Saldana, 2009; Schilling, 2006).

A purposive sample of distance education journal articles, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors was collected through a series of searching the Texas Woman's University (TWU) Library database, article citations, Internet, virtual school websites, and social networking

sites. Specifically, the primary investigator utilized the TWU Library database system and Internet to search for scholarly and non-scholarly journals addressing distance education for K-12 students. For accessing dedicated virtual school blogs, the primary investigator conducted a search of article citations, the Internet, and virtual school websites to identify and locate blogs fitting the stated criteria. For identifying and recruiting virtual K-3 instructors, the primary investigator searched article citations, the Internet, virtual school websites, and social networking sites. At the conclusion of this process, the primary investigator presented with a purposive sample of 5 distance education journals, 4 virtual school blog sites, and 11 electronically-documented surveys completed by virtual K-3 instructors.

The electronically-disseminated surveys consisted of the 5 survey questions, which were open-ended in nature. Furthermore, open-ended questions were employed to elicit descriptive responses from virtual K-3 instructors as each described his or her view of the phenomena under study. Following the collection of data from distance education journals, dedicated virtual school blogs, and electronically-documented surveys, the primary investigator coded and analyzed the transcripts in order to identify recurring themes present in the data. To note, the collected data was coded in accordance with the provisional coding system, as appropriate, or in the non-predetermined coding system that was generated following the review of the data. During this phase of the study, the primary investigator utilized investigator and data triangulation, peer debriefing sessions, and a memo-writing process to enhance the overall credibility and quality of the study.

Furthermore, these methodological processes assisted in the development of 7 themes and 9 sub-themes originating from the distance education journals, dedicated virtual school blogs, and electronically-documented surveys.

Discussion of Themes

As stated by Saldana (2006), content analysis provides the researcher with a means of identifying, coding, and categorizing data based on their associated contextual meanings. In using this analytic technique, the primary investigator was able to identify, code, and categorize data in accordance with their given context. This methodological process resulted in the following themes and sub-themes being derived from the data collected through distance education journals, dedicated virtual school blogs, and electronically-documented surveys. Below Table 5 documents the themes and sub-themes as they related to the survey questions:

Table 5

Themes and Sub-themes Associated with Survey Questions 1-5

Survey Questions	Associated Themes and Sub-themes
SQ1. What are the best practices you use to teach your students?	a. *Setting Clear Expectations* • Organizational Skills • Instructional Guidelines b. *Personalizing Instruction* • Diverse Learners • Multi-faceted Assessments c. *Building a Community of Learners* • Fostering Student Relationships • Fostering Parent Relationships • Communication d. *Improving Virtual Instruction through Professional Development*
SQ2. Why are you using these practices?	a. *Effective Teaching in the \ Online Classroom*
SQ3. How do you use different technologies within the course(s) to support your best practices?	a. *Using Technology Effectively in the Online Classroom*
SQ4. What barriers make it difficult for you to implement best practices?	a. *Barriers in Virtual Teaching*
SQ5. What supports are present to assist you in implementing best practices?	a. *Effective Teaching in the Online Classroom*

Setting Clear Expectations

A review of the content collected from distance education journals, dedicated virtual school blogs, and electronically-documented surveys revealed *Setting Clear Expectations* as an integral element in the implementation of best practices within the classroom for virtual K-3 instructors. As explained, *Setting Clear Expectations* was considered vital as virtual K-3 instructors provided an established guideline for addressing appropriate classroom conduct, interactions, organization of the online classroom, course objectives, assessment and grading criteria, as well as a guideline for instructor responsiveness to queries (Oliver, Kellogg, Townsend, & Brady, 2010; Respondent 11, 2013). In *Setting Clear Expectations*, virtual K-3 instructors provided students and their parents with a tangible criterion for participation in the online classroom (Black, DiPietro, Ferdig, & Polling, 2009). The importance of setting clear expectations was discussed in a virtual school blog that stated "virtual instructors need to establish expectations with specified rules and guidelines for students, especially for those who are novice online learners" (VS Blog 1, 2010). Accordingly, setting clear expectations is considered to be a pedagogically-based approach to implementing effective teaching practices in the virtual K-3 classroom (iNACOL, 2011). To note, the theme of *Setting Clear Expectations* was derived from the codes of organization and instruction, which further developed into the sub-themes *Organizational skills* and *Instructional guidelines*.

As applicable, the primary investigator applied the theoretical framework of socio-constructivism when analyzing the presented theme and sub-themes in combination (Leont'ev, 1978; Luria, 1976; Vygotsky, 1978). The application of socio-constructivism provided a perspective that was able to accommodate both internal and external factors possibly influencing the implementation of best teaching practices by virtual K-3 instructors. Internal factors addressed individual virtual K-3 instructors' interpersonal communication skills as demonstrated in providing clear expectations for course participation, a well organized virtual classroom that is easily accessible and understandable, good record keeping skills in order to provide an accurate representation of academic progress, and a structured format outlining the instructional framework to be expected in the virtual classroom (Academy Blog 5, 2013; iNACOL, 2011). For virtual K-3 instructors lacking this skill set, the implementation of best practices may prove difficult in the virtual classroom. Although, there were no research findings addressing how the structural framework of the governing organization may impact the setting of clear expectations in the online classroom, such may be a considerable external factor influencing the implementation of best practices by virtual K-3 instructors as they organize their classroom.

Organizational Skills

As a sub-theme of *Setting Clear Expectations, Organizational skills* was considered a best practice in its application to the virtual K-3 instructor's employment of organizational structures for managing the online classroom (iNACOL, 2011; McFarlane,

2011). Implementing an organizational framework not only assisted virtual K-3 instructors, but proved beneficial to virtual K-3 students and their respective families as well (VS Blog 1, 2010). In accordance with best practices, virtual K-3 instructors were responsible for providing an organizational structure that addressed the recording of student attendance, documenting student progress, outlining course materials in a clear and understandable manner, providing due dates for assignments, using deadlines to motivate timely submission of assignments, keeping students aware of changes in course requirements, and structuring online instructional content (Black, DiPietro, & Polling, 2009; Ferdig, Cavanaugh, DiPietro, & Black, 2009; iNACOL, 2011; VS Blog 1, 2010; Respondent 11, 2013). The implementation of these organizational structures provided students and their families with an essential guideline for assisting in the successful navigation of the online classroom.

Instructional Guidelines

As a sub-theme of *Setting Clear Expectations, Instructional guidelines* was considered a best practice as virtual K-3 instructors implemented an instructional model that provided virtual K-3 students and their families with a clear and understandable standard for instruction as it was being conducted within the online classroom (Academy Blog 5, 2013). For implementing best practices within the virtual classroom, research indicated the need for virtual K-3 instructors to provide instructions on the structure of the online classroom, course content, navigation tools for accessing content materials, various means of contacting the virtual instructor when experiencing difficulty

understanding taught concepts, as well as contact information for technical support staff (Academy Blog 5, 2013; iNACOL, 2011; Respondent 7, 2013). In implementing these best practices, the virtual K-3 instructor can enhance the learning experience of K-3 students and their families as they are introduced to an educational delivery method that is non-traditional in comparison to its brick and mortar counterpart. Furthermore, the provision of instructional guidelines may reduce the risk of K-3 students and their families misinterpreting the instructional practices conducted by virtual instructors as they provide clarification regarding their expectations for classroom participation (Respondent 7, 2013). According to the International Association for K-12 Online Learning (2011), the setting of clear expectations for virtual classroom instruction may further contribute to the educational success of young learners as their parents or learning coaches guide them through the online learning process.

Personalizing Instruction

An additional theme derived following the examination of distance education journals, dedicated virtual school blogs and electronically-documented surveys was that of *Personalizing Instruction.* The codes of diversity in learning and assessments contributed to the development of *Personalizing Instruction*. The current theme focused on virtual K-3 instructors' knowledge of how to address diverse learning styles in assessment and instructional teaching methods, implement a dynamic teaching approach to incorporate student interests and abilities, and develop an individualized plan of instruction for each student that included input from the parent(s) and/or learning coach

(iNACOL, 2011; VS Blog 11, 2012). *Personalizing Instruction* was considered a best practice for K-3 instructors as they provided an individualized plan of instruction for students and their families. This differentiated approach was often cited as being congruent with current pedagogically-based practices, i.e. Marzano instructional strategies (Prep Academy Blog 11, 2012). The concept of providing a dynamic instructional approach that is tailored to address the unique learning needs of K-3 students may be founded in activity theory as instructors are using varying instructional techniques to mediate learning as they are using a differentiated approach accommodating to a diverse group of K-3 students as they attempt to enhance each students process of learning (Leont'ev, 1978). The use of differentiated learning approaches to enhance the learning opportunities for students may indicate the virtual K-3 instructors' donning the role of a facilitator, instead of acting as a proctor in the online classroom. Furthermore, Engestrom's (1987) cultural-historical activity theory can be applied as virtual K-3 instructors' adapt their teaching approach in response to internal tensions occurring as a result of students not demonstrating cognitive advancements based on the selected mediating tools designed to facilitate learning in the online classroom. These internal tensions may cause virtual K-3 instructors and administrators, as a collective, to reconsider the effectiveness of tools being utilized to mediate learning in the online classroom. Considerably, the lack of effectiveness in mediating tools may be the catalyst that allows for modification of the online classroom as instructors attempt to integrate effective instructional methods and tools that are effective for a diverse body of

students. Expressly, virtual K-3 instructors in the given scenario are taking on the role of facilitator, and not proctor as they guide students in the learning process. Additionally, socio-constructivism can be applied as virtual K-3 instructors assess, identify, and scaffold the learning needs of students presenting from a diverse educational background. For instance, a virtual K-3 instructor may need to adapt lesson plans for students presenting with a learning disability in order to enhance their opportunity for successfully completing the given assignment. Furthermore, the virtual K-3 instructor may employ visual and auditory communication tools that have been shown to be effective tools for enhancing the learning process for the respective student. As stated, the perspective of socio-constructivism considers the individualized backgrounds of respective students and how such influences their learning experiences in the online classroom (Vygotsky, 1978).

Diverse Learners

As a sub-theme of *Personalizing Instruction*, *Diverse learners* focused on the virtual K-3 instructor's knowledge and ability to address student diversity relating to cultural differences, learning abilities, style of learning, as well as personal aspirations and/or interests in the online classroom (Black, DiPietro, Ferdig, & Polling, 2009). Research has indicated the need for virtual K-3 instructors to incorporate different instructional approaches that accommodate for the above-mentioned differences (iNACOL, 2011). In considering differences in learning style, it was shown that virtual K-3 instructors need to incorporate teaching methods that address all of the various learning modalities, i.e. visual, auditory, etc (Oliver, Kellogg, Townsend, & Brady, 2010;

Respondent 9, 2013; Respondent 10, 2013). Furthermore, the virtual K-3 instructor should demonstrate skill in identifying at-risk students, using assistive aids for struggling students, providing ancillary services for at-risk students, interacting appropriately with students from different cultural backgrounds, and accommodating individual student interests in the course content (Black, DiPietro, Ferdig & Polling, 2009; Academy Blog 3, 2012; Respondent 10, 2013). As indicated by current research, the above-stated guidelines represent the implementation of best practices within the online classroom for virtual K-3 instructors (iNACOL, 2011).

Multi-Faceted Assessments

In considering the theme of *Personalizing Instruction,* research indicated a need for virtual K-3 instructors to implement a multi-faceted approach for properly assessing the learning needs and progress of students (iNACOL, 2011; McFarlane, 2011). The inclusion of *Multi-faceted assessments* provided an evaluation method that accommodated the diverse needs of K-3 students. The components of a *Multi-faceted assessment* included the virtual K-3 instructor's ability to obtain a baseline measure for student abilities, assess student's pre-requisite knowledge of course content, examine student use of the online delivery platform, use standardized and non-standardized assessments for determining student progress, monitor academic integrity, communicate student progress, and encourage reflective commentary from students on their progress (iNACOL, 2011). In accordance with best practices, the above-stated multi-faceted assessment methods are an integral component for virtual K-3 instructors to include in

their evaluative approach to assessing students. This practice is not only beneficial in that it provides a more accurate perspective of student ability or progress, but also may promote student engagement as the instructor provides "timely and meaningful" (Virtual School Blog 2, 2009) for the students and their families to consider when reflecting on progress.

Building a Community of Learners

In further review of content obtained from distance education journals, dedicated virtual school blogs, and electronically-documented surveys, the theme of *Building a Community of Learners* presented itself as a best practice being implemented by virtual K-3 instructors (iNACOL, 2011). As derived from the codes of communication and supportive frameworks, *Building a Community of Learners* focused on the virtual K-3 instructors' ability to facilitate relationship building activities within the online classroom that enhanced the learning process for students. According to Baghdadi (2011), a virtual learning community fosters the relationship, interaction, and creativity of individual students as they interact with other users. Specifically a virtual learning community is defined as "a group of people who communicate with each other across the Internet to share information, learn more about a topic, or work on a project of mutual interest" (Porter, 2004, p. 193). There are four key factors to developing a sense of community within the virtual context: "(a) membership; (b) influence; (c) fulfillment of individuals' needs, and (d) shared events and emotional connections" (McMillan & Chavis, 1986, p. 8). For virtual K-3 students it is important that they experience a sense of community in

an environment in which their membership allows them to wield some influence over the learning context. Furthermore, sharing in these pedagogically-based practices allows virtual K-3 students the opportunity to attain goals relating to knowledge acquisition through the emotional bond built within the virtual classroom (Baghdadi, 2011).

As implied, building a sense of community may potentially determine the level and type of contribution exhibited by K-3 students in the online classroom. The contributing factor of experiencing a sense of community in the online classroom may reflect an association with the theoretical framework of socio-constructivism as K-3 students level of input may be positively or negatively influenced by their sense of belonging in the online community. This sense of belonging to the online community may positively influence peer interactions when participating in learning activities that require collaboration with peers. Such interactions may provide less cognitively developed K-3 students the opportunity to be paired with more advanced students in order to improve their understanding of concepts presented by the virtual instructor (Vygotsky, 1978). Importantly, a virtual K-3 student's sense of community may be affected by his or her perception of being accepted as a valuable member whose online presence is an additive part to the online classroom. Responsively, it is the responsibility of the virtual K-3 instructor to facilitate an environment for students that is conducive to fostering a community of online learners. The fostering of an online learning community allows for K-3 students to effectively work together to complete course objectives within the online classroom as guided by the virtual instructor. Such is reflected in activity

theory as students work as a community to complete an activity with the purpose of attaining an objective or goal established by the virtual K-3 instructor (Leont'ev, 1978). Furthermore, activity theory can be applied as the instructor integrates interactive and collaborative activities that foster student relationships. Such may be revealed in collaborative activities in which students are required to demonstrate critical thinking skills that require them to integrate the diverging perspective of peers into their personal schema. Such may result in internal tensions as students participate in collective problem-solving tasks or activities, in which they have to resolve differences in order to attain a satisfactory outcome (Engestrom, 1999).

Fostering Student Relationships

An important contributing factor to *Building a Community of Learners* is the need for the virtual K-3 instructor to *Foster student relationships.* The *Fostering of student relationships* by virtual K-3 instructors was found to be integral to implementing best practices in the online classroom. Especially, the investment of fostering positive relationships between students, as well as with teachers, was considered a vital asset as K-3 instructors strove to enhance the learning experience and performance of K-3 students. In supporting the socio-emotional needs of younger learners, the virtual K-3 instructor may increase the sense of security and belonging within the classroom, thus allowing for enhanced academic performance (McFarlane, 2011). From a socio-constructivist perspective, the provision of a safe and secure learning environment provided by a virtual K-3 instructor may act as a contributing factor to the academic

success of a student (Vygotsky, 1978). Vise versa, the ability of the virtual K-3 instructor to implement an online classroom that is conducive to *Fostering Student Relationships* may be positively or negatively impacted by the supportive framework established by the organizational structure. Perhaps as the governing organization determines the learning management system (LMS) to be employed within the online classroom, such may act as a catalyst or deterrent to virtual K-3 instructors attempting to effectively foster relationships between students and themselves. Importantly, the application of activity theory to the *Fostering of Student Relationships* may provide an appropriate theoretical framework for considering the use of a LMS as virtual K-3 instructors are pre-disposed to use the platform selected by their governing organization (Leont'ev, 1978; Luria, 1976). In considering division of labor in virtual K-3 programs, the administrative staff assumes responsibility for delegating work tasks among their employees. The division of labor may be distributed between virtual K-3 administrators, instructors, and web design developers (Engestrom, 1987). The virtual K-3 instructors may request input from virtual K-3 instructors and web design developers in the selection process of a LMS shown to be an effective learning platform. When selecting a learning platform, the LMS should allow virtual K-3 instructors access to or the ability to integrate mediating tools that are conducive to users building strong relationships, i.e. chat or polling tools, video streams, audio clips, etc. However, if the LMS is an inadequate tool for mediating activities for building strong relationships in the online K-3 classroom, then such may provide a

considerable disadvantage to virtual K-3 instructors and their students as they are hindered in their ability to form positive relationships.

Fostering Parent Relationships

Not only are virtual K-3 instructors responsible for *Fostering student relationships*, but they also need to participate in relationship building practices with the parents and/or learning coaches of K-3 students to be in alignment with best practices (Oliver, Kellogg, Townsend, & Brady, 2010). In *Fostering parent relationships*, virtual K-3 instructors are forming an alliance with the individual who is most responsible for assisting the K-3 student in his or her access to course content, participation in online learning activities, and completion of course assignments within the online classroom. As cited, a parent often takes on the role of a learning coach as they assist their child in participating in the online classroom. As a gatekeeper, parents and/or learning coaches have a high level of responsibility for assisting K-3 students in successfully navigating the online classroom (Online School Blog, 2008). For virtual K-3 students, it is imperative for a virtual K-3 instructor to have a positive relationship with the parent and/or learning coach as they act as the gatekeeper facilitating student learning in the online classroom (Prep Academy Blog 11, 2012). From a socio-constructivist perspective, the formation of positive relationships between parents/learning coaches and virtual K-3 instructors may have a substantial influence on academic outcomes in K-3 students as parents/learning coaches and teachers are working together to provide students with an optimal learning experience (Vygotsky, 1978).

Communication

As threaded throughout the previous discussions, *Communication* is a vital component underlying the concept of building a community between virtual K-3 instructors, students, and parents/learning coaches (Ferdig, Cavanugh, DiPietro, & Black, 2009). Effective *communication* was found to be a vital component for virtual K-3 instructors to implement into their teaching practices as the lack of such could prove detrimental to the students' academic progress in the online classroom (Prep Academy Blog 1, 2012). As previously discussed, the choice in learning management systems and ancillary tools meant to enhance communicative abilities between students, teachers, and parents/learning coaches may heavily influence communicative patterns between all involved parties (Prep Academy Blog 11, 2012). In this scenario, activity theory may prove most applicable as virtual K-3 instructors are using or incorporating mediating tools, i.e. Edmodo, to effectively communicate with students on a consistent basis. The chosen delivery method for communication, as mediated by the selected technological tool, may determine the proper conveyance of the message(s) between virtual K-3 instructors, parents/learning coaches, and students (Leont'ev, 1978; Luria, 1976). Comparatively, the lack of effective communication tools may result in poor student outcomes within the virtual K-3 classroom. Such can be further considered within the socio-constructivist framework as a lack of effective communication tools function as a factor contributing to the reduced communicative abilities between participants (Vygotsky, 1978).

Effective Teaching in the Online Classroom

In further review of distance education journals, dedicated virtual school blogs, and electronically-documented surveys, the theme of *Effective Teaching in the Online Classroom* was shown to be a recurring topic derived from the three content areas. *Effective Teaching in the Online Classroom* addressed how the pedagogical framework of the virtual K-3 instructor and his or her governing organization influenced the teaching methods utilized in the online classroom (McFarlane, 2011). *Teaching in the Online Classroom* was considered to be heavily influenced by administrative choice in curriculum selection, the virtual K-3 instructor's personal teaching philosophy, as well as his or her level of autonomy in implementing various teaching approaches and activities within the virtual classroom (Prep Academy Blog 2, 2010). Influentially, administrative staff at virtual schools demonstrated a significant impact on the teaching approach utilized in the virtual K-3 classroom as they may determine the curriculum, delivery model, accessible technological tools, etc (McFarlane, 2011). From a socio-constructivist perspective, administrative influence demonstrated a significant factor impacting the teaching practices of virtual K-3 instructors as outlined in the prior statement. Furthermore, activity theory can be applied as it related to the delivery model and accessible technological tools chosen by the administrative staff for mediating communication between virtual K-3 instructors and their students. For virtual K-3 instructors, the affordance of autonomy in choosing technological tools and delivery methods that align with their personal teaching pedagogy may provide the supportive

framework needed for implementing best practices within the virtual classroom as it encourages creativity and autonomy in developing and integrating course content or strategies that enhance the quality of online learning for K-3 students (Vygotsky, 1978). For virtual K-3 instructors experiencing a decreased level of autonomy in integrating what they would consider to be pedagogically-sound teaching practices, such may provide the impetus for change and development in the interacting activity systems with these two systems consisting of the virtual K-3 instructors and the administrators. Notably, both groups of individuals share the same object of enhancing the learning process for K-3 students, however, each may present with a different ideology for attaining that goal. However, these internal tensions provide the opportunity for multiple perspectives to converge in order to find a satisfactory resolution for both groups (Engestrom, 1999).

Using Technology Effectively in the Online Classroom

As a theme, *Using Technology Effectively in the Classroom* addressed the effective management and incorporation of various technological tools in the online classroom for virtual K-3 instructors. McFarlane (2011) called for the governing parties of virtual schools to provide virtual instructors with increased opportunities for participating in continuing education that addressed the effective implementation of technology in the online classroom. Furthermore, the influential role of virtual K-12 organizations was addressed as they provided virtual instructors with training resources for assisting in the implementation of pedagogically-sound practices for effectively using

technology in the online classroom (Academy Blog 5, 2009; iNACOL, 2011). Again, the role of the ruling organization functions a factor contributing to the implementation of best practices by virtual K-3 instructors. Considerably, the governing role of administrative staff in providing additional professional development resources for virtual K-3 instructors aligns itself well with activity theory as it addresses factors that influence the various technological tools provided to online K-3 instructors for enhancing classroom instruction. Specifically, the second generation model of activity theory can be applied as it considers the fundamental role of activity theory components of the community and rules as they impact what type of mediating artefacts can be utilized in the online classroom (Engestrom, 1987; Leont'ev, 1978). For the theme of *Using Technology Effectively in the Online Classroom*, the K-12 organization or administrative staff can represent the community of influence establishing the rules and guidelines relating to the types of technological platforms and tools that can be integrated into the online classroom. The types of technological platforms and tools utilized by virtual K-3 instructors is determined by the governing members of their respective schools with these overseeing parties demonstrating significant influence on whether or not virtual K-3 instructors have access to the technological tools required for implementing best teaching practices that foster effective classroom interaction and collaboration.

Promoting Classroom Interaction

The promotion of classroom interaction by virtual K-3 instructors proved to be a sub-theme of *Using Technology Effectively in the Classroom. Promoting classroom*

interaction addressed virtual K-3 students active participation in the learning process as they interacted with varying educational resources provided by their virtual instructor (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010; Baghdadi, 2011). In following best practices, virtual K-3 instructors were integrating interactive educational resources to enhance the learning process for students. Interactive educational resources included video chatting, YouTube videos, online smart board, student microphones, polling tools, online games, blogging, etc (Respondent 1, 2013; Respondent 8, 2013). An additional example was found in a virtual school's elementary department as they provided a virtual lesson on the American flag in which students were instructed on the historical aspects of the American flag. In following, students were responsible for creating a picture of a flag that was representative of their family or neighborhood, as well as a summary of the pictorial representation (Online School Blog 4, 2012). As depicted in the various interactions, virtual K-3 instructors were able to provide a more dynamic online classroom for students. In considering these mediating tools within the context of activity theory, the virtual K-3 instructors were using the interactive devices as a mediating tool to provide students with a selection of communication modalities for learning the presented content material (Leont'ev, 1978).

Promoting Classroom Collaboration

In further reviewing the topic of *Using Technology Effectively in the Online Classroom,* the sub-theme of *Promoting classroom collaboration* was identified as an important factor in the implementation of best practices within the online classroom for

K-3 students (VS Blog 2, 2009). The promotion of classroom collaboration was defined as virtual K-3 students actively participating in collaborative educational activities when exploring a given topic or project (Austin, Smyth, Rickard, Quirk-Bolt, & Metcalfe, 2010). Often the terms of collaboration and cooperative learning were used interchangeably by virtual K-3 instructors as they referenced student shared learning activities in the online classroom. The virtual K-3 instructors cited the use of cooperative learning strategies as being obtained from *Marzano's Nine Effective Teaching Strategies*, which provided instructors with a research-based guideline for implementing pedagogically-based instructional strategies within the classroom. Although these strategies were not specific to the virtual classroom, many virtual K-3 instructors referenced this as an approach utilized in their online classrooms (Respondent 5, 2013). However, in following this approach for introducing and enhancing collaborative learning within the online classroom, virtual K-3 instructors were maintaining that student participation in collaborative learning activities was an integral part of a pedagogically-appropriate teaching model (McFarlane, 2011). This socio-constructivist approach to online learning demonstrated the importance of peer influence on the learning process for participating K-3 students (Vygotsky, 1978). Virtual K-3 instructors often cited pairing students based on their abilities as the teachers knew each students strengths and weaknesses. In doing so, virtual K-3 instructors were able to utilize Vygotsky's zone of proximal development in determining students' level of academic abilities and capabilities, then group students accordingly. This reflection may be

demonstrable of virtual K-3 instructors implementing pedagogically-sound practices within the virtual K-3 classroom as they implement collaborative learning activities for participating students.

Improving Virtual Instruction through Professional Development

The theme of *Improving Virtual Instruction through Professional Development* was identified as a recurring discussion topic in distance education journal articles and dedicated virtual school blog posts (Academy Blog 5, 2012, Ferdig, Cavanaugh, DiPietro, & Black, 2009; iNACOL, 2011). Although the topic of professional development was not presented in the electronically-documented interviews completed by virtual K-3 instructors, such may have been due to the primary investigator not directly addressing the stated topic. However, many of the interviewed K-3 instructors stated experiencing a high level of support from virtual administrators as they provided instructors with a level of autonomy for implementing novel teaching strategies, as possibly learned through continuing education courses, within the online classroom (Respondent 1, 2013; Respondent 2, 2013; Respondent 9, 2013).

In a blog post titled *Where We've Come. . .Where We're Going*, a virtual school administrator provided the following statement:

> When our online school was conceived, it was done so in the spirit of teaching and learning . . . we created courses, trained teachers and selected a learning management system (LMS) with these values in mind. We began to apply the theory quickly realizing some of our tools fell short of the goal. We amended,

> modified and improved all communication tools. And now as we wrap up the school year and prepare for our next endeavors, we re-teach. However, this time, the teachers are the students actively engaged in a remarkable course called "Best Practices for Online Teaching and Learning". Participants are immersed in the tools their students will utilize. They are applying a multitude of fascinating web 2.0 technologies designed to inspire, intrigue and hook the learner. . .not to mention prepare them for their future. Ahhh, the places we will go!
>
> (Academy Blog 3, 2009)

The above discussion provided by a virtual school administrator aligns itself well with some of the foundational components of activity theory. Within the presented discussion, the virtual administrator provides a clear outline for improving the online learning process of students. She stated that the technological tools were inadequate for addressing the communication needs of students participating in online classes. As a result of these internal tensions, a collective group of administrators and teachers modified the communication tools to enhance the interactions between virtual instructors and their students. The prior example indicates a transformation of the initial activity system based on internal tensions that were expressed through the limited effectiveness of the communication tools for fostering optimal interactions between instructors and students in the online classroom. Such reflects the transformative nature of cultural-historical activity theory in its ability to change an activity system by modifying the mediated activities completed by subjects of that system (Engestrom, 1999).

Additional responsibilities of virtual K-3 instructors were cited in the International Association for Online K-12 Learning (2011) as including maintenance of credentialing and/or licensure in their specified content area. Such was to be maintained through the completion of continuing education courses in alignment with state and national guidelines. In participating in these professional development opportunities, virtual K-3 instructors strove to increase their knowledge and skill level for providing best teaching practices within the online classroom. In improving their skills for virtual instruction, virtual K-3 instructors were given recommendations for participating in professional development courses within and outside of their respective virtual schools. Such was recommended as an endeavor to provide virtual K-3 instructors with a more dynamic perspective of best teaching practices within virtual school programs. In collaborating with various colleagues, virtual K-3 instructors were able to advance their knowledge and skill level for providing best teaching practices within the online classroom. This may reflect a socio-constructivist approach as virtual K-3 instructors are advancing their knowledge and skills through interaction(s) with like-minded colleagues (Vygotsky, 1978).

Barriers in Virtual Teaching

An additional theme discovered while examining the data obtained from distance education journals, dedicated virtual school blogs, and electronically-documented surveys was that of *Barriers in Virtual Teaching.* The theme of *Barriers in Virtual Teaching* addressed the conditions or circumstances negatively impacting the implementation of

best practices within the virtual classroom for K-3 instructors. Barriers influencing the implementation of best practices within a virtual K-3 classroom were related to difficulty in identifying credible resources addressing best practices, students not being provided time to acclimate to the learning management system, reduced parental involvement, parents or learning coaches lack of educational knowledge, reduced student participation and/or lack of motivation, instructors experiencing a reduced sense of community with students, inaccessibility to concrete manipulatives when teaching specific content areas, and a lack of support from administration members (Ferdig, Cavanaugh, DiPietro, & Black, 2009; Oliver, Kellogg, Townsend, & Brady, 2010; Virtual School Blog 6, 2008; Respondent 3, 2013; Respondent 5, 2013; Respondent 8, 2013; Respondent 9, 2013; Respondent 10, 2013). Significantly, all of the above-stated factors were cited as demonstrating considerable influence on virtual K-3 instructors' ability to implement best teaching practices within the online classroom. This coincides with a socio-constructivist framework as it addresses the internal and external factors impacting the implementation of best teaching practices by virtual K-3 instructors (Vygotsky, 1978). Furthermore, as virtual K-3 instructors strive to implement best practices within their online classrooms, it is important that they are assisted in overcoming these barriers through the establishment of supportive frameworks that include administrative staff members, fellow virtual K-3 instructors, student family members, as well as learning coaches.

Researcher Reflection on Qualitative Research Process

For this qualitative study, the primary investigator attempted to establish a role of empathic neutrality during the inquiry phase of the study through adherence to a neutral investigatory stance while conducting research on the implementation of best practices by virtual K-3 instructors. In striving to maintain a neutral stance, the primary investigator strove to reduce the risk of researcher bias during the collection and interpretive phase of data obtained from distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. To reduce researcher bias, the primary investigator recruited two colleagues to act as peer reviewers for this study. The peer reviewers' responsibilities consisted of reviewing a randomly selected article, blog, and survey response to determine the goodness of fit for inclusion in the study, as well as for the accurate application of the coding system by the primary investigator. In collaborating with peer reviewers, the primary investigator experienced an increased confidence level in regard to the authenticity of research findings as the reviewers provided feedback on methods for improving the study. The primary mode of communication between the researcher and peer reviewers was by electronic mail (e-mail), however, the primary investigator was able to meet face-to-face with one of the peer reviewers on a couple of occasions. Reflectively, the face-to-face meetings were preferable as the primary investigator was able to receive immediate feedback addressing ideas, concerns, and recommendations relating to the current study.

As previously expressed, the primary investigator donned the role of empathic neutrality during the investigatory and analysis phase of the study, however, such was not meant to preclude the importance of developing an emic perspective of virtual K-3 programs. The establishment of an emic role was meant to enhance the understanding of the varying perspectives presented in distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. Practically, the primary investigator sought to establish an emic role by becoming familiar with virtual K12 programs through their websites, newsletters, blogs, and social networking sites. Referentially, the primary investigator was introduced to virtual K-12 programs through an acquaintance a few years prior to the initiation of this study, which allowed for further understanding of virtual programs addressing the educational needs of virtual K-12 students and their parents.

In summation, the primary investigator appreciated the opportunity to delve into the topic of best practices when reviewing the distance education journals, dedicated virtual school blogs, and electronically-documented surveys. The given content areas provided a rich and informative context for the primary investigator to better understand the implementation of best practices within the virtual K-3 setting. The selection of qualitative content analysis as the analytic technique for analyzing the given data proved very useful as it assisted in the synthesis of textual data obtained from the 3-content areas. In using qualitative content analysis, the primary investigator was able to identify recurring words, phrases, concepts, and themes within the given texts. During the initial

phase of the coding process, the identification of recurring themes was seemingly easy; however, on re-examination the primary investigator noted several data sets that needed to undergo a re-coding process due to the researcher's increased familiarity with the data set. During this process, MAXQDA 11 was utilized for coding and analyzing the given data. MAXQDA 11 allowed for a relatively seamless experience during the coding and analysis phase of this study, which was of exceptional importance to the primary investigator.

As a novice researcher, the primary investigator approached the research process with much trepidation due to experiential limitations relating to investigatory practices involved in completing a qualitative study. The guidance supplied by the research committee members and peer reviewers provided the primary investigator with the needed support for creating a research product that is informative to its readership.

Conclusions

This qualitative research study examined the implementation of best practices by virtual K-3 instructors as revealed in distance education journals, dedicated virtual school blogs, and electronically-documented survey responses of K-3 instructors. The review of information gained from the specified content areas provided a more comprehensive perspective of the implementation of best practices by virtual K-3 instructors as the primary investigator was able to synthesize the combined findings addressing the current topic. As deciphered, the combined content areas identified best practices to be implemented by virtual K-3 instructors in their online classrooms. In incorporating

pedagogically-sound instructional practices into their virtual classrooms, K-3 instructors were aligning their teaching approach with evidence-based research addressing the implementation of best practices in the virtual classroom.

The content gathered from distance education journal articles, dedicated virtual school blogs, and electronically-documented survey responses from virtual K-3 instructors indicated best teaching practices as consisting of setting clear expectations, organizing the online classroom, providing clear instructional guidelines, personalizing instruction, accommodating diverse learners, using multi-faceted assessments, building a community of learners, fostering student relationships, maintaining a strong relationship with the parent(s) and/or learning coaches of K-3 students, demonstrating effective communication skills, implementing evidence-based teaching practices, using technology effectively in the online classroom, encouraging classroom interaction, promoting classroom collaboration, participating in professional development activities, and providing input to parents and administrators on ways to improve the learning environment for virtual K-3 students.

The above-mentioned practices were defined as being integral to the implementation of best teaching practices by virtual K-3 instructors in the online classroom. For virtual K-3 instructors seeking to implement best teaching practices, the given parameters should function as a resource addressing some of the pedagogically-based practices to implement within the virtual context. Although, the given recommendations may not be comprehensive, such provides a baseline measure for

determining best practices to be implemented by virtual K-3 instructors when teaching K-3 students.

Implications

The primary goal of this study was to examine the implementation of best practices by virtual K-3 instructors as identified in distance education journals, dedicated virtual school blogs, and electronically-documented surveys. Integratively, the given sources provided the primary investigator with a deeper understanding of the phenomena under study. The study findings were analyzed and interpreted within the theoretical frameworks of socio-constructivism and activity theory. Within the given theoretical frameworks, virtual K-3 instructors' implementation of best practices in the online classroom was heavily influenced by internal and external factors, as well as various mediating tools. The following implications will be discussed in reference to the contributing factors impacting virtual K-3 instructors' ability to implement best teaching practices within the online classroom.

Implications for Virtual K-3 Instructors

For virtual K-3 instructors striving to implement best teaching practices within their online classrooms, it is important for them to consider the following implications, which were derived in accordance with study findings:

1. Virtual K-3 instructors should establish an organizational structure that accommodating the successful navigation and understanding of the online environment for students participating in their classroom.

2. Virtual K-3 instructors should be knowledgeable of assessment and teaching methods that address various learning styles.
3. Virtual K-3 instructors should build a community of learners by fostering positive relationships between students, parents and/or learning coaches, and themselves using various communicative tools.
4. Virtual K-3 instructors should implement research-based teaching practices within their online classrooms, i.e. Marzano instructional strategies, Spiral curriculum, etc.
5. Virtual K-3 instructors should demonstrate independence in effectively using technology in the online classroom to enhance the interactive and collaborative learning process of students.
6. Virtual K-3 instructors should participate in ongoing professional development courses within and outside of their respective schools as a means of advancing their skill level in online instruction.

Implications for Administration

In providing a supportive framework for virtual K-3 instructors as they strive to implement best teaching practices within their online classrooms, it is imperative that virtual administrative staff consider the following implications:

1. Administrative staff should select pedagogically-sound curriculum, such as offered by Apex Learning or K12, for virtual K-3 instructors to implement in their online classrooms.

2. Administrative staff should provide virtual K-3 instructors a moderate level of autonomy in selecting instructional materials, methods, and techniques to integrate into their online classrooms.
3. Administrative staff should consider the capabilities and flexibility of the Learning Management System (LMS) to accommodate student interaction and collaboration as fostered by virtual K-3 instructors.
4. Administrative staff should provide virtual K-3 instructors with ongoing professional development opportunities to advance their skills for online instruction.
5. Administrative staff should provide virtual K-3 instructors with ongoing training relating to the LMS and auxiliary technological components to incorporate into the teaching process.
6. Administrative staff should establish a policy addressing student attendance and participation with tangible consequences for non-compliance.

Implications for Parents and Learning Coaches

As parents and/or learning coaches assist K-3 students as they participate in the online classroom, it is imperative that parents and/or learning coaches consider the following implications:

1. Parents and/or learning coaches should ensure that the virtual K-3 student attends his/her online class on a consistent basis.

2. Parents and/or learning coaches should be responsive to the communicative attempts of virtual K-3 instructors.
3. Parents and/or learning coaches should assist K-3 students in fully participating in online activities meant to foster interaction and collaboration.

The given list of implications is by no means exhaustive; however, it should act as a guide for virtual K-3 instructors, administrative staff, as well as parents and/or learning coaches as they provide an optimal learning environment for K-3 students as they participate in the online learning process.

Limitations of Study

In conducting this study, the primary investigator noted limitations associated with the (a) purposive study sample; (b) demography of participants, and (c) member checking process. The given limitations are discussed in the following sections.

In addressing the study sample, the primary investigator purposively selected resources that aligned with the research interest of examining the implementation of best practices within the online classroom by virtual K-3 instructors. The sample consisted of distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. For distance education journals, the primary investigator identified only 5-distance education journal articles that fit the criteria for inclusion in the study. The number of identified journals and articles was lower than expected, which demonstrated the scarcity of research-based resources available to virtual K-3 instructors that addressed the topic of best teaching practices.

As stated, there were a total of 11 virtual K-3 instructors who voluntarily participated in the current study. The participants were recruited through organizational websites, article citations, social networking sites, and administrative staff. When using social networking sites, the primary investigator identified K-3 instructors through their social profile, which would often indicate their associated virtual school along with the grade level taught within the program. The primary investigator e-mailed the recruitment letter with the attached survey link to virtual instructors with some contacts responding as no longer teaching within the specified virtual school or at the given K-3 grade level. Therefore, social networking profiles were not always an accurate representation of the virtual instructors' present employment status or the current grade level taught in the virtual school. Clarification to inaccurate profiles was ascertained as virtual instructors directly e-mailed the primary investigator to inform her of the professional status change. Due to the anonymous nature of the study, there may have been individual instructors who participated in the online survey that did not meet the qualification standards of teaching K-3 grades. This functioned as a limitation in the study as the primary investigator did not have participants complete a list of pre-requisite questions addressing their professional backgrounds. There was an assumption that survey participants choosing to take the electronic questionnaire taught at the K-3 grade levels.

The final limitation for this study related to the primary investigator not integrating a member checking protocol into the current study. Member checking is considered an important factor in determining the credibility of findings as the

investigator receives critical feedback from study participants on the accurate interpretation of their given responses. Member checking is a means of ensuring the accurate representation of participant perspectives as interpreted through the researcher. Due to the anonymity of survey respondents, the primary investigator did not have the option of implementing a member checking protocol following the interpretive process. Furthermore, the primary investigator was unable to request clarification or further explanation of responses given by virtual K-3 instructors, which proved to be a limitation of this study.

Recommendations for Future Research

The current study findings indicated a need for further research in the area on the structural elements of the online classroom. Recommendations are for a qualitative study to be completed on how virtual elementary school teachers structure the online classroom to assist younger students in learning concepts. Structural components may consist of the integration of visual aids, audio clips, video presentations, etc. The next recommendation is for a qualitative and/or mixed methods study to be completed on the supportive practices used by administrators in assisting K-5 instructors' implementation of best practices in the virtual school. Supportive practices may address the provision of on-site continuing education training for virtual instructors, reimbursement for participation in off-site continuing education courses, technical support staff, etc. Relatedly, a qualitative study exploring the administrative policies that affect the implementation of best practices by virtual elementary school instructors should be addressed in future research.

Administrative directives impacting the implementation of best practices may relate to policies addressing student attendance and participation in the online classroom, qualifications for a parent and/or learning coach assisting the student in the online classroom, responsibilities of the parent and/or learning coach, etc.

In addressing the interactive nature of virtual classrooms, there is a recommendation for the completion of a qualitative study to determine how virtual K-3 instructors implement manipulatives into daily teaching practices within their online classrooms. For instance, a virtual K-3 instructor expressed difficulty in teaching math concepts to students due to the limited capabilities of accessing manipulatives in the online classroom. In regard to parental satisfaction, a qualitative or quantitative study should be conducted to address parental satisfaction with virtual K-3 programs for their children in attendance. Parental satisfaction may be considered within the context of instructor-parent relationship, instructor-parent communication patterns, academic progress of student, sense of community with the instructor and other parents, etc. Furthermore, a qualitative study should be completed in order to examine the educational level of parents and learning coaches who assist K-3 students as they attend virtual schools. The recommended study should examine the specific educational training received by parents and/or learning coaches through various educational institutions. This may include the highest degree level attained in college, licensure, certification, training offered by the virtual school, etc.

When considering virtual instructors, a qualitative and/or quantitative study should be conducted to explore the professional preparation of instructors deciding to teach elementary level virtual students. For instance, the study should address the type and brevity of training for virtual instruction that teachers received while attending college. In addition, a qualitative study should be employed as a means of addressing the transitioning process of elementary teachers deciding to provide instruction in an online classroom following teaching in a brick and mortar school. In addressing this topic, the investigator should consider factors determining the ease or difficulty of the transitioning process for instructors, i.e. available training, mentorship, administrative support, time to acclimate to the learning management system, etc. In addressing online surveys, a study should examine the trends of online surveys that are developed to address the topic of virtual K-12 schools. Online surveys should address the topics of best practices, parental satisfaction, virtual instructor training, etc.

Summary of the Chapter

This chapter discussed the findings of the study on the implementation of best practices by virtual K-3 instructors in their online classrooms as revealed through distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. Within this chapter, the primary investigator addressed the given themes, researcher's reflection, implications and limitations of the study, as well as recommendations for future research. In the following section, the primary investigator will provide a summary of the study.

Summary of the Study

For this study, the primary investigator chose to examine the implementation of best practices by virtual K-3 instructors within the online classroom as revealed through distance education journals, dedicated virtual school blogs, and electronically-documented surveys. The topic was selected following an exhaustive search of the literature in which there was a perceived gap in the research of best practices being implemented by virtual K-3 instructors in the online classroom. As previously stated, the primary investigator collected data from the content areas of distance education journals, dedicated virtual school blogs, and electronically-documented surveys completed by virtual K-3 instructors. During the collection and analysis phase of the study, the primary investigator utilized socio-constructivism and activity theory to interpret the gathered data in a combinatory manner. Findings revealed the best practices being implemented within the virtual K-3 classroom as relating to the setting of clear expectations, organizing the online classroom, providing clear instructional guidelines, personalizing instruction, accommodating diverse learners, using multi-faceted assessments, building a community of learners, fostering student relationships, maintaining a strong relationship with the parent(s) and/or learning coaches of K-3 students, demonstrating effective communication skills, implementing evidence-based teaching practices, using technology effectively in the online classroom, encouraging classroom interaction, promoting classroom collaboration, participating in professional development activities, and providing input to parents and administrators on

ways to improve the learning environment for virtual K-3 students. Within the framework of socio-constructivism and activity theory, the present study findings indicated the significant impact that contributory factors and mediating tools have on virtual K-3 instructors' as they strive to implement best teaching practices within the online classroom.

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APPENDIX A

Recruitment Letter

TEXAS WOMAN'S UNIVERSITY

RECRUITMENT LETTER

Dear [ADMINISTRATORS AND INSTRUCTORS]:

I am conducting a research study and looking for volunteers to participate in the following study.

The study title is *Best Practices in Teaching K-3 Online: A Content Analysis of Distance Education Journals, Blogs, and Electronically-Documented Surveys.* The purpose of this study will be to examine best teaching practices utilized by virtual K-3 instructors through the collection and evaluation of distance education journals, dedicated virtual school blogs, and electronically-documented surveys with virtual K-3 instructors.

Participants should be limited to virtual K-3 instructors who are willing to complete the electronically-documented survey on the *PsychData* website. The survey should take 30- to 60- minutes for completion. Please be aware that your participation in this is completely voluntary. There will be no consequences to you whatever if you choose not to participate. If you do choose to participate, the study will involve the completion of 5-questions on the PsychData website.

"There is a potential risk of loss of confidentiality in all email, downloading, and internet transactions."

I look forward to communicating with you in regard to your interest in participating in this study. Please feel free to contact me with questions, or have your virtual K-3 instructors contact me themselves, using the contact information provided below. If you wish to participate, click on the following link:

https://www.psychdata.com/s.asp?SID=154499
Administrators, please forward this e-mail to your virtual K-3 instructors for consideration.

Thank you for your time and consideration.
Sincerely,

Nikosi Darnell, M.S., CCC/SLP – Principal Investigator
Shantea15@twu.edu or 817.692.8040

Dr. Karen Petty, Interim Chair of the Department of Family Sciences – Faculty Research Advisor
kpetty@twu.edu or 940.898.2685

APPENDIX B

Consent to Participate

Best Practices in Teaching K-3 Online: A Content Analysis of Distance Education Journals, Blogs, and Electronically-Documented Surveys

TEXAS WOMAN'S UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Title: Best Practices in Teaching K-3 Online: A Content Analysis of Distance Education Journals, Blogs, and Electronically-Documented Surveys.

Principal Investigator: Nikosi S Darnell
817.692.8040 shantea15@twu.edu
Research Advisor: Karen Petty, PhD, Interim Chair of the Department of Family Sciences
940-898-2685 kpetty@twu.edu

Explanation and Purpose of the Research

You are being asked to participate in an online research study for Ms. Darnell's dissertation at Texas Woman's University. The purpose of this research is to examine best teaching practices utilized by virtual K-3 instructors. I will be collecting and evaluating distance education journals, dedicated virtual school blogs, and electronically-documented surveys with virtual K-3 instructors.

Description of Procedures

As a participant in this research, you will be asked to spend approximately 30- to 60-minutes completing an online survey that includes 5 questions. The survey is comprised of 5-questions. Some of the questions will be about what best practices you implementing during the teaching process. While others will address what supports or barriers make it easier or harder for you to implement best practices. Also, there will be a question regarding how available technology impacts your implementation of best practices. You will not be asked to state your name on the completed survey as you will be assigned a Respondent ID number on consent to participate in

the study. You will be able to contact me via e-mail or telephone at any time prior to, during, and following the study.

Potential Risks

As a participant in this research, you may experience a loss of privacy. To minimize this risk, I will be using Secure Sockets Layer (SSL) encryption for securing your privacy when taking the survey on the *PsychData* website. Also, I will use a personal computer to correspond with you, store sensitive information in a locked location, as well as assign your Respondent ID number to sensitive information.

As a participant in this study, you may experience a loss of anonymity. To minimize this risk, I will use your Respondent ID number in place of your name on all sensitive information.

As a participant in this study, you may have a loss of confidentiality. To protect your confidentiality, I will identify you through a Respondent ID number, instead of by name. Personal information will be stored in a password protected computer. Identifiable information, such as e-mails, will be destroyed when my dissertation has been accepted. The transcript, without your name, will be kept until the research is complete. It will be destroyed within 5-years from the end of the study. Names and email addresses are requested for those that are interested in receiving an Executive Summary of the study. Confidentiality will be protected to the extent that is allowed by law. "There is a potential risk of loss of confidentiality in all email, downloading and internet transactions."

The researchers will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

Your involvement in the research study is completely voluntary, and you may discontinue your participation in the study at any time without penalty. If you decide to withdraw from the study, you may do so by discontinuing or not completing the survey. There is no need to contact me directly. There is no direct compensation for your participation in this research study.

Questions Regarding the Study

If you have any questions about the research study, you may call and talk with either researcher whose phone numbers are listed at the top of this form. If you have questions about your rights as a participant in this research or the way this study has been conducted, you may contact

Texas Woman's University Office of Research and Sponsored Programs at (940) 898-3378 or via e-mail at IRB@twu.edu.

If you are not interested in participating in this study, please click the "Do Not Continue" button to be redirected from the PsychData website.

If you are interested in participating in this study, please click the "Continue " tab. Your completion of the survey will constitute your consent to participate in this research study.

Continue ONLY when finished. You will be unable to return or change your answers.

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APPENDIX C

Survey Questions

PsychData Survey Questions

Question 1. “What are the best practices you use to teach your students?” (adapted from DiPietro, 2010, p. 331)

Question 2. “Why are you using these practices?” (adapted from DiPietro, 2010, p. 331)

Question 3. “How do you use different technologies (such as discussion boards, chat tools, etc.) within the course(s) to support your best practices?” (adapted from DiPietro, 2010, p. 331).

Question 4. What barriers make it difficult for you to implement best practices?

Question 5. What supports are present to assist you in implementing best practices?