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Concordia University–Portland

College of Education

Doctorate of Education Program

WE, THE UNDERSIGNED MEMBERS OF THE DISSERTATION COMMITTEE

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A Case Study of Teacher Perspective on Digital Portfolios in Comparison of General and Special Education Students

Daniel L. Simons

Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

Transformational Leadership

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Concordia University–Portland

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Abstract

Educators are continually seek methods to monitor learning, engage students, and increase performance. Digital portfolios are often implemented across various academic settings to fulfill this desire. This descriptive single case study utilized the following research questions to gain a better understanding of the perspective teachers hold: (a) What perspective do teachers hold for the purpose of digital portfolios with their general education students in their elementary school classrooms, (b) What perspective do teachers hold for the purpose of digital portfolios with students who qualify for special education services in their elementary school classrooms, and (c) What perspective do teachers hold regarding the difference in the level of academic growth associated with the use of a digital portfolio in their classroom between Special Education students and their General Education peers? The study utilized a questionnaire, interviews, and a reflection tool to collect data. The study intended to provide educational leaders with a better understanding of teacher mindset to assist in the planning and implementation of digital portfolios as a means to support learning for all students. The results of the study indicate teachers believe the purpose of digital portfolios is different for the two populations of students. The only commonality between the two groups was to document growth and teacher perspective on the academic impact of digital portfolios is varied for the two groups. The results offer an understanding of how to support the implementation of digital portfolios with both General and Special Education students.

Keywords: teacher beliefs, general education students, special education students, digital portfolio

Dedication

This dissertation is dedicated to my parents, Deborah and Dennis, as they instilled in me the value of education. To my husband, Richard, for the endless support and encouragement. To my daughter, Kennedy, for giving patience and time to me. May my dedication to this study and my education be a model for her future. Together, their endless love, guidance, and encouragement have pushed me further in life than I could have ever imagined. Thank you.

Acknowledgements

Learning is a process that allows one to discover the world in new and exciting ways. However, the learning never truly occurs alone but is a journey completed with others. Thank you to all my family, friends, and colleagues who have accompanied me on my expedition.

Specifically, I would like to thank you husband, Richard, who encouraged me to begin and throughout this entire process. Your ability to listen and your words of encouragement have helped me to believe I could accomplish anything.

To my daughter, Kennedy, who spent endless hours waiting patiently as I read the next chapter or wrote the next paragraph. Thank you for giving away the precious commodity of time and for allowing me to grow. May my dedication to education and my constant pursuit of learning be instilled in you as a guiding beacon.

Thank you to Dr. Jillian Skelton, my Faculty Dissertation Chair, for constantly pushing me to think in new ways and to reflect as I have never done before. Her constant support has not only strengthened my knowledge as a researcher but also as an educator.

In addition, I owe Dr. Dana Shelton, Dr. Donald Comi, and Dr. Derrick Tennial my gratitude for the support they have lent throughout this process. Their guidance has strengthened my abilities and for this I will be ever grateful.

Table of Contents

List of Tables

Chapter 1: Introduction

Introduction to the Problem

As a teacher, administrator, and leader in the field of education I have witnessed the shifts assessment and accountability bestowed upon us. I have also observed teachers become increasingly overwhelmed by the demands placed upon them as they strive to increase the level of academic performance of all students. The focus for this dissertation is digital portfolios and how they are viewed by teachers in relation to two different subgroups, which comes from my previous role as a Special Education Teacher. It was within this role that my belief to support students in the general education setting took root and I continue to promote this belief as an active school principal.

The mandates of accountability and the need to ensure student success continues to rise, the notion of digital portfolios continues to resurface within the field of education. The use of digital portfolios for assessment and tracking progress of students is often the focus for educators. Renwick (2017) portrayed portfolios as a means of engaging students in the assessment process and called for deeper levels of student involvement. Niguidula (2005) urged for educators to focus on making portfolios a meaningful part of assessment and use the tool to impact academic success. In the same vein, Kahn (2017) emphasized the shift digital portfolios have made in history from teacher driven to student focused. The problem presented with digital portfolios is the vast methodology which can be utilized to enact the tool within the classroom. Renwick (2017) and Niguidula (2005) both present the topic with further complexity by sharing the purpose of the portfolio can shift based on the type being implemented; the purpose then becomes the driver for implementation. Thus, the focus of this dissertation was to investigate the purpose of portfolio implementation. The research was means of not only building my

awareness of teachers' perspective but also to further inform the literature which exists on the topic.

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

Background. The shift to introduce digital portfolios as a means of either assessing student learning or to engage students through the tool as an instructional strategy has taken center stage. Renwick (2017) claimed that digital portfolios can be used in three ways: performance as a means of identifying mastery, progress to show growth over time, or process to identify growth as it develops. Niguidula (2005) furthered this by sharing the purpose of portfolios was to either to showcase learning, provided evidence of content mastery, or to be used as a communication tool. Regardless of the use of the tool, the connections between assessment and digital portfolios are evident.

According to Kahn (2017), the using of digital portfolios has increased at the postsecondary level with over 50% of universities and students reporting the use of the practice within their institutions. The increase in utilization in the field of education has further spread as the increase of accountability has emerged through No Child Left Behind (NCLB) and the Elementary and Secondary Education Act (ESEA) (Klein, 2018; United States Department of Education, 2018). The use of digital portfolios and the integration of the practice into various levels of education offers educators a different resource to measure the success of students while engaging them in rigorous engagement strategies.

The use of the assessment and instructional strategy has been floating around the field of education for quite some time. The use of a digital portfolio emerged from the traditional paper and pencil portfolio (Kahn, 2017). The shift to the digital platform accelerated as technology became integrated into every aspect of life and began to offer more flexibility to the creation of

tool. While the tool may promote deeper levels of learning and allow teachers to track the learning of students, the time and additional knowledge it takes to facilitate the process is a concern for the tool (Renwick, 2017). However, if the negative drawbacks could properly be supported and teachers provided the necessary training to make the tool effective then the student would be the one to benefit from a practice which is multifaceted.

Combining this information with the common knowledge of the diversity present in today's classroom further exemplified the need to understand how teacher perspective on the purpose and effectiveness of digital portfolios. The view of these beliefs as General and Special Education students considered separately provided a new vantage point to where the practice of digital portfolios rests in the mindset of teachers.

Context. The study sought to understand the perceptions teachers hold on the purpose of digital portfolios for both General and Special Education Students. In addition, the researcher investigated teachers' beliefs about the level of effectiveness the tool held for the two subgroups. Within the study, the researcher defined the use of a digital portfolio based on the purpose selected. The term "Special Education student" was identified as any student who participate in instruction in the general education class who qualifies for Special Education services through the Individuals with Disabilities Education Act (IDEA).

The perspective of teachers included within the study was drawn from a group of teachers who have participated in district professional development on digital portfolios. The teachers were all be from the same school district and were selected to attend the training session by their principals. By choosing to include all teachers who attended the training in the questionnaire, a larger body of participants was gathered, and a more holistic perspective drawn. It is important to recognize the training provided to teachers did not specify the difference between supporting

Special Education students differently than the General Education students; the training was merely foundational to institute the practice.

History. The use of portfolios began through more traditional means of print with a focus of growing the cognitive abilities of learners (Kahn, 2017). The shift of the tool to an electronic or digital platform emerged as technology began to take root and the internet became a reality. Renwick (2017) noted the shift of the tool became prevalent as education researchers noticed the impact digital portfolios held on various groups of students. The use of the tool provided teachers a new way to observe student learning, connect with students, and engage students in the learning process. However, the initial onset of digital portfolios faded out as the time commitment and support for teachers became cumbersome to the process before reemerging once again with advancements in technology (Renwick, 2017).

The use of digital portfolios has been spurred on as educators seek to find ways to increase the learning within classrooms. Niguidula (2005) and Renwick (2017) have both provided a framework for the different purposes which digital portfolios can fulfill. The most central focus is to utilize digital portfolios as a means of assessing student learning. The method of assessment embedded within the portfolio can either be summative or formative. The distinction in the level of assessment, as defined by Harlen and James (1997), is where the student is in location to a standard (summative) and the description of the level of learning which has occurred throughout the learning process (formative). The digital portfolio can take into consideration both components and generate a tool which embeds multiple instructional practices. Digital portfolios can further integrate key instructional strategies such as goal setting, self-regulated learning, reflection, and feedback.

Coupling the potential benefits digital portfolios could provide with the ever pressing need to ensure student academic growth pressed upon educators by NCLB and ESEA (Klein, 2018; United States Department of Education, 2018) makes the tool a great option for educators to support student growth. As leaders and policy makers seek to meet these demands, it cannot be forgotten that a percentage of students within the classroom require additional support to reach academic success. As the tool continues to grow in popularity, it is essential for educators to truly understand the perspective teaches hold in regard to the use of the tool with both General and Special Education students to ensure success.

Conceptual framework for the problem. The purpose of this research study was to examine the perspective teachers held on the purpose and effectiveness of digital portfolios in their classroom for General and Special Education students. The use of the practice has proven to be effective when embedded into instruction (Demir & Kutlu, 2016; Shirvan & Golparvar, 2016; Wyk, 2017). The use of the instructional strategy has already been identified by Yastibas and Cepik (2014) and Atjonen (2014), as their research portrayed the use of digital portfolios as positive in the viewpoint of teachers. However, this was contradicted by Rashid and Jaidin (2014), as they noted that teachers become frustrated through the implementation process. Thus, calling for a high level of support and guidance as teachers begin to implement digital portfolios into their classrooms.

Further interest was derived for this research as the notion of supporting all students with a diverse level of needs in the same classroom was brought forth. The literature presented within the topic of digital portfolios did not display a comprehensive view of the perspective teachers held for the tool when comparing different groups of students. Teachers are inundated with multiple instructional programs, accountability measures, and requirements that must all be

managed while implementing practices such as digital portfolios. Yet, strategies are implemented into the classroom without an evaluation of the level of beliefs teachers hold. Understanding their perspective will not only support education leaders as they plan professional development, but it will also further the education of both General and Special Education students.

Statement of the Problem

The call for higher levels of accountability and increased levels of standardized testing throughout education have forced educators to look for new methods to assess students. The initial call of the Elementary and Secondary Education Act, and the subsequent revision of No Child Left Behind, brought the use of data to the forefront and began to hold schools accountable for student achievement (Klein, 2018; United States Department of Education, 2018). Through this call, the use of a digital portfolio has risen as the tool that provides teachers not only the option to assess students, but also the embedded teaching strategies of providing feedback and building self-regulation skills. The use of digital portfolios allows teachers and students a role within the process of assessment and learning that is eliminated through standardized testing (Renwick, 2017). The focus of digital portfolios does not lie solely with assessment but includes 21st century skills, instruction on collaboration, critical thinking, communication, and creativity. Digital portfolios can bring multiple teaching strategies, assessment pieces, and student leaning together in one place.

However, the implementation of the instructional tool within the classroom is still reliant upon the teacher facilitating the learning process (Faravani & Atai, 2015; Skipper & Douglas, 2015). The level of support, guidance, and belief the teacher provides to the student does make a difference to the effectiveness for which the tool holds. Teachers must also provide these

supports to varied levels of students. Special Education students continue to make up over 13% of the student population (The National Center for Education Statistics, n.d.) and teachers must ensure they are providing these students with the right support to ensure they are successful. The need to support students as they access digital portfolios must begin with a clear perspective of why the instructional tool is being utilized. Renwick (2017) shared examples of the purpose of digital portfolios in action while indicating the overlap of purpose which can occur. The tool can become further inhibited when the curator of the tool is considered; Renwick (2017) confirmed the tool can be either student or teacher driven. The complexity in which digital portfolios can be implemented creates the possibility for teachers to implement the instructional tool differently. Seeking to further understand how teachers perceive the use of digital portfolios in their classrooms when they are utilized with Special Education students.

Therefore, this study focused not only on the teachers' perspective of the purpose of digital portfolios as they implement the tool with for these students and their General Education peers. The teachers' perspective of the effectiveness the instructional tool held within each subgroup was explored to provide a holistic understanding. The study brought the data together and provide insight on how digital portfolios were implemented with the two different factions of students.

Purpose of the Study

The researcher intended to utilize this study to extend the information and literature available on digital portfolios. The purpose of this qualitative descriptive single case study was to explore how the perspective teachers held for the use of digital portfolios in their classrooms with both General and Special Education students and the perceptions of instructional growth between the two entities. The research questions were explored and answered using current

literature and theories in the field of education that are related to digital portfolios by following qualitative approach.

The intent of the study was to further provide education policy and leaders with information on teacher perspective regarding the purpose and effectiveness of digital portfolios with the two subgroups. The use of a questionnaire brought forth the beliefs of teachers at large and provided leaders will be able to better understand the professional development and needs of classroom teachers. In depth teacher interviews and reflection through the review of student digital portfolios highlighted the practices which were being implemented in the classroom and fostered an understanding of how teachers view the use of the tool with their students. The information gained also informed educators on the varied beliefs teachers held on the instructional tool and determined if the impact intended is truly being generated.

Research Questions

The research questions below are a direct correlation to a descriptive case study research design as they seek to determine how the participants feel or believe. The use of a case study design is meant to achieve a deep understanding or gain a true view of a complex topic within society. Yin (2018) further defined case study by explaining the research questions are guided by questions beginning with "how" or "why." Yin (2018) further delineated "how" questions as descriptive as they seek to understand meaning and "why" questions as exploratory as they seek to uncover the roots to the existence of the meaning. For this study, the researcher sought to only understand the beliefs and perspective of teachers; thus rendering the research study a descriptive case study.

The research questions for this study are:

RQ1: What perspective do teachers hold for the purpose of digital portfolios with their general education students in their elementary school classrooms?

RQ2: What perspective do teachers hold for the purpose of digital portfolios with students who qualify for special education services in their elementary school classrooms?

RQ3: What perspective do teachers hold regarding the difference in the level of academic growth associated with the use of a digital portfolio in their classroom between Special Education students and their General Education peers?

Rationale, Relevance, and Significance of the Study

The study presented added additional knowledge to the existing literature about digital portfolios regarding the perspective teachers held for the purpose of digital portfolios with General and Special Education students. In addition, the study focused on Social Cognitive Theory (SCT) by presenting the perspective of teachers and the influence they held on supporting the learning of student. SCT is rooted in the belief of learning takes place in a social environment (Schunk, 2006). Leaners gain information, confidence, and success through the ability to observe through modeling. Schunk and Zimmerman (2006) placed reciprocal interactions as the core component of SCT and noted the value interactions have on influencing the learning process. Digital portfolios function as a tool that makes the learning process visible by infusing feedback, reflection, and self-regulation. The theory of SCT is grounded within the literature of digital portfolios as educators interact with their students in the attempt to build success.

The literature noted the benefits for Special Education students which are achieved with digital portfolios (Clancy & Gardner, 2017; Rao, Slovin, Zenigami, & Black, 2016; Wang & Neihart, 2015) and highlighted the general positive effectives of the practice (Cordier et al., 2016; Demir & Kutlu, 2016; Theodosiadou & Konstantinidis, 2015; Wyk, 2017). The research has also outlined the position of power teachers hold in implementing the tool and supporting students through facilitation (Alacam & Olgan, 2015; Assaggaf & Bamahra, 2016; Cirocki & Caparoso, 2016; Gámiz-Sánchez, Gallego-Arrufat, & Crisol-Moya, 2016). These studies indicated the teacher is the primary factor in implementing digital portfolios into the classroom. What the literature did not provide is the difference in perspective a teacher may hold for the purpose and effects on learning achievement the tool held for students in the same class. Expanding the knowledge base provided additional information to educational leaders on the beliefs of teachers as they work to implement digital portfolios in their classroom with both General and Special Education students. The findings from this qualitative descriptive case study also provide another set of data with a new population, a new site, and different context for the use of digital portfolios.

The data were gathered through this study supports educators and leaders in the field as they continue to seek methods to assist in educating all students. The accountability mandates being applied from both federal and state regulations have pushed educators to shift their thinking about assessment. The knowledge of how teachers perceive digital portfolios could potentially help guide the implementation of the tool to support summative or formative assessments. Teachers themselves might also be able to further reflect on why they are asked to implement tools such as digital portfolios in their classrooms and possibly draw connections to other aspects of education such as 21st century learning.

Definition of Terms

Assessment for learning (formative). An evaluation of where the student is in location of the learning process of achieving a standard or norm (Harlen & James, 1997).

Assessment of learning (summative). An evaluation which describes the level of learning accomplished based on a standard or norm (Harlen & James, 1997).

Digital portfolio. An electronic warehouse which can be used to showcase student work, demonstrate mastery of curriculum (Assessment of Learning), highlight learning growth (Assessment for Learning), or provide communication between parties (Niguiduala, 2005). The tool is refereed to within the literature as a digital portfolio, electronic portfolio, e-portfolio, and E-Portfolio.

Feedback. The definition of feedback is the communication of information meant to be evaluative or corrective (Feedback, n.d.). Throughout the study, the term feedback will be defined by any action or response given to a student either by the teacher or his or her peers pertaining to the academic learning process in written or verbal form. Peer will further be defined as any other student providing feedback and teacher will be defined as any adult working in the learning environment who supports the learning process.

Self-regulated learning. Self-Regulated Learning is the ability to be able to advocate and control one's own learning environment. Students can set goals, monitor, regulate, and reinforce learning for themselves (Zimmerman, 1990). Throughout the study this will be defined by action the teacher perceives to be an independent act of the students without support of the teacher or his or her peers.

Special education student. For this study, a Special Education Student will be considered any student that meets the criteria of IDEA and qualifies for Special Education

Services. Their disability, level of services, or any other distinction will not be taken into account.

Assumptions, Delimitations, and Limitations

Assumptions. The research methodology and conceptual framework used in this study assumed participants had a solid understanding of the concept of a digital portfolio. It also assumed that all teachers had a common understanding as they have each participated in the same professional development presented by their school district. The researcher also assumed each participant provided the best instruction possible for their students. In addition, it was assumed that the participants shared the truth as they respond to the questionnaire, interview, and reflection tool. The researcher assumed the information provided was shared openly and fully as a representation of the participant's knowledge and beliefs. In addition, the research also assumed case study was the appropriate research design for the study.

Delimitations. The delimitations to this study were acknowledged. The researcher had purposefully limited the study to one specific school district and only to the teachers who have participated in the district's professional development connected to the use of digital portfolios. The study further modified the scope by only seeking input from elementary teachers. The initial questionnaire was used to draw a larger participant pool, but the interview and reflection pool was narrowed to include no more than eight participants. The researcher specifically selected teachers who are in the median range of years of experience of those responding to the questionnaire. The delimitations set within the study limited the generalizability; however, the study presented supported theoretical knowledge. The focus of case study research was "to expand and generalize theories (analytic generalizations) and not to extrapolate probabilities (statistical generalizations)" (Yin, 2018, p. 21).

The choice to use a questionnaire, interviews, and reflection tool was a delimitation within itself. The use of an open-ended survey did allow for additional information to be provided to the researcher but was limiting in the response a participant may have chosen to provide. In addition, the interview reflected the participants' perspective and could potentially have been biased by the researcher conducting the interview (Creswell, 2014). Finally, the use of the reflection tool may have been skewed as not all participants may have reflected to the same level and their common understanding may have been shifted by their own personal experiences. Creswell (2014) also noted the data will be limited because not all participants are equally skilled in articulating their perspectives.

Limitations. A limitation to the study was the sample size of the participants. While all teachers who participated in the district's professional development on digital portfolios were included in the survey request, not all members responded. In addition, only eight teachers in the median range of teaching experience participated in the interview and reflection tool portions of the study. Yin (2018) noted the importance of using replication logic instead of sampling logic as the data presented within a case study cannot be a representation of all teachers and provides a view of the participants within the specific context; this in and of itself is a limitation.

Another limitation to the study was the small number of student digital portfolios participants reflected upon. Asking participants only to delineate the between General and Special Education students without considering other demographic information also limited the scope of the study. The data tools further limited the study as they were dependent upon the participant's knowledge and interpretations.

Summary

The focus of this descriptive single case study was to explore the perspective teachers held toward the purpose and effectiveness of digital portfolios with General and Special Education students. A holistic view on how teachers view the instructional tool was uncovered by comparing teacher beliefs held between the two groups of students. The chapter presented here has framed the history of digital portfolios, the context of the study, the conceptual framework, and has outlined the problem statement. In addition, key vocabulary and the rationale for the study were presented.

The literature review contained in Chapter 2 will further frame the research that has been conducted around digital portfolios and the associated practices of self-regulated learning and feedback. Within the chapter, the reader will discover there was a gap in the existing data which did not provide a contrasting view of the use of digital portfolios with General and Special Education students. Chapter 3 of this report will further outline the methodology, practices, and procedures utilized to gain research data. Through this exploration, additional knowledge on teacher perspective of digital portfolios and areas in which leaders can support the practice were uncovered.

Chapter 2: Literature Review

Introduction to the Literature Review

Educators have been tasked to ensure all student success through the demands of higher levels of accountability and the need to ensure all students are prepared for the complexities of the world. The pressure of assessment and rote methods created by standardized testing have pushed educators to look for other means of tracking students' growth. The implementation of digital portfolios has surfaced as a tool with the potential to fill the role. Wade, Abrami, and Sclater (2005) identified portfolios as a means of increasing student engagement within their learning, embedding reflective practices of self-evaluation, offering student choice, and the promotion of feedback within the process. Milman (2007) added to this by noting the ease and efficiency digital portfolios provide in showcasing and presenting the learning which has occurred. For these reasons, digital portfolios have become common practice in education as a means of supporting student learning while effectively measuring academic growth. The foundation of this literature review is to establish a current framework of research on digital portfolios and the embedded practices within this strategy. Through critical examination, the effectiveness of the practice is outlined and the implications for implementation are noted.

The purpose of the study was to fully understand General Education teachers' perspective on the purpose of digital portfolios in their classrooms for both General and Special Education students. The study also focused on analyzing the beliefs teachers hold with the level of effectiveness digital portfolios hold to increasing student achievement. For the purpose of the study, digital portfolios will be defined as a collection of work which provides evidence or information about the learning or growth of the curator (Milman, 2007; Wade et al., 2005). The work which is gathered by the student to be included with in the ePortfolio must be aligned to the

vision or goal which has been set for the tool. Niguidula (2005) and Wade et al. (2005) have outlined the main purposes of digital portfolios to either showcase exemplar work, provide samples of works in process as a means to see student growth, or be used as a method of assessment. The various purposes for which digital portfolios can be utilized and the complexities which are integrated by the additional of new technology creates a chasm for the lack of understanding to take root; potentially leaving educators unsure on how to integrate the tool into their classrooms.

Embedded within the General Education classrooms where digital portfolios are being utilized are students who qualify for Special Education. Theoretically speaking, the effectiveness of digital portfolios should be no different with this subgroup of student learners. If teachers hold the belief, understand the purpose, and have a sound understanding of how to utilize digital portfolios in their classrooms, the learning outcomes for special education students should be no different than that of their general education peers.

Conceptual Framework

The primary purpose for this study was to examine teachers' perspective on the use of digital portfolios in relation to students who qualify for Special Education services. The data gathered through the study provided a wider viewpoint than the current data available and investigated the beliefs of teachers throughout a large southern school district. Principals, district leaders, teacher leaders, and teachers themselves now have a better understanding of how to support the integration of digital portfolios into the general education environment for this subgroup of students. Supports, processes, and professional development to assist educators in the facilitation of the tool, as defined by the purpose for which they have set, can be implemented more effectively.

Social Cognitive Theory (SCT) is embedded within this study as the perspective teachers hold on the use of digital portfolios with various subgroups may affect the successful implementation of the tool. Conner and Mark (2015) noted SCT as having four main factors which grow and change learning behaviors; perceived self-efficacy, modeling, persuasion by others, and emotional arousal. Each of these components is embedded in the reciprocal interactions which are embedded within the theory. As students engage in learning, they are influenced by their own thinking, the environment, and their behaviors (Schunk, 2012).

The foundation of digital portfolios is grounded within SCT as the focus is to increase learning by infusing social learning conditions within a digital world. SCT claims self-efficacy, modeling, and self-regulation influence learning and behaviors. Schunk and Zimmerman (2006) shared self-efficacy is increased as learners feel more confident about their performance and experience success. The success generated in a learning change is often achieved by observing the work of others or interacting in a social manner which allows for the learning to take place. Learning is further controlled by self-regulation; "the process whereby individuals activate and sustain behaviors, cognitions, and affects" (Schunk, 2012, p. 123). These variables assert learning as a social construct that occurs within a complex environment. Digital portfolios seek to recreate the social aspect of learning to enhance student learning. The purpose for which a digital portfolio is implemented and perspective a teacher holds would greatly affect the implementation of the tool.

Renwick (2017) identified digital portfolios as an assessment option to help drive instruction and shift student learning. However, the purpose for which the strategy holds not only affects the method of implementation; both Renwick (2017) and Niguidula (2005) noted the teachers holds an essential role and control over the purpose for the implementation of the tool.

Niguidula (2005) clearly established the manner for which the portfolio is used is distinguished by the content which will be infused or in other terms the purpose by which the teacher intends to utilize the tool. In addition, Kahn (2017) proclaimed the instrument can be utilized in a student driven matter by educators to shift the landscape of learning. The ePortfolio can be a simple storage unit for quality work, an exemplar providing evidence of learning and mastery of specified criterion, or even a simple communication tool to support students and parents as they strive to reach academic excellence. Regardless of the purpose, the merging of holding students accountable, increasing technology understanding, and infusing 21st century skills have made digital portfolios a viable tool for education. Lynch (2017) indicated that digital portfolios are becoming common in classrooms as they support collaboration, collection of work, and grade assignments.

Demir and Kutlu (2016), Wyk (2017), and Shirvan and Golparvar (2016) are a few of the researchers who investigated the practice of digital portfolios and proven the use of the practice could be effective when integrated into the classroom. Despite the level of effectiveness, the wide variety in which the tool may be implemented creates gaps and holes within the foundation of the tool if they are not enacted with a clear vision and purpose. Further complication is added to the equation as teachers with various backgrounds, training, and understanding of effective practices become responsible for integration. For this to be effective a high level of professional development is required to ensure the tool is being supported in the manner for which it was intended.

Renwick (2017) and Niguidula (2005) noted the high level of importance the teacher retains on the level of effective instruction within the use of digital portfolios. Yastibas and Cepik (2014) and Atjonen (2014) both conducted research to determine how educators felt about

the instructional strategy; concluding the tool was viewed positively as teachers felt it did make a difference in academic obtainment. However, the effects of the tool were contradicted as research began to uncover the impact teachers' beliefs have on the implementation of instructional programing. Rashid and Jaidin (2014), for example, noted a level of teacher confusion regarding the implementation of assessment practices and the tendency for them to shift back toward familiar practices when faced with a lack of support or training. This serves to further emphasize that the influence teachers hold over their students is great but, can only be truly harvested when they are provided the right levels of supports and guidance within their endeavors.

Digital portfolio use was further investigated within in the research as the perspective of students comes into play. Wyk (2017) and Assaggaf and Bamahra (2016) presented research which demonstrated a positive outlook from students on the utilization of the practice. The benefits of the digital portfolio practices were negated as students' frustration and confusion on the expectations began to become visible within the literature. Technology concerns (Gámiz-Sánchez et al., 2016) and the lack of utilizing feedback (Agbayahoun, 2016) were two concerns noted within the students' perspective.

The data presented throughout the literature review provided evidence of the effectiveness of digital portfolios. The claim to provide teachers support, guidance, and professional development as they implement the tool can also be found. Within the literature there is a call for research which specifies how general education teachers implement the practice with special education students in their inclusive classrooms.

Review of Research Literature

In today's world of education, teachers are continuously searching for methods to increase student ownership of learning while enhancing technology integration into their classrooms. The use of digital portfolios as a strategy to fulfill these criteria has become a common practice throughout education. Digital portfolios can be created for a wide range of purpose (Niguiduala, 2005) which allows a high level of flexibility in how they are implemented within a classroom. Simply investigating how digital portfolios are used in the classroom would not provide a comprehensive scope for the complex process.

Digital portfolios must first be viewed through the lens of effectiveness to determine if the strategy supports academic success for all children. Embedded within this data is the perceptions of the teachers facilitating and the students generating the digital portfolios; their views ultimately shape the resources. In addition, the strategy has incorporated the practices of feedback and self-regulated learning to promote academic growth and 21st century learning. Finally, reviewing the practice with at-risk students in mind was a necessity. The complete review of literature in these subcomponents built out the full framework of digital portfolios and built further reasoning as why additional research in the field was necessary to understand if the practices is successful for students with disabilities in the general education environment.

Effectiveness of digital portfolios. As with all practices in education, the research must first be reviewed to determine if the practice is a strategy which produces positive effects for all students. Understanding the effectiveness of digital portfolios was complex due to the various faucets which lie within this practice. Cordier et al. (2016) began their research by distinguishing the difference between testing for learning and testing of learning. The distinction

which they brought to digital portfolios is the recognition needed to understand that the purpose of the portfolio has an influence on the outcome.

Cordier et al. (2016) continued their work as they constructed a mixed-methods approach to determine if digital portfolios were beneficial for undergraduate students. The study utilized slightly over 100 students, who attended an Australian university, from various health related disciplines. The premise of the research was to gain insight and determine if digital portfolios could take the place of traditional assessments and provide students with a greater opportunity to incorporate technology practices into their learning experience. While the shift to the new practice may have not been flawless, Cordier et al. (2016) found the assessment practices and embedded content to be beneficial for both occupational therapy and non-occupational therapy students studying childhood development. The research questions were answered positively, and the author was able to claim that the online ePortfolio learning strategy did positively influence the academic growth of the students.

The research of Cordier et al. (2016) provided great evidence of the effect digital portfolios can have on academic success; the research was presented as a mixed methods study with the use of both quantitative and qualitative data. The use of this methodology provided a more holistic view. Demir and Kutlu (2016) utilized the same approach to their mixed methods research on the effectiveness of portfolios by designing a study that would investigate the research skills of sixth graders. The experimental group consisted of 34 students while the control group housed 30 students; all which attended two public middle schools in central Turkey. In the study, a control group received a more traditional approach to education while the experimental received support on how to construct a digital portfolio. Self-assessment and continual feedback were also implemented throughout the portfolio process. At the end of the

study, Demir and Kutlu (2016) determined there was a significant effect size of 0.209 in relation to the use of digital portfolios and the growth of student research skills. The results of the studies concluded that digital portfolios impact skill development and support ownership of the learning process through reflection and self-regulation (Demir & Kutlu, 2016).

The effectiveness of digital portfolios can also be found in research as it relates to the growth in the academic of self-directed learners. Wyk (2017) and Theodosiadou and Konstantinidis (2015) analyzed portfolios as a means of promoting the learning process within academia. The premise of Wky's (2017) phenomenology research was to prove that digital portfolios could shift the practice of student teacher by embedding student-centered practices. The research concluded by noting a high level of growth from the student teachers.

> The most important phenomena that emerged from the various multiple selected pieces were teaching philosophy and professional identity. According to the majority of student teachers they love to teach children and they have developed into subject specialists that can teach in any context. (Wky, 2017, p. 17)

The notion of portfolios increasing abilities is furthered by Theodosiadou and Konstantinidis (2015) as they reviewed the use of the strategy with 14 third-grade primary students who attended a public school in northern Greece. The qualitative naturalistic method found the practice of digital portfolios to have a positive impact on students' writing abilities (Theodosiadou & Konstantinidis, 2015). Theodosiadou and Konstantinidis (2015) discovered an increase in the pupils' ability to articulate meaning with the sentences structure when prompting was provided. The growth of academic skills was only one portion of the finding; a new method for parent communication, assessment, and the promotion of self-esteem were also noted.

The increase in academic abilities is not the only area of growth noted in the literature for digital portfolios. The positive effects in the development of self-regulated learning (SRL) can also be found. Roman and Soriano (2015) sought to determine if primary level students had the level of autonomy and ability to self-assess throughout the digital portfolio process by conducting a case study. The participants within the study were 25 fifth-grade students who attended a public school in Spain and were learning English for the first time. While the study may have lacked the strong evidence that was desired, the main finding of students appreciating a higher level of control aligns with SRL. This data further suggests that digital portfolios are a tool that increase the level of ownership for students. The same level of desire to be in control of learning was also found within Wyk's (2017) research where student teacher felt a sense of empowerment within subject content and instructional skill through the use of a digital portfolios. Together these pieces provided evidence that digital portfolios do have a positive effect on the level of SRL embedded within the practice.

The literature supporting the practice across a wide range of students was plentiful. Shirvan and Golparvar (2016) concluded through their quantitative experimental research study of 40 Iranian engineering and science university students that "portfolio assessment can improve EFL (English as a Foreign Language) learners' motivation and metacognitive reading strategies to reach higher achievement in reading comprehension skills" (p. 83). Placing this line of thinking with Barrot's (2016) of higher levels of work production for ESL students as they posted their work publicly through the portfolio process, served to further promote the notion of digital portfolios being applicable to the population. Wyk (2017) reached to the top of the academic ladder by concluding the practice was a success when implemented with student teachers in the university setting. The practice of digital portfolios was found to be beneficial

with middle school students through the work of Demir and Kutlu (2016). While, Roman and Soriano (2015) contributed a perspective of the practice as it related to the elementary school setting. The broad span of students for which the practice has been found effective allowed for digital portfolios to be considered an effective strategy which can influence a diverse population.

While the research supporting the effectiveness of digital portfolios was strong, there was also literature negating the practice. Bures, Barclay, Abrami, and Meyer (2013) utilized digital portfolios as a means of assessment to determine if there was an effect on student literacy and SRL skills. Sixteen Canadian teachers and over 200 intermediate elementary students volunteered to participate in the quantitative study. The findings suggested that portfolios were a good tool to support the collection of data, however, when it came to assessment they were lacking. Bures et al. (2013) concluded data within the study provided evidence of self-regulated learning but there was a struggle to utilize the data as evidence. The authors cited concerns with the reliability of interpretation between raters and struggled to ensure students captured all their thinking within the digital tool. These concerns were further compounded as the individual differences students brought to their portfolios and the quality of work they completed become a reality within this strategy.

On a similar note, Abrami, Venkatesh, Meyer, and Wade (2013) used data from 21 teachers and over 300 Canadian students in a quasi-experimental study to conclude the use of digital portfolios is varied, and dependent upon the students' level of self-esteem. "The low-enthusiasm students did not show the same academic improvements or benefits from the standpoint of developing self-regulatory competencies as their counterparts . . . especially given that motivation is a key component of self-regulation" (Abrami et al., 2013, p. 1200). The variation in the success of students being dependent on the level of motivation which they

exhibit toward the digital portfolio is an indicator of the practice not being effective for all students.

The complex practice of portfolios drew speculation of the practice's effectiveness. For example, Roman and Soriano (2015) may have found digital portfolios to be an effective tool for increasing the level of student ownership but, their study also concluded that self-assessment among elementary age children may not be an efficient practice when embedded within the portfolio. In addition, the author identified the need for a high level of support for students as they complete the portfolio process and noted the additional time required of the teacher to provide guidance to the students. Thus, concluding that the tool may be beneficial, but it is not free of negative aspects which hamper the success of all students. "We may question the students' capacity for self-assessment, but the European Language Portfolio stands as a valuable methodological device to make students aware of it and set their own objectives in this respect" (p. 45).

Combining the literature of the effectiveness and ineffectiveness of digital portfolios, it can be concluded that there are specific characteristics which increase the level of effectiveness. These characteristics play a role in driving the process for learning, self-regulation, and feedback. Faravani and Atai (2015) constructed their experimental study of 40 female Iranian women who attended a private language school to determine if higher order thinking could be promoted utilizing digital portfolios. In the study, the portfolio was viewed as a form of assessment and feedback practices were embedded. The correlational study did find a positive effect in relation to digital portfolios, but the concept of engaging learners in their dominate intelligence was key. In addition, it was found to be a necessity for teachers to develop trust with their students to effectively provide assessment and feedback (Faravani & Atai, 2015). The

denotation of engaging students in a specific manner and embedding trust within the learning process exemplifies core factors for the creation of an effective digital portfolio process.

The same strand of information can be found within Hughes, Herrington, McDonald, and Rhodes' (2010) ethnographic study of two dyslexic students as they found a strong reliance on peers and relationships as a factor of engaging in the personalized learning process of ePortfolios. The results of this study concluded that each tutor's values and practices were important, but not the only method (Hughes et al., 2010). The reliance upon those helping students facilitated the portfolio process stands out as an important indicator to the success of this tool.

The implication of the portfolio being dependent upon the teacher or facilitator of the process is not the only key component. Theodosiadou and Konstantinidis (2015) concluded their study by outlining specific steps which need to be embedded into the process. The researchers determined that a clear purpose and methodology for the collection of work being embedded in the digital portfolio is necessary. Educators must also consider evaluation and presentation options prior to embarking on the strategy. By being aware of these components, students will be provided deeper levels of support and the lines of communication will be enhanced. Theodosiadou & Konstantinidis (2015) noted e-portfolios served as a tool to increase communication and collaboration between parents, teachers, and students. This information furthers the notion and the need of creating an effective portfolio process through the integration of supports for students.

Feedback. Digital portfolios have the potential to integrate the process of feedback effectively. Embedding feedback adds another dimension to the portfolio by opening the lines of communication between the learner and the instructor. An investigation into feedback will

provide a rounded review of the literature supporting the practice and provide support as to whether the practice is supportive or deconstructive to digital portfolios. In addition, common practices and supports which serve to supplement the practice can also be identified within the research.

Increasing the writing ability of students through the implementation of feedback in either a prescriptive or permissive manner through different mediums was the focus of the study presented by Sobhani and Tayebipour (2015). The researchers sought to determine if the 75 Iranian University students, who were all female, preferred one method of feedback delivery over another. "Overall, this study showed that learners made an improvement in essay writing according to the feedback they received" (Sobhani & Tayebipour, 2015, p. 1609). The authors concluded that feedback is more effective when verbal and written methods are utilized and delivered through a prescriptive method. Using oral feedback was noted as being the most effective tools as students could hear examples outside of their own work and they were more apt to pay attention to the presented feedback through this technique. Sobhani and Tayebipour (2015) concluded with the notation that feedback did generate a positive outcome on the writing abilities of the students.

Sobhani and Tayebipour (2015) and Peterson and Portier (2013) conducted similar studies; however, Peterson and Portier's research sought to determine the effect feedback would have on second grade students living in Central Canada. The notion of feedback was extended to include peer feedback as well as teacher feedback. The data was gathered through several observations and was conducted through qualitative methods by following two primary teachers. The author did conclude positive benefits of integrating feedback into classroom practices. In fact, "students chose to revise their writing 98% of the time after receiving feedback" (Peterson

& Portier, 2013, p. 39) from the teacher. It is important to note, the teacher provided a consistent level of feedback to her students and that she conferred with them at least twice per week. Peterson and Portier (2013) also noted the support students received as the teacher had taught their peers and exact process on how to support one another when "stuck" in the writing process.

Higher levels of learning were identified within the study of university students in Punjab by Nadeem and Nadeem (2013) through their qualitative study. The sample for this study was larger, with over 450 students participating from various courses of study and with the data being collected mainly through questionnaires and observations. While the findings of the report identify feedback as a positive practice to utilize in education, Nadeem and Nadeem (2013) found "most teachers ignore the feedback process" (p. 60). Despite the fact that the teachers did not give attention to feedback, it was discovered that feedback increases students understanding when the practice is provided in a precise manner and connected to performance standards. In general, students preferred their errors pointed out to them by the instructor; pushing feedback from the point of assessment to a social act of learning.

The positive rewards which can be gained from integrating feedback into instructional practices was also found through a study which utilized 82 middle school students and 16 preservice teachers. Falter Thomas and Sondergeld (2015) constructed the quasi-experimental study in the Midwestern United States as a means of measuring the success scaffolded feedback would have upon student outcomes. Much like the previous literature reported, the 82 middle school students found the feedback to be beneficial as they worked on completing their research projects. However, the feedback which was most effective was not free of structure. However, Falter Thomas and Sondergeld (2015) noted the feedback being valuable from the perspective of middle grade students when it was specific, constructive, and timely. The preservice teachers

also felt as if their abilities to provide students feedback throughout the semester increased as they continued to learn how to best scaffold the criticism they provided to the middle school students. Adding another piece of evidence to support the practice of feedback as an embedded resource in various academic settings.

The data presented above does positively advocate for the use of feedback within the academic setting; however, the way it is carried out to support student learning does seem to be a common concern. Ghani and Ahmad (2016) conducted research with 120 primary level teachers in Pakistan to determine their partiality for the use of written feedback to students. The data presented remains consistent with the effectiveness data as teachers noted the importance of the practice but felt the need for highly structured process and procedures to be effective. Teachers also noted they spent about 20 minutes daily to support the learning of students through written feedback. However, Ghani and Ahmad (2016) noted there was no specific model for teachers to follow and that "teachers at primary level use direct feedback to correct the learner's error and indirect corrective feedback is not in optimum use" (p. 11). Thus, the lack of professional development and understanding of how to best implement the practice generates a concern for the utilization of the strategy within the classroom.

The lack of teacher understanding on how to implement feedback in an effective manner was once again uncovered in the work of Skipper and Douglas (2015). To procure a true understanding of how students feel about constructive feedback, the authors created three balanced experimental groups with a combined total of 145 upper elementary students in Britain. In addition, a second method was utilized with 98 British students who were of the same age but were a mixture of male and female. The second group received feedback which highlighted the errors they produced. Both pieces were focused on determining if feedback focused on person,

process, or omission of criticism impacted students. Through this, Skipper & Douglas (2015) warned that even through type of feedback after success does not alter the student teacher relationship. However, teachers should be cautious with the type of feedback they provide to students after a failure. The authors also noted the importance of teachers building relationships with students prior to engaging in rigorous tasks which might fracture the relationship before it is fully established. Providing criticism without awareness of the relationship could have long term negative effects upon the student (Skipper & Douglas, 2015).

The importance of a process or structure to support the feedback process within the classroom has clearly been identified. Neitzel and Davis (2014) set forth with their study to determine how instruction and feedback effect a student's self-help abilities. The data was gathered through observations of two fifth-grade classroom in an urban setting and two fourth-grade and one fifth-grade classroom in an adjacent rural community (Neitzel & Davis, 2014). The variance between the two communities was similar in the level of income; however, former was comprised of mainly African American students while the later was dominated by Caucasian students. Regardless of the difference, the research discovered students did not respond to high-quality instruction nor feedback if the overall environment of the classroom did not promote monitoring and participation (Neitzel & Davis, 2014). It was further discovered that the most significant factor on the effect of instruction or feedback was the level of motivation and engagement the student presented during instruction. This discovery further places the importance on need for a structured process to engage students when feedback is presented and highlights the importance of relationships within the practice.

Self-regulated learning. Digital portfolios are tools which can take many different shapes. Their purpose can be used as a warehouse for student work, a reflection tool, or even an

assessment. Despite the differences, the student is the curator for the digital portfolio and the literature has tied the notion of Self-regulated Learning (SRL) to the process. Self-regulation is having the ability to be fluent, build connections, be inquisitive, thinking creatively, and construct new meaning in an independent manner (Bishara & Ewing, 2016). Connecting this definition to the digital portfolio clearly outlines the importance of the student's independent and cognitive abilities within the strategy. An investigation into the literature further cements the two concepts together.

In the research study conducted by Nguyen and Ikeda (2015), the notion of framing the connection between ePortfolios, competency, and self-regulation were investigated. The participants in the mixed methods approach, 48 university students were quantitatively measured by their completion of a self-reporting survey to measure their motivation to engage in the course. The participants behaviors were also qualitatively measured to gather information about learning behavior patterns. The results indicated that the ePortfolio-based model positively affected students' self-regulated learning. Nguyen & Ikeda (2015) concluded ePorftoflio systems with embedded self-regulated learning positively shifted student motivation and learning. The research did conclude the connection between self-regulated learning and the utilization of the digital portfolio were also dependent upon the teacher and the expectations of the course. Despite the reliance on these factors, the connections between self-regulation and digital portfolios was clear.

The benefits of SRL have also been noted in the elementary and secondary levels of education. Yan (2017) used a correlational approach to measure how teacher belief about self-regulated and demographic variables of gender, teaching experience, and school location define the SRL instruction teachers provided. Over 800 teachers participated in the study with almost

an equal division between the elementary and secondary participants. The results of the indicated a positive correlation on teacher beliefs on the benefits, students' capacities, and practices when utilizing SRL (Yan, 2017). The data indicates that teachers have the fundamental power embedded within their beliefs to generate the positive effects of SRL. However, the researcher also noted the importance of teachers believing in the capacities of the students to carry out such tasks. Further substantiating the need for training and support for teachers in how to support all students as they integrate digital portfolios and SRL into the classroom.

The connections between SRL and digital portfolios and the impact they hold on student achievement was noted in the study of about 350 University of South Africa student teachers. Through the lens of SRL, Wyk (2017) sought to determine the viewpoint of the students on how the digital portfolio enhanced their SRL skills. The data generated six core themes which ranged from technical pedagogical knowledge to the different student-centered methodologies utilized with students. Through the research, it was concluded that digital portfolios increased the level of empowerment students felt. One of the core practices which supported SRL was the embedded reflection within the digital portfolio. The researcher determined "reflections is an enabling means for student teacher to ponder and critically reflect on their practice" (Wyk, 2017, p. 17). Providing positive evidence which supports the combining of SRL and digital portfolios as an academic learning tool.

In a similar experiment, Dignath-van Ewijk, Fabriz, and Buttner (2015) measured SRL through the effect of a digital learning diary. The undergraduate students were distributed into a control group of 21 and an experimental group of 44. The quantitative measures were gathered through a pre and post self-assessment which focused on the SRL students held. The data indicated "large effects for both metacognitive skills and meta cognitive attitudes" (Dignath-van

Ewijk et al., 2015, p. 91) for those students who participated in the experimental group. The study also noted there was a direct level of input on learning strategies provided to students through the use of the learning diary. The effect of these supports may have influenced students as they engaged in the work. Dignath-van Ewijk et al. (2015) further noted the level of self-efficacy of students did not shift through the use of the digital diary; however, students noted the potential which lies within the strategy to increase their motivation. Thus, suggesting that digital diaries do influence SRL and can completely engage students if enacted in the appropriate manner.

The notation of SRL creating positive effects within the academic setting can be further identified through lens of achievement. Bishara and Ewing (2016) conducted research in central Israel by providing SRL instruction to an experimental group and a traditional level of instruction to the control group. There were 40 elementary students in total and all of them had qualified for special education services in the eligibility area of a Learning Disability. The SRL tool presented in the study was not digital, but it did offer student flexibility in deciding which strategy they employed to solve math problems. The outcome of the research identified a significant difference between those students who had received the SRL instruction and those who had participated in a traditional level of instruction (Bishara & Ewing, 2016). The shift within the data is an indicator that the practice of allowing for students to guide their own learning is strengthened by this discovery. In addition, Bishara and Ewing (2016) prompted the use of self-regulation for teaching students with learning disabilities because of the strategy offers though flexibility and develops thinking skills. Using SRL as an embedded tool to support student learning will further prepare students for the flexible level of thinking required in today's world while simultaneously promoting higher levels of academic growth.

The benefits of SRL within academic achievement and cognitive thinking were further explored by Pospíšilová (2017) through a quasi-experimental design which measured the success of elementary school children. Quantitative measures were gathered through a pretest and posttest while the qualitative measures were observed. The results of the study were supportive of SRL; however, it was noted the importance of taking the individualized differences and academic abilities of students before passing judgement. The understanding students hold for the expectations of their work are influenced by these variables (Pospíšilová, 2017). The growth which occurred for each student could not be broken down and evaluated by individual components during the study; providing evidence that SRL does create positive differences within student learning.

> Perhaps most fundamentally, what emerges from this work is that children, right from the start of their formal schooling and quite probably in per-school also, are capable of using metacognitive and self-regulatory skills to enhance their development as learners and of responding to activities, pedagogical practices, and classroom environments that support these important abilities. (Pospíšilová, 2017, p. 11)

The conclusion which can be drawn from this research is that all students are capable of the academic and cognitive rigor of SRL when they are provided the opportunity and supported.

The notion of providing supports to students in a purposeful manner which supports SRL is not lost within the literature. Chang, Liang, Shu, Tseng, and Lin (2015) began their research by examining how reflective writing within the digital portfolio effected SRL. The students involved in the study were all part of a web design course at a Taiwanese high school; thus, providing evidence that their abilities to utilize technology should not have hindered the effectiveness of the study. The evaluation of the data indicated a high level of anxiety for

students as they worked to complete the required reflections. Chang et al. (2015) indicated that "anxiety generated from the portfolio assessment was probably due to extra burdens accumulated from creating portfolios and assessments" (p. 333). Despite the anxiety which was created, the correlation between the digital portfolio reflections and SRL was positive. However, the researchers clearly note the importance of providing encouragement and support to students as a means of reducing the anxiety or frustration.

Vandevelde, Van Keer, and Merchie (2016) found a similar note of frustration as they launched an investigation into SRL of primary students of low socioeconomic and immigrant status. The quasi-experimental study utilized about 100 inner city Flemish students in the experimental group and close to 300 students of similar background in the control group. Pre, post, and retention assessments were utilized to measure the level of SRL after student participated in tutoring sessions to support their SRL abilities. Despite the level of support, "his study points out that SRL Strategy acquisition among these children is more complex and variable than originally assumed and that—unfortunately—student tutoring as a method to promote SRL among these children did not fully meet expectations" (Vandevelde et al., 2016, p. 133). Utilizing quick interventions such as the tutoring sessions provided to students had little impact on their abilities but does not mean students are incapable of learning these skills. The researchers indicated that more research in the exact practices which students with similar needs and that different types of supports focused on more long-term methodology is warranted.

The research has outlined the practice of SRL as an effective practice within the field of education. While the cautions raised by Vandevelde et al. (2016) and Chang et al. (2015) do not retaliate against the effectiveness of the practice but do point to the notion of providing supports to students and teachers as they implement the practice. The use of quantitative measures was

highly utilized throughout the research of SRL and little data was presented on the qualitative measure which are embedded within the learning process. Further analysis of SRL embedded within the digital portfolio process would further this area of study by highlighting the tenants which are necessary to support the learning strategy.

Teacher perception. The literature on digital portfolios frequently evaluates the topic through the lens of the educators who are facilitating and employing the strategy. The viewpoint of teachers has allowed for researchers to not only look at digital portfolios as a tool for work collection, but also as a source of assessment and practice to support self-regulated learning. Regardless of the purpose which has been set forth for the digital portfolio, researchers have chosen to review the perspective of the teacher as their role is a crucial element to the functionality of the learning process.

Yastibas and Cepik (2014) began their small-scale qualitative research by seeking to understand if the use of a digital portfolio could increase writing skills as a means of assessing the speaking skills of English Language Learners. Through the viewpoint of 12 Turkish EFL teachers, Yastibas and Cepik were able analyze the benefits and the challenges to using digital portfolios in the classroom. Despite the concern with the lack of standardization within the process, the teachers reported that digital portfolios engaged students outside of class and forced them to self-assess and reflect on their practice. The teachers also believed the students were more motivated because they were displaying their work publicly to others; which subsequently increased the level of confidence (Yastibas & Cepik, 2014). Overall, the implementation of the digital portfolio in the speaking classes did generate a high level of success as measured by the opinions of the teachers.

Even with additional standardization built within the process, the perception of teachers on the practices embedded within their rooms is an important factor to be analyzed. Atjonen (2014) launched a descriptive qualitative investigation to analyze the viewpoint teachers hold toward assessment practices and noted the elements of fairness integrated into assessment as a concern. The participants for the study comprised of 126 Finnish teachers who completed the questionnaire. "Teachers admitted that unfair assessment decisions were made, that some groups of pupils were reached unequally or that pupils' different merits were not weighed equally or transparent" (Atjonen, 2014, p. 255). The harsh realization within this statement identified the role of the teacher and the power they employ within their classroom as a critical element of the success of any program or student. The research presented by Atjonen (2014) can be extended and connected to digital portfolios as teachers indicated the need for highly structured assessment and the notion of aligning toward more traditional styles of assessment.

Whereas, Kilbane and Milman (2017) used a mixed methods approach to discover that teachers utilize digital portfolios not only as a means of assessment, but in a myriad of ways. The investigation spanned 20 school districts by including 29 high school in-service teachers and the students they supported. It was found that

> some teachers used digital portfolios to help students organize their work in a showcase format, while others used them to facilitate students' understanding of how specific assignments linked to curriculum standards, and still others used digital portfolios to promote students' reflection and learning. (Kilbane & Milman, 2017, p. 104)

The diversity in which portfolios were utilized allowed teachers to support various 21st century learning skills and facilitate a deeper level of collaboration within their classrooms. The process of facilitating learning through a digital portfolio may have been viewed as more cumbersome,

but teachers in general believed the practice did shift their own instructional skills and the learning which occurred in their classroom.

The notion of teachers' perception driving the realities of the classroom can further be identified in Ngara and Mahdi's (2016) work as they sought to determine how 80 New Zealand primary school teachers identified gifted students. The qualitative descriptive study, "confirmed the assumptions that teachers' perceptions of giftedness and consistent with the strategies they adopt to identify and encourage development of students' giftedness and talent in primary schools" (Ngara & Mahdi, 2016, p. 25). The way the teacher viewed the students in terms of motivation, creativity, and ability set forth the actions and practices employed to support the student. Further cementing the notion of the perception of teachers playing a powerful role within the functionality of the classroom.

The notion of teachers utilizing assessment in the means that they understand continues in the work of Rashid and Jaidin (2014) as they searched to explore teacher's knowledge of Assessment for Learning (AfL) through phonomyography. The perspective of 15 teachers from a government primary school in Brunei participated in the study. The practice of AfL is one of the practices in which digital portfolios can be enacted within the classroom; thus the importance of teacher understanding on how to use AfL would be essential for the implementation of digital portfolios. Rashid and Jaidin (2014) discovered "a number of participants expressed confusion and uncertainties in what assessment for learning entails and as a result they become less confident in integrating SBAfL in their lessons" (p. 79). This became problematic with in the implementation of AfL as teachers were not able to fully implement the strategy into their classrooms and despite the positive potential AfL held for their students (Rashid & Jaidin, 2014).

Formative assessment is another term which can be utilized for AfL. Karaman (2017) found similar results to Rashid and Jaidin (2014) in "that teachers' intentions to use formative assessment can be predicted by self-efficacy, perceived behavioral control, and instrumental attitude" (p. 189). Karaman (2017) produced these findings through the quantitative measures which investigated the views of 400 Turkish primary teachers. From this data, it can be concluded that teachers' knowledge and attitude toward the practices can persuade the practices implemented within their classrooms. Teachers who reported higher levels of competence were more likely to use formative assessment within their classrooms (Karman, 2017); further justifying the teachers' perception as being a critical component to the implementation of the practice.

Atjonen (2014) supported the conclusion of formative assessment, or AfL, being a controlled by teacher perception as is lines between summative and formative assessments do become blurred. The research here indicated the pressures from various factors push teachers to fall back to their traditional and deeply rooted roles of assigning grades and placing a quantitative value to the learning which occurred. Atjonen (2014) noted that teachers did prefer a formative approach; however, they were more likely to turn to their summative approach when conducting assessments.

The research has made it clear that teacher belief drives the use of assessment in the classroom; the same theme can be found within the realm of self-regulated learning (SRL). Cirocki and Caparoso (2016) supported the notion that teacher belief influences student learning by concluding that the 30 Filipino secondary teachers within the study did not encourage additional student autonomy by failing to allow students to question text and interpret it in their own manner. The mixed methods approach revealed teachers controlled a large majority of the

cognitive thinking and were often reluctant to shift thinking to the students as they did not believe their ESL students could manage the task.

Alacam and Olgan (2015) also noted the same high level of teacher ownership as 10 early childhood and 10first-grade Turkish teachers reported from the study noted that students did not have the skills to present or share their portfolios. The qualitative data gathered through interviews revealed that teachers may have perceived students as active within the process, but it was noted adults fulfilled the roles of process manager and planners. Concluding once again that students were not viewed as an integral part of the learning process and were not empowered to engage in the work. Failure to build in the process to empower students and promote SRL were neglected by the perceptions of the teachers.

The concept of teachers' belief controlling the level of SRL implemented within the classroom was confirmed by Yan (2017). In this quantitative study of over 800 teachers from Honk Kong, "regression analyses showed a strong and positive correlation between teachers' SRL beliefs, both on benefits of SRL and students' capacities, and instructional practices" (Yan, 2017, p. 10). The data has been issued through the lens of university professors in Hong Kong, but it also concludes that female teachers are more likely to integrate the strategy of SRL into their classrooms. Yan (2017) concluded that gender differences may be driven by the various social constructs of the society. Thus, providing additional evidence of that a teachers' beliefs ultimately impact the practices and student learning within their classroom.

Student perspective. The literature surrounding digital portfolios is laced with the viewpoint of the students who are utilizing the learning tool. Researchers have set out to determine how students feel they are being impacted by the implementation of the practice. The data gathered in research shows a double-sided coin in which both positive and negative

perspectives can be found. There are also common factors driven throughout the student standpoint which indicate a line of best practices embedded within the practice of digital portfolios.

Students have clearly laid out their preference for the use of digital portfolios as it creates additional autonomy and Self-Regulated Learning (SRL). Wang and Jeffrey (2017) conducted a mixed methods study to determine the preference of students in China as it related to the use of ePortfolios as a tool for assessment and learning. The results from study uncovered the desire for students to use the digital approach to learning. "E-portfolios assessment caused the students to feel more motivated in comparison to their previous study experiences, as the students expressed greater satisfaction" (Wang & Jeffrey, 2017, p. 1461). The data indicated the increased level of collaboration and communication with others throughout the learning process which was generated by the digital portfolio had a significant impact on the student perspective.

The sense of empowerment from students was replicated in the qualitative study presented by Wyk (2017). The focus of this study was to determine if digital portfolios would influence the level of SRL for student teachers in South Africa. One of the key finding which was presented is the increase level of confidence the participants felt as they became more independently engaged in the portfolio process. "Student teachers felt that they were empowered with different student-centered methods and techniques through the ePortfolio project" (Wyk, 2017, p. 16). Participants indicated the increased level of reflection through their journals was favored throughout the process. Wyk (2017) also indicated the level of collaboration and connections to others through the process supported the development of the student teachers.

Assaggaf and Bamahra (2016) conducted a similar study focused on solely the male student perspective of students attending a private university in Yemen. The courses students

participated in supported their English development while aligning to their completion of a degree in Computer Science. Students were asked to compile various pieces of writing throughout the course in a digital portfolio and "the findings showed that there is a clearly positive view towards portfolio among the student participants" (Assaggaf & Bamahra, 2016, p. 32). The data also concluded there was improved enjoyment, learning, self-assessment, and long-term progress in writing abilities of the students. Further providing evidence for students enjoying the utilization of digital portfolios as a learning tool.

The findings of positive perceptions from students were once again noted in the findings produced by Gámiz-Sánchez et al. (2016). In this study, undergraduate students from Uganda across several degree programs partook in the creation of digital portfolios as a means to evaluate their motivation, participation, and autonomy in the electronic learning environment. By using a mixed-methods approach, Gámiz-Sánchez et al. (2016) concluded the satisfaction of students was relatively positive. The traits students enjoyed most within the environment were the raised levels of autonomy, collaboration, evaluation tools, and planning which were integrated. On the other hand, students did not like the methods in which reflection and adaptation to learning styles were approached. Thus, learning additional room for motivation to be enhanced by addressing these areas of student concern.

Student perspective of the digital portfolio as it relates to SRL and autonomy is not the only positive notation which can be found within the literature. Recep (2014) conducted a quasi-experimental research in Turkey with 59 prospective English teachers who would be asked to complete a blog or e-portfolio as a means of increasing their writing abilities. The goal of this research would be to integrate feedback into the process and measure the level of success students felt. Self-reporting procedures were utilized by the students to gather data; resulting in

not only an increase in writing abilities but also "positive views of portfolio keeping and blogging as effective tools" (Recep, 2014, p. 144). The increase was casted through the view of students feeling more confident about their skills as they received integrated feedback within their portfolios. Further solidifying the fact that portfolios are not only positive from the student point of autonomy but also with academic achievement.

Wyk (2017) noted student perception of the importance of embedded reflection within the process of the digital portfolios; Krishnan and Yunus (2017) generated a similar position on reflection within their study. The difference between the two studies is the results of growth within reflective practice Krishnan and Yunus (2017) found as students utilized digital portfolios. The researchers analyzed data from Malaysian undergraduate students who were seeking certification to teach English as a Second Language and determined that the students "managed to develop as reflective practitioners and see the benefits of this practice as future teachers" (Krishnan & Yunus, 2017, p. 51). Thus, further indicating that students not only view digital portfolios as a positive tool for building their level of autonomy but also as one which can assist with increasing their cognitive abilities.

The reverse side of the coin in relation to student perspective of digital portfolios is a bit grim. While students may believe there were benefits to digital portfolios and the embedded practice, the level of confusion and anxiety created throughout the process was clearly evident. For example, Assaggaf and Bamahra's (2016) study of male students at the Yemen university produced positive academic results. However, the researchers noted the impact of the students lack of understanding on how to use a portfolio. "Some of the data in this study showed that the participants were not well aware of how to deal with the portfolio and this was attributed to the way it was implemented" (Assaggaf & Bamahra, 2016, p. 32). The recommendation to address

the concern within digital portfolio is for educators to provide a clear purpose and structure to provide guidance for students.

A level of frustration can also be noted within the work of Gámiz-Sánchez et al. (2016). In this study, the Ugandan students may have felt more motivated and had an increase sense of autonomy, however their struggles with technology and desire for more feedback were noted. Gámiz-Sánchez et al. (2016) noted the system utilized required for students to complete multiple steps to upload their work. The lack of training on how to do this created confusion as noted by one of the participants. Students also felt a desire for more feedback from their professors; however, the large number of students assigned to each course was noted as preventing the professors from being able to do so.

Further supporting frustrations from the vantage point of the learner, Agbayahoun (2016) investigated 132 secondary seventh grade EFL students preferred to received feedback from their teachers. The mixed methods study concluded that feedback plays a fundamental role within the digital portfolio; reviewing the student perspective on how feedback should be delivered is essential to understanding their viewpoint of how it should be embedded within the portfolio process. The study identified that students desired praise from their teachers, however they often struggled to understand the written comments teachers left. In fact, "the study revealed that more than one-third of the participants EFL Students hardly pay any attention to the feedback on their writing and quickly discard their paper right after reading their mark" (Agbayahoun, 2016, p. 1902). Thus, the student perspective found within the study provides evidence of student desire for affirmation of their work and feedback which is applicable to their learning style.

Special education practices. The various learning needs of students can be plentiful within a General Education classroom. The literature concerning digital portfolios and the

accompanying practices has included a diverse set of students. However, looking at the specific needs of students who qualify for Special Education is essential as these students generate a very specific portion of the student body within their classrooms.

Clancy and Gardner (2017) used a qualitative approach through a narrative study to examine the effects of digital portfolios to support students in non-traditional Special Education settings. The project spanned a three-year period and contained three specific phases of implementation; beginning with a small pilot, expansion to the whole staff, and finally folding parents into the process. The students involved ranged in ages from 14 to 21 and all attended the same private school which focused on supporting students with special needs. The level of student disability ranged from moderate to severe. The study indicated the portfolio process is a successful tool for assessment and to increases the technical abilities of students. Clancy and Gardner (2017) recommended dedicated time to support teachers in the creation of digital portfolios, technical supports, and the facilitation of annual goals to fully integrate the strategy into a community. The positive observations noted from teachers, students, and parents was noted in the later phases of implementation after more professional development was provided, self-reflection embedded, and quality expectations were identified. Clancy and Gardner (2017) also noted the key to growth was the individualized supports provided to students to support their achievement of a quality digital portfolio.

The theme of supporting teachers with a high level of professional development and training to ensure the success of Special Education students continued within the work of Rao et al. (2016). The researchers utilized a design methods study to bring the challenges and recommendation to support struggling learners forward. First-grade and sixth-grade students from a public charter school that utilized a student-center approach to learning were included in

the study; with 10 and 28 students in the classes respectfully. While none of the students received services through Special Education, two first graders and five sixth graders were noted to be struggling learners by their teachers. Through this study, it was concluded that struggling learners need teachers who have a strong understand of educational supports to be successful in the student-centered classroom. Rao et al. (2016) further noted the varied academic confidence levels of students can be impactful on the success of a struggling learner in a student-centered classroom environment and their ability to effectively engage in necessary collaboration. The data presented within the study further highlights the importance of the teacher in supporting struggling learners.

Wang and Neihart (2015) found in their ethnographic study a level of fragility regarding confidence within the academic setting among students who qualify for Special Education services. The researchers followed six secondary students who not only met criterion to receive special education services but also demonstrated talents to enroll in a gifted program. The goal of the study was to understand how these students perceived their own abilities, understand the influence which guide their efficacy, and build connections between these two elements. The research concluded students who met the dual level of exceptionality held positive academic self-concepts and their self-efficacy for academics was also high. Wang and Neihart (2015) determined these high levels of influences were not gained naturally but were established through the development of their perceived abilities. The authors noted the development of academic self-concept would continue to grow once it was established; however, the strengths of the students must be emphasized, and their weaknesses downplayed. Parents, teachers, peers, and other outside influences also influence the self-efficacy level students perceived. The data

here further highlights the importance of the influence teachers have when working with Special Education students; even for those who are considered intellectually gifted.

The role of teachers in their classroom as it relates to Special Education shifts with the type of programing offered. Mngo and Mngo (2018) investigated the impact teachers hold on Special Education students who are in General Education programs through an inclusive model. Using a quantitative nonexperimental study, the researchers evaluated the perception of teachers within an inclusion model pilot program with almost three-hundred and fifty teachers who served seven different schools in Cameroon (Mngo & Mngo, 2018). While previous data may have noted teachers holding a key role in the success of student, Mngo and Mngo (2018) discovered most of the teachers preferred not to have these students integrated into their classes. The distaste for having students who qualify for Special Education in their classroom was contradicted by the notation of teachers feeling as if their training was not sufficient enough to support the level of need these students presented. The concern generated out to the research rests within the level of training teachers were provided and calls for additional learning opportunities to be presented by the leadership to address and ensure the success of Special Education students.

The power teachers hold on the level of achievement for students was further exemplified. Ruppar, Gaffney, and Dymond (2015) explored the influences which guide teachers' decisions about literacy instruction. The grounded theory approach followed four teachers from various secondary academic levels as they worked with students who had severe disabilities. A key notation from the research was the impact teacher belief influenced their decision making. Student knowledge and understanding of their needs did create a strong impact on teacher decision; however, low expectations, a teacher's own self-efficacy, and the failure to

individualize student work played and equally strong role in dictating choices (Ruppar et al., 2015). The impact of the teachers' perceptions clearly is connected to the decisions they make and the teaching strategies they utilize within the classroom. Ruppar et al. (2015) shared there is no one theory on why teacher make the decisions and noted the complexity of the concern. However, they did emphasize the importance of professional development to align a common vision and provide deeper levels of support to teachers as they work with a high susceptible population.

Methodological Literature

The research presented concerning digital portfolios was quite frequently measured through the means of self-reporting. The inherent nature of self-reporting established bias within the data as the perception and experiences of the participant cannot be negated. The use of self-reporting throughout many of the studies provided concern as "research results can be undermined by bias leading to false associations or failure to identify true relationships" (Fadnes, Taube, & Tylleskär, 2009, para. 1). The data which was gathered through these means has been evaluated through information provided by the participants within qualitative, quantitative, and mixed methods studies throughout the literature.

Multiple approaches may have been utilized to gather the data; however, the literature provided a clear picture through the reliance of various qualitative approaches. The utilization of grounded theory (Barrot, 2016), case study (Theodosiadou & Konstantinidis, 2015), and phenomenological (Wyk, 2017) methodologies have all been applied within the research to determine the effectiveness of digital portfolios and the various lenses for which the researcher has reviewed the data. In addition, the mixed methods approach has been integrated into the

research. With no one single methodology being presented, it can be determined the level for which the practice has been reviewed has been wide.

The qualitative data throughout the research was gathered through the utilization of questionnaires, surveys, observation, document reviews, or interviews. These methods of data collections were in alignment with qualitative approaches which were highly present especially in the review of the literature concerning self-regulated learning. The quantitative research relied heavily on correlation methodologies with just a few seeking an experimental approach. The data utilized in this arena utilized survey data or student sample to quantify a correlation. Often, the researchers were seeking to build connections between a practice and student academic or cognitive achievement.

The use of blended approaches was not absent and were often common throughout the literature. The case of mixed methods, Demir and Kutlu (2016) put it best by stating a "more comprehensive analysis and interpretations related to the study problem is possible with using complementary quantitative and qualitative methods together" (p. 231). Quantitative data was frequently gathered through an assessment or analysis for which a numerical value was assigned. These values added another measure to the data to support the claim of the literature. For example, Wang and Jeffrey (2017) utilized a mixed methods approach to widen their scope of data which could be measured through a numerical value before qualitatively measuring student perspective.

Review of Methodological Issues

The selection of a methodology for research is ultimately determined by the researcher. The hypothesis generated by the researcher assists in determining the technique that will be utilized by taking in to account the procedures and guidelines that will assist in answering the

research question (Taylor, 2017, p. 119). The type of research presented within the literature spans various approaches as multiple forms of qualitative, quantitative, and mixed methods tactics has been highly evident throughout the data. Thus, a brief review of the issues present within each of these research methods is necessary.

A common method of research throughout the literature was the qualitative approach. Golafshani (2003) cited Patton (2001) to conclude the qualitative research method is free of manipulation of the phenomenon and seeks to understand the context of the setting for which the event took place. The approach must then rely upon measures which allow the research to be an unbiased observer and investigator into the incident. Qualitative research occurred within the literature through case studies, narratives, phenomenological, and grounded theory approaches. Despite an extensive literature search, no quantitative studies were located on this topic. The use of qualitative research can be limiting as the research itself does not allow for a limited view, utilizes human language and behaviors which can be culture specific and cannot be extended to other populations (Atieno, 2009). Creating evidence that the data exemplified within the literature through qualitative methodology is limited within its scope.

The integration of quantitative measures within the literature does provide a perspective relationally solely to numerical data. The attempt to measure the effects digital portfolios and the related practice held on student learning outcomes was often evaluated through various surveys or rubrics. The concern with this type of methodology is strict abandonment of the human interactions which are essential within the school environment. Choy (2014) cited the lack of human insight and understanding and the lack of details to provide a full account of the events are two of the main limitations to quantitative research. The data gather through these methods focuses on confirming a relationship exists between two variables. Atieno (2009) noted

quantitative research may be exploratory, however, “a lot of quantitative research tends to be confirmatory and deductive” (p. 14).

The blending of qualitative and quantitative methodologies throughout the literature review was noted. The use of these designs provided the researcher a chance to explore a phenomenon while adding empirical data as a way of confirming the observed phenomenon. Despite the value presented, Creswell and Clark (2017) identified the need for researchers to have a sound understanding of both qualitative and quantitative methodology. The use of the methodology with a limited understanding of either methodology would result in unintended bias within the study. Creswell and Clark (2017) further noted the need for the researcher to have highly developed skills in utilizing the mixed methods approach.

Upon reflection of the strengths and limitations of these various methodologies, the utilization of the single-study is warranted. The use of such methodology will employ the aspects of qualitative research by providing an in-depth description of how teachers are implementing digital portfolios in their classrooms to support the learning for student who qualify for Special Education services.

Synthesis of Research Findings

The foundation of this research study began with the effectiveness of digital portfolios. The notion of their effectiveness was quickly expanded as the concepts of feedback and self-regulated learning were interwoven into the literature as demonstrated by the studies which have been included in to this literature review (Abrami et al., 2013; Chang et al., 2015; Ghani & Ahmad, 2016; Hughes et al., 2011; Nadeem & Nadeem, 2013). To demonstrate the complexity of the digital portfolio, these authors provided an analysis of data which investigated the academic effects, teacher perspective, and student perspective. While the overall finding

concluded the positive results that may come from enacting the practice of digital portfolios; the evidence is highly demanding on the importance the teacher plays on the implementation of the strategy.

The literature spoke clearly about the success of implementation being hinged on the abilities of the teacher facilitating the learning strategy. The first key notion to support this concept was that students were not only reliant up the teacher to support the process, but also to provide clear guidance (Alacam & Olgan, 2015; Assaggaf & Bamahra, 2016; Cirocki & Caparoso, 2016; Gámiz-Sánchez et al., 2016; Mngo & Mngo, 2018). Teacher knowledge and ability to guide students was further highlighted as a crucial component to the concept of trust and relationships were added to the equation (Faravani & Atai, 2015; Skipper & Douglas, 2015). The level by which a teacher supports their student learning is directly tied to the knowledge, skills, and abilities they hold in regard to engaging students and implementing the process of digital portfolios.

The students who struggle the most with learning and who meet the criteria for Special Education services were no different in their level of need for teacher support or the use of digital portfolios as a highly effective learning strategy. In fact, one could justify a higher level of importance in ensuring students in this area received even higher levels of supports and effective levels of instruction. The literature clearly indicated this is not the case as teachers do not always feel as if they are capable of supporting the level of need presented by students who qualify for Special Education or believe that it is their responsibility to shoulder the task (Clancy & Gardner, 2017; Mngo & Mngo, 2018; Ruppar et al., 2015; Wang & Neihart, 2015).

The wide lens of data and varied levels of information presented within all of these aspects warrants further research. The imbalance impression which has been generated through

this literature review does not truly specify how digital portfolios support or hamper the success of students who qualify for Special Education Services. Based on all the prior research, it is essential for additional investigation to be conducted in this area and provide a more holistic view on how to support these students.

Critique of Previous Research

Digital portfolios are becoming a common practice throughout education. Research has studied the effectiveness of the portfolio (Cordier et al., 2016; Demir & Kutlu, 2016; Theodosiadou & Konstantinidis, 2015; Wyk, 2017), the practice of feedback (Nadeem & Nadeem, 2013; Peterson & Portier, 2013; Sobhani & Tayebipour, 2015), and the exercise of self-regulated learning (Bishara & Ewing, 2016; Nguyen & Ikeda, 2015; Yan, 2017). The perspective of teachers (Atjonen, 2014; Whereas, Kilbane, & Milman, 2017; Yastibas & Cepik, 2014) and students (Assaggaf & Bamahra, 2016; Gámiz-Sánchez et al., 2016; Wang & Jeffrey, 2017) were also considered within the literature and the way students who qualify for Special Education services benefit from the practice (Clancy & Gardner, 2017; Rao et al., 2016; Wang & Neihart, 2015). In addition, the limitations to all these areas were also explored and noted (Abrami et al., 2013; Alacam & Olgan, 2015; Bures et al., 2013; Cirocki & Caparoso, 2016; Roman & Soriano, 2015).

The research regarding digital portfolios has also spanned the various age levels to include the perspective of a wide range of teachers. Educators who worked at the primary, secondary, university levels, and teaching staff were all integrated into the research. However, many of the qualitative studies relied on a small body of participants to formulate their claim. For example, Wang and Neihart (2015) utilized six students for their study, while Ruppar et al. (2015) based their research on data gathered from four Special Education teachers. The smaller

number of participants draws a concern because of the creation of "low statistical power (because of low sample size of studies, small effects or both) negatively affects the likelihood that a nominally statistically significant finding actually reflects a true effect" (Button et al., 2013, p. 365). Quantitative and mixed methods approaches were often larger in scale.

Regardless of the sample size, the concern can be drawn as the research did not always evaluate the practice of digital portfolios in one specific region. The research was conducted in various places throughout the world and does not necessarily represent the perspective of one specific culture. In addition, the focus on the use of digital portfolios with student who qualify for Special Education services within the literature was not highly present. The data frequently focused on small numbers of students, provided evidence from private or charter schools, and did not present a wholistic case of a single school district implementing the practice as a common standard for all students.

The wide perspective for which the literature presents draws a conclusion for the need for additional in-depth research in to how the use of digital portfolios can be utilized to affect the progress of Special Education Students. The use of a case study provides the opportunity to narrowly review an event or instance and gain a full understanding from a wholistic perspective (Yin, 2014). An in-depth review of the use of digital portfolios will provide more data and knowledge on how to better support students with various learning needs.

Chapter 2 Summary

The literature review established the need for additional understanding on how General Education teachers utilize digital portfolios to support the needs of Special Education students in their classrooms. The need for these supports in order to produce positive student results with digital portfolios was clearly outlined within the literature (Assaggaf & Bamahra, 2016; Cirocki

& Caparoso, 2016; Mngo & Mngo, 2018; Roman & Soriano, 2015; Yan, 2017). To further warrant the additional investigation, the literature has furthered the complexity of digital portfolios by indicating the effect human connections and beliefs hold on the success of students (Faravani & Atai, 2015; Skipper & Douglas, 2015).

With this in mind, the literature presented little information about how general education teachers who served varied levels of students within their classroom support the specific need of their Special Education students. Further research is needed to investigate how teachers perceive the use of digital portfolios in their classroom as it specifically relates to how they view the effectiveness and purpose of the practice in general, how they view the tool specifically when reflecting upon their Special Education students, and how do they perceive the difference in academic growth between the two groups through their implementation of a digital portfolio.

The following chapter provides the methodological processes were utilized to gain a full understanding of the teacher's perception towards the implementation of digital portfolios in their classrooms. The case study approach is further outlined and the specifics of the data analysis procedures that were included. In addition, the participants, sites, instruments, and sample are identified. Further information is outlined how the validity, ethical implications, trust, and reliability were established.

Chapter 3: Methodology

Introduction to Chapter 3

The information presented in this chapter provided the foundation of the methodology and procedures used to conduct the study. The purpose of this qualitative research study was to gain insight to the perspective teachers hold for the purpose and academic achievement digital portfolios generate with both General and Special Education students will be outlined. Merriam (1991) presented the function of qualitative research as a means of looking for thick description or deeper understanding of a phenomenon and quantitative research as the scientific assumption that narrowed the focus and assumed only a limited factor influenced the phenomenon. Creswell (2014) furthered this thinking by noting the notion of qualitative is to explore while reason for quantitative is to test theories and explain the relationships between variables.

This study did not wish to narrow the focus and count for the statistical significance teachers hold in the implementation of digital portfolios; thus, denying the use of quantitative research methods. The use of qualitative methods through a descriptive single case study best fit the research as the focus was to understand how teacher perceive the use of digital portfolios with two groups of students. The population, instruments, data collection process, data analysis procedures, expected findings, conflicts of interest, and ethical issues for this descriptive single case study followed qualitative methodology as they are further outlined within this chapter. Chapter 3 is finalized with a summary which highlights the key components of the chapter and connects the reader back to the conceptual framework preparing the reader for the data analysis and results presented in next chapter.

Research Questions

This research study examined the perspective teachers hold regarding the purpose of digital portfolios as they are utilized with both the General and Special Education student populations. The function of case study was to seek out how or why something is occurring (Yin, 2018). The questions presented for qualitative case studies differ from quantitative research as they seek to understand complexity; whereas quantitative questions seek to find statistical significance based on a narrow scope of focus to confirm or deny a theory (Patton, 2009). The three research questions carried equal weight throughout the research to gain a true and deep understanding of how teachers perceive the use of digital portfolios.

RQ1: What perspective do teachers hold for the purpose of digital portfolios with their general education students in their elementary school classrooms?

RQ2: What perspective do teachers hold for the purpose of digital portfolios with students who qualify for special education services in their elementary school classrooms?

RQ3: What perspective do teachers hold regarding the difference in the level of academic growth associated with the use of a digital portfolio in their classroom between Special Education students and their General Education peers?

Purpose and Design of the Study

The purpose of this descriptive single case study was to formulate an understanding of the perspective teachers hold on the purpose of utilizing digital portfolios in their elementary classrooms with bother General and Special Education students. The purpose for which a digital portfolio can be exploited was vast (Niguidula, 2005; Wade et al., 2005). Thus, it is essential for teachers to have a sound understanding of the goal being achieved through the implement the

tool. The clarity of use was additionally important as the classroom teachers serve are riddled with highly diverse students. The total percentage of students in the public schools who received Special Education Service was found to be 13% in 2014–2015 school year (The National Center for Education Statistics, n.d.). Understanding how teachers' perspective for the use of the tool with this specific faction built a better understanding of how educational leaders can support the implementation of the strategy.

The research also examined the perceived difference in academic achievement between the two subgroups. Research has shown the importance of professional development for teachers who are implementing digital portfolios within their classrooms as teachers are the key to successful implementation (Demir & Kutlu, 2016; Shirvan & Golparvar, 2016; Wyk, 2017). An initial professional development had already provided to teachers within the district; this study also facilitated an understanding as to the next steps school leaders can offer to support the implementation of the strategy to support the learning of all students.

The goal of the study was to understand how teachers' perspective for the purpose of digital portfolios in the classroom with the two factions of students and to gain an awareness of how they believe the tool effects academic achievement. The knowledge gained from the study supports students and teachers as they strive to increase student success using digital portfolios. The information also supports school leaders as they plan professional development and make leadership decisions toward the implementation of the strategy.

The utilization of a descriptive case study was necessary, as the goal was to provide a sound understanding of the perspective teachers hold toward the purpose of digital portfolios and the academic gains they perceive to be true. Merriam (1991) cited descriptive case studies as providing a complete picture of a phenomenon. The descriptive theory presented also focused

on a single case. Yin (2018) noted a key component of a single-case study has a clear set of circumstances which make them unique. The study met this criterion as it cannot be replicated as the professional development teachers received from the district, the political differences within the district, the focus of the district, and serval other factors are unique to the context the study is being conducted in. On the same note, the study could not be considered a multiple-case study, as Yin (2018) identified these studies as being replicable. A second or third study would not provide the same data as the time, events, and context digital portfolios are being implemented will shift.

The research rejects the utilization of quantitative approach for this study as the objective measures would not provide sound data on teacher perceptive. The use of quantitative measures was constructed through the identification of variables and data is tabulated through numerical assignment (Creswell, 2014). In addition, the use of quantitative structures tests a hypothesis to prove a connection between the variables. The research presented in this study was not to prove a connection between two variable; rather was looking to build a deep understanding of the purpose for digital portfolios and the perspective of teachers for the identified subgroups and the effect they believe the tool has on student achievement.

In addition, the researcher also rejected the utilization of other qualitative approaches. Ethnographic practices were common in the literature review; however, the use of such methodology was not warranted as it was impossible for the researcher to spend long periods of time with each participant (Hatch, 2002). The use of the approach would have also limited the number of participants involved in the study; the goal of the researcher was to capture a wide range of data from a larger body of participants during the initial questionnaire and then narrow the participants during the interview and reflection portions. The rejection of grounded theory

and narrative methodology fall within the same lens as they would not provide a true understanding of the complexities, draw light toward a common theme, and can be generated through a wide body of material (Merriam, 1991).

The data to support the increase in knowledge was gathered through a questionnaire, interviews, and reflection tool. Information from data sets was evaluated using a coding process as presented by Saldaña (2015). The data set will also provide a source of triangulation strengthening the themes and conclusions drawn from the data; Yin (2018) emphasized the need for multiple data sources resulting in triangulation within the constructed definition of case study.

Research Population and Sampling Method

Purposive sampling was the method utilized within the study to select and identify participants. The initial sampling method was considered total population as about 4000 elementary teachers who have participated in the district wide professional development sessions on digital portfolios were asked to participate. To complete this portion of the study, an email was sent to these participants asking them to complete a survey regarding their utilization of digital portfolios in their classrooms since completing the training sessions. During this initial phase of the study, the elementary teachers participating were also provided information on how to withdraw from the study and assured that by doing so no negative impact or consequences would occur. Contact information and the method on how to be removed from the study was also provided to the participants.

The second phase of the study also utilized purposive sampling with a focus on identifying typical participants. Yin (2018) noted the importance of utilizing a quantitative variable to provide criterion in identifying participants who meet a specific criterion. In this

study, teacher experience was the main factor for determining participants who continued forward in the study. Teachers were asked to provide their years of teaching experience in the initial survey; this data was used to locate a mean average. The research continued by selecting eight teachers from various schools who are relatively close to the mean; this provided information on how a typical teacher within their career views the utilization of digital portfolios for students with qualify for Special Education by eliminating the extreme tenured and beginning teachers. The additional criterion of serving Special Education Students in their class, being willing to participate in an interview, and volunteer to share at least two digital portfolios of students in their class were applied. This sample not only represented a typical group of teachers but also was diverse in the grade level taught within the elementary setting.

Instrumentation

The following data collection processes and instruments were utilized to conduct the study: questionnaire, interviews, and documentation review. The use of these tools created triangulation and strengthened the validity. Each instrument will be discussed separately to provide a full understanding of how each supported the data collection process.

Questionnaire. A questionnaire was utilized to gain an understanding of the General Education teachers' perspective on the purpose of digital portfolios. The questions embedded in the questionnaire asked teachers to reflect on their utilization of the strategy with Special Education and General Education students. The survey measured the strength of a teacher's perception using open ended questions on the use of digital portfolios with the given populations. In addition, participants were also be asked to reflect on their perceptions of the difference in academic growth between the two subgroups using digital portfolios. The questionnaire embedded questions focused on feedback and self-regulated learning, assessment, and purpose of

the digital portfolio to gain a clear understanding of how the tool is being utilized in the classroom. Participants were also asked to rate their comfort level, the level of professional development, and their implementation.

Interviews. The eight additional participants who met the given criterion participated in a one-on-one interview. Interviews were important to the research study as they provided information on feelings and interpretation (Merriam, 1991). The interviews were all held in the classroom of each of the teacher participants and the list of interview questions are available in Appendix D. Each interview lasted an hour and was recorded to verify the transcripts. The questions used within the interview were open-ended and allow for the participant to share more information about their perceptions of the digital portfolios. However, these questions were open ended and not leading; Yin (2018) shared that interviews are used to confirm other findings and it is essential for questions to be worded in such a way as to not lead participants. The information gathered throughout the interview will allow participants to explain their perceptions at deeper levels.

Document review. The use of unobtrusive data, such as a document or artifact review, allows for the researcher to gather an understanding of the topic without interference (Hatch, 2002). Teachers who were interviewed were asked to share the digital portfolios of one student who received Special Education services and one student who did not. A teacher reflection sheet was utilized with the teacher to analyze the digital portfolio. The reflection tool was later used to determine the main purpose the teacher was utilizing the digital portfolio with that student. In addition, the level of feedback and self-regulation was extracted from the teacher reflection. The increase of academic gain was measured by asking teachers to reflect and compare the shift of student work documented in the portfolios between the two students.

Data Collection

The purpose of the case study presented was to formulate an in-depth understanding of the perspective teachers hold regarding the use of digital portfolios with General and Special Education students. Yin (2018) declared the necessity for case study research to utilize multiple sources of data to gain a true extent of the research. To achieve this goal, this research study utilized documentation review in the form of a questionnaire and teacher reflection tool. Teacher interviews were the third form of data utilized to generate triangulation. Through the data collected allowed the researcher to gather appropriate evidence and generate common themes and understandings.

The first portion of the study was conducted by asking teachers to complete a questionnaire. Merriam (1991) proclaimed materials generated by the researcher to gain an understanding of the perspective of the participants are documents. To begin the questionnaire process, the Superintendent of Data and Accountability for the school district was contacted and a list of teachers who attended training with the permission to contact them was granted. Teachers were then contacted via email and greeted by a letter explaining the purpose of the study and attached survey via Qualtrics. Embedded within the introduction was the expectations of the participants, the timeline for completion of the survey, and information on their rights to withdraw at any time. The participants were given four weeks to complete the questionnaire or to respond with their desire not to participate; reminder emails were sent to teachers asking them to complete the survey.

The next portion of the data collection process was continued by selecting no more than eight teachers who completed the survey. The selected participants were contacted via email asking for them to participate in an interview and reflection process. Yin (2018) identified

interviews as a method which allows the researcher an opportunity to understand the personal views of the participants. By asking insightful and meaningful questions, the researcher was able identify the perceptions of the participants and gain a better understanding of how digital portfolios are utilized with the two groups of students. The interviews were conducted in the participants classroom at a time which best fits their needs; lasting one hour. The questions utilized followed the guidelines set by Hatch (2002) by being open-ended, utilizing familiar language, clear, neutral, respectful of the participant, and aligned to the purpose of the research.

Participants' identities remained confidential through the interview process. The researcher took notes and record the interview to ensure the full message the participant is communicating is gathered. Doing so helped the researcher achieve a thick description; Ponterotto (2006) shared the essence of thick descriptions provide the reader and research a deeper level of understanding. The researcher reviewed all materials from the interview several times to ensure a thick description had been captured and then provided the participant with a summary of the interview. At this stage, the interview utilized member checking to confirm with participants the data captured was accurate. The use of the technique allowed for the data to be considered credible and ensure the message gained has not been distorted from what the participant originally intended to communicate (Creswell, 2013). The participant had the opportunity to review the summary of the interview and provide any additional clarification to the researcher to ensure accuracy of the communicated message.

At the end of the interview, participants were provided a reflective journal prompt. They were asked to review the digital portfolios of General and Special Education students. The focus of this portion of the research was to gain additional insights teachers hold as they review the work of the two students. Student names and identifying information were excluded from the

reflection tool. Teachers were asked to submit the reflection tool via Qualtrics to the researcher in no more than one week after the interview. Upon receiving the reflection, the research began by simply reading the reflection before beginning an analysis. The next step was to begin breaking apart the reflection through descriptive coding. The reflections were read through several times and the themes were identified throughout the process to ensure appropriate labeling as suggested by Richards and Morse (2013). Once the data had been sufficiently evaluated, the researcher uploaded the data into a larger matrix.

The final step to the data collection was to generate a matrix which contained data from all three sources; the questionnaire, the interviews, and the reflection tool. The utilization of the matrix allowed the researcher to use the pattern matching technique described by Yin (2018). The process of pattern matching focused on how teachers' perspective on the use of digital portfolios and the views they hold on the difference in the level of achievement as fostered using the tool for the two groups of students.

Identification of Attributes

The identified attributes of the study allowed for the researcher to fully understand the perspective of the participants. The formation of a general definition of each attribute and measurement threshold assisted the researcher in the process of coding. Saldaña (2015) noted the use of coding as a means of finding patterns from the data and arrange it in an order; the use of the process is heightened through the identification of the attributes. The focus of this research study was to determine how teacher view the use of digital portfolios in the classroom when utilized with General and Special Education Students. Building an understanding of digital portfolios was essential.

The term digital portfolio was constructed of the attributes of purpose, feedback, self-regulated learning, assessment for learning, assessment of learning, and self-reflection. Table 1 outlines the definitions and measurements for each of these attributes. In addition, the table provides further understanding of how coding was completed within the analysis process.

Table 1

Table of Attributes

Attribute	Definition	Measurement
Purpose of digital portfolio	An electronic warehouse which can be used to: • Showcase student work • Demonstrate mastery of curriculum (Assessment of Learning) • Highlight learning growth (Assessment for Learning) • Provide communication between parties (Niguiduala, 2005)	The purpose teachers identify will be coded within the data as. ASSESSMENT SHOWCASE GROWTH WAREHOUSE COMMUNICATION
Feedback	Feedback (n.d.) was defined by Meriam-Webester.com as "the transmission of evaluative or corrective information about an action, event, or process to the original or controlling source." For this study, the attribute may be in verbal or written form. There are two types of feedback: • Peer—When provided by another student in the class. • Teacher—When provided by the classroom teacher or another adult working in the learning environment.	The use of feedback will be coded as: COMMUNICATION

Continued

Table 1 (Continued)

Attribute	Definition	Measurement
Self-Regulated Learning	Self-Regulated Learning is the ability to be able to advocate and control one's own learning environment. Students can set goals, monitor, regulate, and reinforce learning for themselves (Zimmerman, 1990). This will be furthered in the study by action the teacher perceives to be an independent act of the students without his or her support of that of others.	Indication of Self-Regulated Learning in the data will be coded as: SRL
Assessment for Learning	An evaluation of where the student is in location of the learning process of achieving a standard or norm. (Harlen & James, 1997)	Assessment for Learning will be coded as: AFL
Assessment of Learning	An evaluation which describes the level of learning accomplished based on a standard or norm. (Harlen & James, 1997)	Assessment of Learning will be coded as: AOL

Data Analysis Procedures

The process of data analysis began upon the completion of each phase. The questionnaire, interview, and journal reflection were analyzed through the coding process after the transcription and member checking components were complete. Merriam (1991) identified data collection as a continual process throughout the study which provides focus and illumination to the study. Thus, it was essential for the researcher to continue pouring over the data to highlight new themes, information, and understandings as they began to emerge.

To assist in the facilitation of the process, the use of coding drove the analysis process. Yin (2018) shared the role of the data analysis is to seek out information and identify the patterns. The purpose of coding was to highlight the natural human patterns that exist in the data (Saldaña, 2015); the use of the strategy assisted in generating categories and themes within the

data (Merriam, 1991). The process of coding that was implemented was the two-cycle process described by Saldaña (2015).

The first cycle within the process provided focused on the use of descriptive coding. Richards and Morse (2013) and Saldaña, (2015) concurred the use of descriptive coding is tied directly to the topic the code represents and analyzes the data by looking for general themes. The three pieces of data, questionnaire, interview summaries, and teacher reflection tool, were all analyzed through this process. Once this stage of the analysis was complete, the researcher input the data into a matrix, as Yin (2018) suggested to assist in drawing conclusions from the data.

The next step of the data analysis was to enact pattern coding. Saldaña, (2015) identified pattern coding as a means of regrouping sets of data into smaller common themes. The purpose of this second cycle allowed for interconnections between varied categories to come alive. Hatch (2002) noted the interconnected relationships which exist within the data help to form the generalizations which can be drawn from the data.

The use of journaling or an analytic memo (Saldaña, 2015) was utilized throughout the analysis phase. Saldaña, (2015) noted the function of the journal is to allow the researcher an opportunity to think about the data that is being presented. The use of writing supported the findings of the study as they helped create sound statements of the themes. The use of the writing helped to create the generalizable statements from the research meant to build the connections between the concepts (Hatch, 2002). From these analytic journals, the common themes and findings of the research study were presented. Offering the perspective teacher hold toward the purpose of digital portfolios with General and Special Education students and the perceived difference in academic growth between the two subgroups.

Triangulation. The data analysis for this qualitative case study was conducted using coding and analytic journaling of each point of data. The questionnaire, interviews, and reflective journals gathered from General Education teachers each provided a separate point of data; allowing for triangulation. The use of triangulation allowed for each data point to be validated and draw deeper levels of understanding of the data (Patton, 2009). Hatch (2002) identified the use of triangulation as a means of providing a different view of the same phenomenon. Thus, the analysis of the questionnaire, interviews, and reflective journals were each done independently of one another but, the three separate investigations validated the data gathered on the teachers' perspective of digital portfolios.

Limitations of the Research Design

The limitations to this research study were expected to be related to the common limitations of all case studies as the core concern was the ability to generalize the findings. Since the participants in the study were representatives of one common organization, it is likely the data will not be generalizable to other organization or settings. Simon and Goes (2013) proclaimed the focus of case studies represent the behaviors of a specific group and can only represent others that are hold similar characteristics. The limitation presented due to the lack of generalization created a chasm for a true sample for the research. However, Yin (2018) precluded the use of a case study creates and expounds upon theories which can be utilized to expand the knowledge base.

A second limitation to the study was the role in which the researcher held. Merriam (1991) indicated a concern for case studies as "the researcher is the primary instrument of data collection and analysis" (p. 34). As the researcher of the study, biases have the opportunity to inadvertently shift the view of the data. The researcher's experience as a teacher and school

administrator provided a deeper level of background knowledge and understanding of how teachers should be implementing digital portfolios with both General and Special Education students.

In addition, the participants' own biases were a limitation to the research study. Teachers were asked to complete a questionnaire, share their thinking through an interview, and reflect through a review of student portfolios to determine how they perceive the use of digital portfolios and the variance in growth between the two subgroups of students. The limitation which this generated was the restraint of full disclosure of the true beliefs the participants hold.

The final limitation rested in the amount of time, location, and other outside demands placed upon the participants. The demands placed on classroom teachers and the expectations of managing a classroom effectively created a barrier for the amount to time the participants were available to share their perceptions. The location and distance by which the researcher needed to travel to connect with the participants also created a limitation to the study. In addition, the teachers were also expected to implement digital portfolios while managing to integrate other instructional practices into their classrooms while managing day to day operation. The inability to single out the implementation of digital portfolios and sperate the tool from these barricades furthered the limitation.

Validation

The research and data gathered through this study was validated using triangulation. Creswell and Miller (2000) defined triangulation as "a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study" (p. 124). For this case study, the findings were generated through the

corroborating evidence of the questionnaire, interviews, and reflections. Common themes, understandings, and learnings were generated through the triangulation process.

Credibility

The use of triangulation within the study was the first element utilized to ensure credibility. Merriam (1991) noted triangulation as the comparison of multiple factors to locate emerging trends within the data. The truth of the data was provided credibility through the alignment of the themes presented through the analysis of the questionnaire, interviews, and document review of the digital portfolios. The utilization of the triangulated method aligned with the conceptual framework of this study and provided the research community with the teachers' perspective of digital portfolios in their classrooms.

In addition, the credibility of the study was further supported through the utilization of member checking. Member checking is the process of providing the participants with the data and interpretations gained to ensure the results are accurate (Merriam, 1991). Member checking was completed in the study by providing a copy of the transcript and summary of the interview to the participants and ensuring their message was perceptions were accurately communicated. Hatch (2002) and Carlson (2010) noted the use of summaries to verify validity through member checking are common practices. The choice to provide participants with a summary of the data honored their confidentiality in the research and reduce the likelihood of emotional distress over data; which they may view provided a negative depiction of their beliefs. The member checking process was utilized to support the credibility of the interview and reflection process.

Dependability

The reliability of the data was strengthened by gathering a larger data base through the questionnaire process. Merriam (1991) noted the increase in validity if the repeated observation

of the same theme is derived multiple times; thus, a common or uncommon perception from the participants would produce dependability within the data. To further the reliability of the data, quality questions, attentive listening, adaptive responses, understanding of the topic, and ethical practices were integrated into the research process as Yin (2018) recommends. Enacting these criteria within the research process generated stable and reliable data.

Expected Findings

The purpose for which General Education teachers' perspective on the use of the digital portfolio with their General Education and Special Education students was the theme the researcher expects to uncover. In general, it was expected the participants would hold a more positive view toward the use of digital portfolios with General Education students than with Special Education students. This belief was derived from the literature as it was found that students were reliant upon clear guidance and support from their teachers to complete their digital portfolios successfully (Alacam & Olgan, 2015; Assaggaf & Bamahra, 2016; Cirocki & Caparoso, 2016; 2018; Roman & Soriano, 2015; Yan, 2017). In addition, teachers were in the earlier phases of implementing digital portfolios and may not have adapted to learning how to meet the unique needs of students who qualify for Special Education. This intended finding was furthered by the literature which identified teachers feel they are not capable of reaching the needs of students who qualify for Special Education nor feel it is their duty to fulfill the role independently (Clancy & Gardner, 2017; Mngo & Mngo, 2018; Ruppar et al., 2015; Wang & Neihart, 2015). The researcher also expects to uncover the different beliefs teachers hold regarding the academic growth students reach using digital portfolios.

Ethical Issues

Understanding the ethical issues present within the study further validates the results. The conflicts of interests, researcher's position, and ethical issues within the study are important to understanding. Each subsection below, will highlight these areas and provide an understanding of the ethical issues present within the study.

Conflict of interest assessment. The role of the researcher was assumed by a school principal with professional association with the school site. There were no conflicts between the two roles as the researcher was not be the supervisor for any participants within the research project. In addition, any teacher the researcher had previously supervised in other capacities was also be removed from the study. There were no other connections, obligations, or affiliations which conflicted with the study. In addition, fully transparency was utilized to broadcast the achievement of the research goals.

Researcher's position. The role of the researcher was to facilitate the process of data collection and to analyze the data through on objective lens. The key point of interest was to determine the perspective teachers hold on the utilization of digital portfolios with General Education and Special Education. The perception of how effective these tools are in producing academic growth with both groups of students was also analyzed. The researcher utilized the information gained to fully understand the perspective teachers hold and inform educational leaders on how to support the use of digital portfolios with the Special Education student population. For this to occur, the researcher had to embrace the data, embody the perspective of the participants, and investigate documentation through teacher reflection to gain a rich knowledge.

Ethical issues. The methodology of this case study were submitted to and reviewed by the IRB at Concordia University–Portland. In addition, site approval was also obtained from the school district in which the research was conducted. The case study that was conducted addressed the ethical concerns embedded within the study by providing informed consent and ensuring confidentiality. The researcher ensured the participants were aware of their ability to withdraw from the study at any time. The use of pseudonyms was incorporated throughout the study and other identifying information was removed to protect the participants from any unintentional harm. All survey responses, interview notes, reflection tools, and any other material generated throughout the study were stored securely and be sealed with a private username and password on the researcher's computer.

Chapter 3 Summary

The purpose of this chapter was to provide an overview of the methodology and procedures that were utilized in this descriptive single case study. The overarching goal of the research was to build a thick description of the perspective teachers hold on the purpose and academic achievement generated by utilizing digital portfolios for both General and Special Education students. The use of a questionnaire, interviews, and reflection tools were presented as a means of gathering data and used to strength the validity of the study by creating triangulation. The analysis methods of coding and journaling were used to identify themes while the ethical issues, conflicts of interests, and position of the researcher were all presented. The information presented in this chapter supported the conceptual framework of the study by exploring the difference in perceptions of the teachers. The next chapter explores the data and evidence from the study allowing for a thick description to be created.

Chapter 4: Data Analysis and Results

Introduction

The purpose of this qualitative research case study was to investigate the perspective teachers hold for the purpose of digital portfolios within their classroom for both General and Special Education students. In addition, the research sought to understand teacher perceptions regarding academic achievement generated through the use of digital when comparing the two populations. The use of digital portfolios within the field of education has been proven to be effective when utilized with Special Education (Clancy & Gardner, 2017; Rao et al., 2016; Wang & Neihart, 2015) and general positive effectives of the practice have also been noted within the literature (Cordier et al., 2016; Demir & Kutlu, 2016; Theodosiadou & Konstantinidis, 2015; Wyk, 2017). However, research did indicate a need for supports in order to achieve positive results (Cirocki & Caparoso, 2016; Gámiz-Sánchez et al., 2016; Mngo & Mngo, 2018; Roman & Soriano, 2015; Yan, 2017). Faravani and Atai (2015) and Skipper and Douglas (2015) noted that human connections and beliefs were the foundation of success for students.

The conceptual framework for the student was further supported by the notion that thinking that learning is influence by the thinking of students, the environment in which they are learning, and the behaviors they exhibit (Schunk, 2012), teachers influence the purpose and implementation of digital portfolios (Niguidula, 2005; Renwick, 2017), and that the tool did have an impact on academic success when implemented effectively (Demir & Kutlu, 2016; Shirvan & Golparvar, 2016; Wyk, 2017). This descriptive case study focused on gathering and analyzing data connected to the conceptual framework and seeking to understand the perspective of teachers on the purpose and academic impact of digital portfolios with both General and Special Education students.

The research questions that guided this study were:

RQ1: What perspective do teachers hold for the purpose of digital portfolios with their general education students in their elementary school classrooms?

RQ2: What perspective do teachers hold for the purpose of digital portfolios with students who qualify for special education services in their elementary school classrooms?

RQ3: What perspective do teachers hold regarding the difference in the level of academic growth associated with the use of a digital portfolio in their classroom between Special Education students and their General Education peers?

The use of a descriptive single case study was essential in understanding the perspective of teachers on the purpose and academic growth created through the utilization of digital portfolios. Descriptive case studies focus on providing a wholistic picture of a phenomenon (Merriam, 1991) and a single-case study is defined by a specific set of circumstances (Yin, 2018). This study met these two criteria as the participants were part of the same school district and part of the professional development provided by the district during the implementation phase of digital portfolios. The use of this methodology allowed for the research to gain a complete understanding and perspective of teachers.

As the primary and only researcher, it was my role to facilitate the process of data collection and analysis. My professional role as a school administrator and experience as a Special Education teacher provided the foundation for my interest in investigating digital portfolios and further understanding the perspective of teachers. My role as a school administrator did not influence the data or impact the analysis as no participants were or had previously been under my supervision.

This chapter focuses on providing a description of the data analysis, the results of the research, and the key findings of the study. A description of the sample verifies the population and sampling that was utilized for the research. The methodology and analysis section provide a full understanding of the practices that were utilized and an analysis of questionnaire, interviews, and a reflection tool. A summary of the findings will be presented in relation to the research question. A presentation of the data and results will clearly and coherently answer the research questions. To conclude the chapter, a summary will be provided to highlight and confirm the main points of the findings.

Description of the Sample

The sample population for this research study was comprised of teachers who work in and elementary school setting within a school district located in the Southern portion of the United States. The research was conducted between February 2019 and June 2019. All participants had taken part in district professional development on digital portfolios and were included in the study on a voluntary basis. A list of teachers who participated in the professional development was provided to the researcher by the district and professional contacts helped to establish interview requests. Some of the participants participated in all three phases of the research while others only participated in portions.

Questionnaire sample population. The initial questionnaire was sent to 430 teachers who participated in the district provided professional development on digital portfolios. Twenty-eight participants responded to the survey. Twenty-two teachers served Special Education students within their classrooms and six of the respondents did not serve Special Education students at the time of the survey. However, those that were not serving Special Education Students at the time of the survey did have experience working with Special Education students

in their classrooms. Twenty-seven of the participants were female and one participant was male. The participants ranged from three to 28 years of teaching experience.

Table 2

Questionnaire Sample Population—Years of Experience

Years of Experience	3	5	6	7	8	11	13	16	18	19	20	21	22	26	28	Total
Number of Participants	1	5	2	2	3	1	3	2	2	2	1	1	1	1	1	28

Interview sample population. Interview requests were sent to all 28 participants who responded to the initial questionnaire; only six participants agreed to participate. The researcher utilized professional contacts to connect with four additional teachers who participated in the digital portfolio professional development; bringing the participant total to 10. All interviews were scheduled at the convenience of the participants. Nine of the interviews were conducted face-to-face and one was conducted through web-based teleconferencing. All participants either had students who received Special Education Services in their classrooms or had served them in the past. All participants in the interview phase were female and ranged from three to 28 years of teaching experience.

Table 3

Interview Sample Population—Years of Experience

Participant	1	2	3	4	5	6	7	8	9	10
Years of Experience	19	3	15	18	15	12	16	5	28	15

Reflection tool sample population. The reflection tool portion of the research was completed by participants who participated in the interviews. However, not all members agreed to continue with this portion of the research; eight participants completed the reflection tool. The reflection tool was emailed to participants immediately after the interview. Participants were asked to reflect on one General and one Special Education student's digital portfolio as the

completed the reflection tool. All participants who participated in this phase were female and ranged from three to 19 years of teaching experience.

Table 4

Reflection Tool Sample Population—Years of Experience

Participant	1	2	3	4	5	7	8	10
Years of Experience	19	3	15	18	15	16	5	15

Methodological Grounding—Descriptive Case Study

The focus of this research study was to understand the perspective teachers hold regarding the purpose of digital portfolios and the academic success of both General and Special Education students. The data presented within the literature review provided a foundation for the conceptual framework that guided this study. Existing literatures noted the use of digital portfolios as a positive practice from the student perspective (Assaggaf & Bamahra, 2016; Wyk, 2017) and teacher viewpoint (Atjonen, 2014; Yastibas & Cepik, 2014). In addition, the role teachers hold and the purpose they define for the use of digital portfolios as an instructional tool is essential to effective implementation of digital portfolios (Niguidula, 2005; Renwick, 2017). The literature review further provided evidence of the need to further understand the perspective of teachers as they reflect upon the purpose of digital with both General and Special Education students and the academic impact generated in academic growth between the two subgroups through the implementation of the instructional tool.

Social Cognitive Theory (SCT) further influenced this research study by providing the theoretical framework as the perspective teachers hold has the power to influence the effectiveness of digital portfolios as an instructional tool. Schunk (2012) noted the impact one's own thinking, the environment, the behaviors of other's have on the engagement of learning.

The conceptual and theoretical frameworks provide a purpose and collaboratively influenced this descriptive case study as rich data was sought to understand the perspective of teachers on the purpose, they have set for the use digital portfolios within their classrooms for General and Special Education students and to gain an understand of how they believe the tool effects academic achievement for the two subgroups.

Methodological Strategies

The research methodology utilized within the study was set using a single descriptive case study design. The use of this methodological design was imperative as the research sought to understand the perspective of classroom teachers. Merriam (1991) noted the use of descriptive study as the methodology of understand the whole. To better understand the perspective of teacher, the data for the study was gathered through the instrument of a questionnaire, interviews, and a reflection tool. The research began once approval was provided to the researcher from the Institutional Review Board in February 2019 and concluded in June of 2019. A step-by-step description of each portion of the research process will be outlined in the subsequent sections discussing each of the research instructions.

Questionnaire. The questionnaire, located in Appendix C, was emailed out to a list of teachers that had participated in the district professional development on digital portfolios. The questionnaire served as the first phase of the research process and was open to participants for a five-week period. An initial email and request were sent to participants in mid-February of 2019. In order to encourage additional participation, follow up emails were sent in early and mid-March with the questionnaire closing at the end of March 2019. At the time of the closing, over 30 participants had participated in the questionnaire; some of the data was incomplete and

could not be utilized within the research. Thus, the total number of participants within this phase of the research was 28 participants.

Each participant was asked to reflect on their use of digital portfolios within their classroom as the responded to eight questions. The questions alternated between who teachers use digital portfolios with their General Education students and their Special Education students. Questions one and three focused on the perspective teacher hold for the purpose of digital portfolios when used with General Education students; while questions two and four sought to understand the purpose for Special Education students. In the same regard, questions five and seven focused on the perspective of academic growth using digital portfolios for General Education students while six and eight focused on academic growth for Special Education students. Throughout the questionnaire, the questions repeated themselves while replacing the population the teachers were asked to reflect upon. For example, question one asked "What do you believe is the purpose of digital portfolios in your classroom when used with General Education students?" The question was then repeated but replace General Education students with Special Education students in question two.

Interviews. The participants from the questionnaire were the intended audience for the interview phase of the research. Interview participants within the median range of years of experience were originally contacted by the researcher for the interview portion of the research. The response and participation rate to the initial request was low and prompted interview requests to all questionnaire participants. While this did help increase participation, the research had to rely on professional contacts to increase the number of participants in the interview phase to 10. Six of the participants in the interview portion participated in the original questionnaire while four were garnered through professional contacts. The original location of the interviews

was to be held in each of the participants classrooms. However, one interview was held via web-based conferencing at the request of the participant.

Each interview lasted for a minimum of 45 minutes with some exceeding an hour and was based on the questions located in Appendix D. Each interview was double recorded and transcribed by the researcher. Creswell (2013) noted that for the data to be credible, member checking must be completed. Thus, the process of member checking was utilized by emailing each participant the transcript and asking them to confirm their perspectives were captured accurately. The questions within the interview process aligned with the conceptual framework and were used as a basis gain a further understanding of the perspective of the participants. Each question was worded in a way that would not lead the participants, as described in Chapter 3 (Yin, 2018).

The first question asked in each interview allowed for teachers to discuss the general purpose of how they use digital portfolios within their classrooms; this data was incorporated in to understanding teacher perspective of the purpose of digital portfolios for both General and Special Education students. The following four questions focused on understanding the purpose and the academic growth teacher believe the instructional tool has when utilized with the General Education population. The final four questions provided the perspective of the purpose and academic growth when using digital portfolios with Special Education students. The questions specific to General and Special Education students were the exact same other than a change in the population being reflected upon.

Reflection tool. The document review portion was a reflection tool participants responded to as they reviewed one digital portfolio from a General Education student and one from a Special Education student in their classroom. A copy of the reflection tool can be located

in Appendix E. The purpose of this method of data collection was to gather additional insight to perspective teachers held for the purpose and academic gains when using digital portfolios with the two different student populations. The tool was completed view Qualtricsnd the link was emailed to participants immediately following the interview.

The original organization of the questions asked participants to volley back and forth between the General Education and Special Education student's digital portfolio. However, the researcher reorganized them allowing the participant to reflect fully on the General Education student's digital portfolio and then on the Special Education students. The same eight questions were used to prompt reflection for both digital portfolio reflections. Questions one and five focused on gather data on the perspective teacher hold for the use of digital portfolios and the three middle questions focused on understanding their view of how digital portfolios effect growth. The initial email for the reflection tool was followed up by a reminder email as needed for each participant.

Analysis

The research for this descriptive case study was conducted through three methods: a questionnaire, interviews, and document review of a reflection tool. The three points of data not only provided different points of view on the perspective teachers hold for digital portfolios but also allowed for triangulation. Patton (2009) shared that triangulation allows for validity to be confirmed within the data while providing a deeper level of understanding. Coding was used throughout the data analysis as a way to determine the patterns and trends within the data (Merriam, 1991). Saldaña's (2015) two-cycle coding process utilized for the analysis of each piece of data. The first cycle within each data set allowed for themes or connections to be drawn

through descriptive coding; while the second cycle brought the data within a matrix allowing for broader conclusions (Yin, 2018).

The final step within the analysis process was for the data to be compiled in alignment of the research questions. Saldaña (2015) shared that pattern coding could be used to regroup data in new sets to build understanding. The data from the questionnaire, interviews, and reflection tool were rearranged and organized within the matrix by research question in order to provide interconnections and themes to emerge within the three sets of data. The interconnections existing within the data formed a more wholistic view and provided the opportunity to form generalizations.

Coding. The coding process and analysis for the research began at the completion of the questionnaire phase. I began by reviewing the responses provided by the participants to gain an initial understanding. Merriam (1991) concluded data analysis is a cyclical process which bring clarity to the research; thus, I began the second review of the data with general themes and ideas in mind. The code I began utilizing for the data were in line with Renwick (2017) and Niguidula (2005) purpose's for digital portfolios in mind. The responses from the participants were organized by question into a spreadsheet and the code was identified for the general themes appearing within the data. The themes that appeared within the data were documentation/growth, reflections, showcase, warehouse, confidence/pride, applying to college, communication, assessment, and prepared for the digital world. In order to gain full perspective of teachers when they were reflecting on Special Education students, the codes of Same as Gen Ed, ownership, differentiation, and IEP Goals were applied.

The prompts within the questionnaire that focused on understanding the perspective of teachers on the difference in academic impact digital portfolios have on General and Special

Education students required the use of a code of impact and no impact. As the data was reviewed, it became obvious that teachers could not remove the purpose for which they used the digital portfolio from the effect they believed the digital portfolio was having on student academic success. In order to accommodate the trend, I had to apply the codes previously mentioned in order to draw a complete picture from the data. Before moving forward, I once again reviewed each piece of data and reflected on the codes which had been identified to confirm whether the data was wholly represented; additional codes were added as needed.

My understanding of the perspective of teachers started to formulate through the coding process. However, I was lacking an understanding on how the data connected within the research questions. Reorganizing the coded data from the questionnaire to align with the research questions was utilized to draw further understanding. The action allowed for correlations and trends within the questionnaire to became noticeable. To further gain an understanding of the data, the frequency of each code's occurrence was tabulated; providing further understanding on the perspective of the teachers.

The data from the questionnaire was set aside as I began to review the interview data. The analysis of this data began by reviewing the 10 recorded interviews. The next step within the process was to transcribe each interview. The interviews were all transcribed using Microsoft Word and were completed as I reviewed the recordings for a second time. The recordings were paused and reset as needed to ensure accurate transcription. The transcription was reviewed once again before being sent to the participant for review. The coding process for the transcripts bean once they were approved by the participant.

The codes utilized within this portion of the research were carried over from the questionnaire. During the process, additional codes of technology access, collaboration, teacher

power, and depth of knowledge were identified and utilized. The data within the interview process provided a deeper understanding of teacher perspective as teachers provided additional justification for their thinking. Microsoft Word was once again utilized to code the transcripts by making commenting tool; allowing for the code to be connected directly to the text. Each transcript was analyzed twice using the coding process. Once all transcripts were complete, I reviewed each transcript for the themes that emerged within the interview. Once again, the need to reorganize the data by research question was necessary and provided an opportunity for trends to be identified.

The final analysis of the data began with the review of the reflection tool eight of the participants in the interview phase completed. The codes utilized in the previous two phases were utilized during this portion of the analysis. I began by reviewing each participant's response to the reflection tool before sorting the data for each prompt. The reflections were then coded, and trends located within each individual prompt. The identification of the same themes became present within the data; prompting once again for the data to be sorted and organized by research question. As with the questionnaire, the frequency of the themes increased once the data was compiled and a more wholistic understanding of teacher perspective began to emerge.

Summary of Findings

The analysis and coding of the questionnaire, interviews, and reflection tool provided this researcher with an understanding of the perspective teachers hold when comparing the purpose and academic growth differences of the utilization of digital portfolios with General and Special Education students. Each research component offered another view of the data and a meaningful perspective could be derived when the data was brought together as a whole. The themes for the purpose of the data as described by Renwick (2017) and Niguidula (2005) were identified within

the data analysis; showcase, document growth, and communication. Evidence presented itself to suggest that the use of the instructional tool as a means of providing reflective opportunities and a method to warehouse student work were also embedded within teacher belief. In addition, the notion of pride/confidence and ownership of learning resurfaced within the data on multiple occasions; providing an indication of the presence of Self-Regulated Learning (Zimmerman, 1990).

The data remained consistent when the two separate populations of General and Special Education were considered. Evidence further suggested that teacher perception for the purpose of digital portfolios is consistent between populations; however, additional support or differentiation became prevalent when solely reviewing the data focused on Special Education students. The belief of the tool creating an academic impact on students in comparison of the two populations was only found within the purpose teachers believe the tool was utilized for. The evidence suggested that teachers do not believe that digital portfolios created an academic impact within the academic growth for General or Special Education students, but that the actions in which the process forces upon students and the acts of the teacher to enforce processes create the growth.

Presentation of the Data and Results

The presentations of the data and results within this section are organized and outlined by research question and then by the attributes as presented in Chapter 3; each attribute is further defined by themes recognized within the data. . The data and results were drawn from the questionnaire, interviews, and reflective tool that were utilized for this research project. Research Question 1, understanding the perspective of teachers on the purpose of digital portfolios, was analyzed first through the attributes and connected themes of purpose of digital

portfolios, feedback, self-regulated learning, and assessment. The second research question is presented with the same focus; however, is focused on understanding the purpose of digital portfolios with Special Education students. The themes presented will remain the same while adding new themes of same as General Education and support and accommodations. The third research question, focused un understanding the difference in academic growth between the two populations when using digital portfolios, is presented through the attribute of academic growth with the themes of impact and no impact.

Research Question 1. What perspective do general education teachers hold for the purpose of digital portfolios with their General Education students in their elementary school classrooms?

Purpose of digital portfolios. The data presented within this section will relate to the themes of documenting growth, showcasing, communication, and warehousing. The data for each theme will be discussed individually. Additional insight to the data will be provided in Chapter 5.

Documenting Growth. The theme of documenting student growth presented itself when discussing the purpose of digital portfolios when utilized with General Education students. Throughout all three points of data, teachers consistently noted the use of digital portfolio as a means of showing the learning and growth students achieved over a period of time. The code noting this theme appeared on 51 different occasions throughout the analysis process. In the words of one of the interview participants, “It’s like a nice little way to show their growth during the year.” The perspective of this teacher was reiterated 24 times within the interview transcripts as the common theme of using the digital portfolio to visually see the growth students have made throughout a school year was consistent.

Another participant provided the same message within the data gathered from the questionnaire by stating, “the purpose of digital portfolios is for students to not only have a way to store their work but also have a way to see their improvements throughout a school year and multiple school years.” The data from the questionnaire presented the theme of documenting growth on 22 separate occasions. While yet another participant made this notation while completing the reflective tool as she reviewed the digital portfolio of one of her students, “the most powerful information is how much growth this student has made in her reading ability.” The theme of growth within the reflective tool emerged on five different occasions. These three pieces of evidence shared by participants offer the grounding of growth as the most common theme noted within the data.

The data concerning the theme of demonstrating growth was captured within multiple participants beliefs. Within the questionnaire the theme existed within 16 of the 28 (57%) participants’ responses. The interview transcript data provided a higher level of frequency within the data as eight out of 10 (80%) of participants indicated the purpose of digital portfolios as a means of documenting growth. The data gathered from the reflective tool was comparable as five out of eight (62%) of participants noted growth in their response to the prompts.

Table 5

Cumulative Theme Data—Documenting Growth—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
22	24	5	51

Showcasing. Participants viewed digital portfolios as a means of students displaying high quality work and putting forth their best learning. The code for the theme repeated itself on 39 different occasions throughout the data analysis for this research question. Participants indicated

throughout the theme the opportunity for demonstrating the best work for a student and allowing them to display their best work or learning. One respondent to the questionnaire stated the purpose of the digital portfolio was "to allow students to collect and display their learning, especially for the purpose of showing learning at student led-conferences." The theme arose within the questionnaire on nine other occasions with other participants agreeing.

The interview transcript data showed an increase in the emersion of the showcasing theme; with 22 occurrences. A participant within the interview data shared, "I really want them to be able to showcase their best within the digital portfolio." The statement represents a consistent message throughout the data as participants shared the tool allowed students to show their learning and their best work. The belief in using digital portfolios to showcase student work could also be identified within the data from the Reflective Tool as it appeared on four separate instances. A participant shared, "I believe the main purpose of the portfolio is a way for my students to show their academic successes with their parents and their teacher." The cumulative data on the purpose of using digital portfolios was represented throughout the three points of data.

The theme of showcasing emerged most frequently within the interview transcript data as nine out of 10 (90%) of the participants noted the theme within their discussion. However, the theme was not absent within the questionnaire or reflection tool. A code for showcasing appeared in 11 out of 28 (39%) participants' responses to the questionnaire. In the same regard the reflective tool brought forth the code from four out of eight (50%) the participants' responses to the prompts.

Table 6

Cumulative Theme Data—Showcase—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
13	22	4	39

Communication. The concept of communication within digital portfolios can become multifaceted. For the purpose of this study, communication will be noted as the dialogue which would occur between parents and teachers or teacher to teacher. The theme of communication developed on 30 different occasions throughout the three points of data. The use of communication between the classroom and home was noted on 29 of those occasions; while using it to support teacher to teacher dialogue only appeared once. There will be no further discussion within this section on teacher to teacher communication through the use of the digital portfolio in regard to General Education students due to the insignificant level of data which arose.

The theme of communication between parents and teachers as the purpose of digital portfolios for General Education students was described by one interview participant who shared a parent's story; "I really like how I am able to see exactly what they are learning and really help bridge that gap between home and school." The concept of providing parents information about what was occurring in the classroom and how they can support students at home occurred within the interview transcripts on 23 occasions. The theme was represented within seven out of the 10 (70%) of the interview transcripts.

The data around utilizing digital portfolios for a means of communication between school and home was lower within the questionnaire and reflective journal. The theme appeared within questionnaire on two separate occasions when looking at the data specific to the purpose of using

digital portfolios with General Education students. The theme appeared on only two out of the 28 (7%) questionnaire participants' responses. "It's a form of communication between home and school", was shared by one of the questionnaire participants; allowing the theme consistency to be seen within the data. In the same regard, one reflection tool participant shared the belief of communication by stating, "their portfolio is a wonderful resource to also share videos, anchor charts, and procedures that are used in the classroom. This benefits both the student and his/her parents." The theme of parent communication ascended on four separate occasions and was noted by four of the eight (50%) participants.

Table 7

Cumulative Theme Data—Communication With Parents—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
2	23	4	29

Warehousing. Warehousing student work through the digital portfolio is the last theme that will be discussed within this subsection and it was the fourth common purpose for General Education students. The theme appeared throughout the data on 24 separate occasions. The words of one journal reflection participant provides insight to the understanding of warehousing; "at this stage, the purpose of the portfolio is to warehouse and organize work." The theme appeared within the journal reflection data on three different occasions with three of the eight (37%) of participants discussing the theme.

One interview participant proclaimed students "are using Google as a warehouse. My goal is to help them organize their work." The discussion of storing pieces of work within the interview transcripts presented itself 11 times. The theme was presented by six out of 10 (60%) of the interview participants. The questionnaire data was similar to the interview transcripts as

the theme emerged on 10 occasions. A questionnaire respondent noted the purpose of the digital portfolio was to "warehouse student choice of work to create a true portfolio later in elementary school." The concept of using the digital portfolio as a storage device was noted by 11 out of 28 (39%) of the questionnaire participants.

Table 8

Cumulative Theme—Data-Warehousing—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
10	11	3	24

Feedback. The theme of feedback is the purposeful act of providing instructional guidance and support to students. Participants utilized the digital portfolio as a means to provide reinforce learning expectations and strengthen student academic understanding. The total rate of the theme's presence within the three points of data were the lowest of all themes analyzed as only five instances could be located. The theme appeared on one single occasion within the questionnaire data and was provided by one out of 28 (4%) of the participants. In a similar fashion, the data also appeared on a single occasion within the data from the reflective toll with only one out of eight (12%) of participants noting the theme. The interview data produced four instances in which the theme rose. However, it is noted that only two of the 10 (20%) of participants shared theme within their discussions. The low existence of the theme of feedback within the data is an observation to be noted.

Table 9

Cumulative Theme Data—Feedback—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
1	3	1	5

Self-regulated learning. Self-regulated learning as a theme became evident during the data analysis. The data provided three different components of self-regulated learning; reflection, pride, and ownership. To better understand the participants' belief of self-regulated learning as a purpose for digital portfolios with General Education students, the data will be presented in three subsections.

Reflection. Reflection as a theme within self-regulated learning appeared the most consistently throughout the data. Participants indicated the use of reflection embedded within the digital portfolio as a common practice. The theme appeared on 56 different occasions and occurred more than any other theme within the data; providing a significant level of data to suggest reflection as a purpose for digital portfolios when utilized with General Education students. One questionnaire participant emphasized self-regulated learning through reflection by stating, "this is an opportunity for students to self-evaluate and reflect on their own learning." Similar thoughts and messages were noted on 24 times within the questionnaire data and was illustrated by 18 out of 28 (64%) of participants.

Interview transcripts concurred as the theme for reflection emerged on 30 separate instances. Overall, participants indicated reflection was the method used for students to recognize their strengths and their weakness. An interview participant shared the use of reflection allows students to go "back and tell how it was different from the first piece." The theme of reflection was identified in eight out of 10 (80%) of the interview transcripts. The use of reflection did not emerge as strong when participants completed the reflection tool as they reviewed a digital portfolio of one of their students. The theme appeared on two different occasions within the data and was reported by two out of the eight (25%) of the participants.

One response shared the importance of reflection and as the student had "reflections for all artifacts and all artifacts are complete with a reflection."

Table 10

Cumulative Theme Data—Reflection—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
24	30	2	56

Pride. The theme of pride as part of self-regulated learning became present within the questionnaire. The notion of pride was grounded in the pride students demonstrated as they utilized their portfolio. In total, the theme would appear 19 times through the data analysis. The questionnaire data first produced the theme by noting its emersion in four different instances. A participant who completed the questionnaire shared, "portfolios are also a place for students to take pride in their work and a place to show off their work to/with others." Pride as a theme of self-regulated learning appeared within four of the 28 (14%) of the responses to the questionnaire.

The interview transcripts provided another point of data in which the theme could be viewed. The theme of pride was identified on 15 different occurrences within the interview data. The discussion around pride as it related to digital portfolios was shared by one participant as a way to make them "feel positive" about their work. The thought was echoed in another participant's thinking as she shared, "I would like to get to a point where they can record the things they are proud of." Similar thoughts were echoed in five out of 10 (50%) of the interview transcripts. However, the data was absent from the journal reflections with zero occurrences related to pride.

Table 11

Cumulative Theme Data—Pride—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
4	15	0	19

Ownership. The theme of ownership emerged within all three points of data. The theme focused more on the power students felt over their own learning and how they began to engage in the learning process. There were 41 notations of ownership emerging within the data. The most occurrences were within the interview transcripts; a total of 37 representations were identified. A statement provided by one interview participant clearly lays out the framework for the theme of ownership;

> I really appreciate the ownership that it gives students and they can pick what they want to feature. It is not me saying, ok this is going to be your final grade, or this is going to be your final project. It's ok you are going to pick what you want to feature.

The sentiment of ownership arose in 10 out of 10 (100%) of the interview participants' responses.

The questionnaire and the reflective tool each generated two instances of the ownership them respectively. One questionnaire participant provided evidence of the ownership theme by stating, students "should be able to choose what goes in their portfolio, not just what a teacher thinks is important." The theme identified by two of the 28 (7%) of the questionnaire participants. In a similar tone, another participant responded to the reflection tool and shared, "I believe because my students are so excited about taking this active role and being able to showcase what they believe to be the best." Again, the theme was only present twice within the reflection tool data and was shared by two out of the 10 (20%) participants.

Table 12

Cumulative Theme Data—Ownership General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
2	37	2	41

Assessment. The theme of assessment did not have a significant presence within the data. A response to the questionnaire from one participant provided grounding for the digital portfolio to be used as an assessment tool; "it is a way for me to assess my students on their work." In total there were 23 occurrences of the theme throughout the data. The questionnaire produced the theme on four different instances from four out of the 28 (14%) of the participants.

The theme of assessment increased within the interview transcripts for a total of 18 illustrations. An example of the use of digital portfolios as a means of assessment was provided by one participant:

> In math I had the create a shape on a Geoboard using rubber bands. The took a picture of the shape and had to tell me the attributes of the shape they created. That was a good way for me to know if they knew their 2D shape attributes.

The theme of assessment appeared within seven out of 10 (70%) of the interview transcripts. The data for assessment within the reflection tool was low as only one occurrence arose from one out of eight (12%) of the participants. In this single incident, the participant noted how the student whose portfolio was reviewed was able to "show mastery of standards."

Table 13

Cumulative Theme Data—Assessment—General Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
4	18	1	21

Table 14

Cumulative Theme Data—General Education—Sorted From Highest to Lowest Occurrence

Reflection	56
Documenting Growth	51
Ownership	41
Showcasing	39
Communicating with parents	29
Warehousing	24
Assessment	21
Pride	19
Feedback	5

Research Question 2. What perspective do general education teachers hold for the purpose of digital portfolios with their Special Education students in their elementary school classrooms?

Purpose of digital portfolios. The themes of documenting growth, showcasing, communication, and warehousing will all be discussed within this section. The data will present how teachers review the purpose of digital portfolios as it relates to these themes for their Special Education students. Final conclusions will be drawn within Chapter 5.

Documenting growth. Documenting growth was a consistent when participants began to think about how they utilize digital portfolios in their classroom and the purpose in which they

employ the tool when working with their Special Education students. The notation of using the digital portfolio to track student successes was indicated through all three points of data with a total of 46 theme citations. One questionnaire participant articulated the purpose of digital portfolios as "a collection of artifacts and reflections on learning that, when taken collectively, demonstrates the students' learning and growth." The belief of using the instructional tool to document growth was observed 10 times throughout the data. The theme was brought forth by nine out of 28 (32%) of the questionnaire respondents.

The theme continued to appear within the interview transcripts. One interview participant shared the power digital portfolios would have on demonstrating growth by tacking student success with academic standards and how this could be utilized to support the IEP process; using digital portfolios as a theme with IEP will be addressed in a subsequent section. Documenting growth with digital portfolios for Special Education students as a theme was noted 31 times within the transcript data. All 10 (100%) of the interview participants indicated documenting growth as a purpose for digital portfolios. The reflective tool data indicated documenting growth as a purpose as the theme arose on five occasions. "I think the information that is most prevalent in this student's digital portfolio is the comprehension skills she has demonstrated" is an example taken from a participant's response that demonstrates the belief of using digital portfolios as a means of documenting growth. This theme was present within five out of eight (62%) of the reflection tool responses.

Table 15

Cumulative Theme Data—Documenting growth—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
10	31	5	46

Showcasing. Utilizing digital portfolios for the purpose of showcasing Special Education students' work was a theme which occurred frequently within the data. The topic appeared on 25 occasions throughout the data and was the fourth highest level of events. The purpose of using the digital portfolios in this manner can be observed through one questionnaire respondent's belief: "The purpose in first grade is to get students in the habit of selecting quality work that they want to showcase." Similar messaging would be identified eight times within the questionnaire and was presented by seven out of the 28 (25%) questionnaire participants.

The theme continued to present itself within the interview transcript data. "I think it is just a tool for showing your best work" is a belief shared by one participant that aligns with the other thoughts in the interview and questionnaire data points. Similar messaging was shared on 15 different occasions within the interview transcripts and by seven out of 10 (70%) participants. The reflective tool did not provide as high of a level of data as the theme was found on two instances. The existence of the theme within the reflection tool was provided by two out of the eight (25%) of the participants.

Table 16

Cumulative Theme Data—Showcasing—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
8	15	2	25

Communication. As with the communication subsection in Research Question 1, communication within this section will constitute the communication between teacher and parent or teacher to teacher. Communication between students and teachers using digital portfolios will once again be reviewed in the feedback subsection. The subject of communication was recognized 26 times within the data analysis. However, the notation of teacher to teacher

communication was identified on only two occasions within the interview data and not documented in the other data points. Thus, the discussion of teacher to teacher communication will be nullified and only data regarding teacher to parent communication will be further reviewed.

Teacher to parent communication was noted as the fifth highest purpose when utilizing digital portfolios with Special Education students; the theme occurred a total of 24 times. The subject occurred most frequently in the interview transcript data with 18 total occurrences. "The mom was able see us using that real time and school and be able to reflect on what he can do" is an example for one interview participant which portrays how the digital portfolio is used to connect the school and home. The theme of communication, in this form, was noted within eight out of 10 (80%) of the interview transcripts.

The notation of communication through the digital portfolio was not as highly indicated within the questionnaire data as the theme was only recognized on one occasion. The low representation of the theme within the questionnaire was provided by one out of the 28 (3%) of the participants. However, the reflection tool provided stronger evidence for communication as a purpose for the digital portfolio when concerning special education students. There were five instances in which the theme was identified and located in five out of the eight (63%) of the participant's reflections. The alignment of this data to the interview transcripts can be found in one participant's belief: "I am also seeing that it's bridging the gap between home and school."

Table 17

Cumulative Theme Data—Communication—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
1	18	5	26

Warehousing. The digital portfolio as a tool to store student work or warehouse various artifacts was once again noted within the data. Warehousing student work as a purpose for digital portfolios with Special Education students was indicated 22 times throughout the data. There were six instances of the theme located within the questionnaire data. A participant indicated the purpose of the tool was "to serve as a collection of artifacts." Similar beliefs were noted by six out of the 28 (21%) of the questionnaire respondents.

Warehousing student work within the digital portfolio was not lost in the interview transcript data. The data for warehousing was noted in six out of the 10 (60%) interviewees' discussions. In total, the theme was brought forth on 14 occasions. The words of one participant provide a clear understanding of the total as a warehouse as she provided, "it is also just part of their daily work collecting pieces." Overall, the theme was not a visible within the reflection tool data. There were only two instances in which e was located and the identification came from the reflections of two out of eight (25%) respondents.

Table 18

Cumulative Theme Data—Warehousing—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
6	14	2	22

Feedback. Feedback as a theme for the purpose of digital portfolios when the population of Special Education was considered was lacking. The theme arose three times during the analysis and was expressed by three of the 10 (30%) interviewees. One comment noted the use of the tool as a means of commenting directly on student work and providing focus on areas of improvement. No additional evidence of the theme could be cited in the questionnaire or reflection tool.

Table 19

Cumulative Theme Data—Feedback—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
0	3	0	3

Self-regulate learning. The analysis for self-regulated learning was deconstructed in to three themes; reflection, pride, and ownership. The review of each them separately allows the perspective of the participants to be clearly identified. Data for each subsection will be independently presented and outlined.

Reflection. The theme of reflection was evident within the data analysis of the participants' perspective for the purpose of digital portfolios when utilized with Special Education students. The portrayal of the theme was provided within the data on 46 incidents; placing theme of reflection in a shared top position with documenting growth. The overall tally of the theme may have placed it at the top of the data charts, but the lack of data within the journal reflection should not be ignored. The topic of reflection was only indicated one time and by one out of eight (12%) of the reflection tool participants.

In contrast, the interview transcripts noted reflection as a theme on 32 separate instances. One of the interview participants stated that her Special Education students are "purposefully reflecting" and another shared the reflection is built within the process of the digital portfolio. In totality, their beliefs would be echoed by nine out of 10 (90%) of the participants. The questionnaire data offered the topic 13 times; providing a lower, but yet evident perspective for reflection as a purpose for digital portfolios. Participant responses including the theme were not significantly high, nine out of 28 (36%).

Table 20

Cumulative Theme Data—Reflection—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
13	32	1	46

Pride. "It boils down maybe too the child's self-esteem and how they feel with how they accomplish things." This sentiment provided by an interview participant offers a perspective on how pride is considered in the purpose of digital portfolios as part of self-regulated learning. The theme of pride became evident on 16 different occasions throughout the data review. However, 13 of those occasions were identified within the interview transcripts. When discussion the purpose of digital portfolios when utilized with Special Education students, the theme of pride arose during five out of the 10 (50%) interviews.

The same perspective for the purpose of the digital portfolio could be found within the questionnaire data. One respondent shared, "I think that digital portfolios affords them the opportunity to be able to display their work and take pride in their assignments." The belief occurred on three occasions within the questionnaire data and was presented by three out of 28 (11%) respondents. The perspective of pride as a theme was missing from the reflective tool data. There were zero incidents identified; providing a lack of triangulation.

Table 21

Cumulative Theme Data—Pride—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
3	13	0	16

Ownership. The emergence of ownership as a theme was not as prevalent as the theme of reflection but was similar. The direct connection of ownership was emphasized as one of the questionnaire participants stated, "I think it allow students to take ownership in their work."

Despite the strong statement of belief, the analysis of the questionnaire data only unearthed two instances of the theme. The thinking was shared by two out of the 28 (7%) of the questionnaire respondents. Unfortunately, ownership as a theme was not existent within the data for the reflective tool.

The analysis of the interview transcripts provided a different outlook for ownership as a theme. There were 21 separate occasions in which the theme was noted within the data. The concept of students engaging in the process and generating a sense of ownership was documented in five out of 10 (50%) of the interview transcripts. "I think there is more buy-in when they feel like they have an audience" is one example of a participant's perspective on how ownership provides a purpose for the digital portfolios. Despite the strong level of data generated from the interviews, it was simply not supported by the two counterparts.

Table 22

Cumulative Theme Data—Ownership—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
2	21	0	23

Assessment. The analysis of the questionnaire, interview transcripts, and reflection tool did not result in a high occurrence of assessment as a theme. There were 25 circumstances in which assessment was located within the data. The frequency of the theme was most notable in the interview transcripts as it appeared 17 times. Using the digital portfolio as a means of assessing students was captured in the interview transcript of one participant: "It gives them an opportunity to show it a different way then they normally have to. They don't have to; you know it is not a paper and pencil test. It is another way to show their learning." The belief of the

digital portfolio's purpose as assessment was echoed in eight out of 10 (80%) of the interview transcripts.

The viewpoint of using the digital portfolio as a means of assessment was not confirmed within the data from the reflection tool. The theme was identified in one single instance and was only identified by one out of eight (12%) of the respondents. Data provided through the questionnaire was similar as there were only seven occurrences of the theme recognized during the analysis. In addition, the data was provided by seven out of the 28 (25%) questionnaire respondents. "Rather than assessing students on just traditional quizzes and tests" was a sentiment shared by a questionnaire respondent.

Table 23

Cumulative Theme Data—Assessment—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
7	17	1	25

Same as general education. The theme of "Same as General Education" emerged when participants were discussing the purpose of digital portfolios when thinking about their students who meet the criteria for Special Education services. The Same as General Education theme appeared 26 times throughout the data analysis. Unfortunately, there were no incidents of the theme appearing within the Reflective Tool data; however, this is not surprising as participants reflected on digital portfolios for a Special Education and General Education student separate from one another. The lack of triangulation does not allow for any claims, but the presentation of the data may provide insight to other themes.

The questionnaire analysis noted the theme on 15 different accounts. The subject of Same as General Education was presented by 12 out of the 28 (43%) of the questionnaire

participants. The interview transcripts data did not produce as high of a frequency with the theme's appearance. The theme was identified on 11 various incidents within the data and acknowledged by six out of the 10 (60%) of the interviewees. The data for the theme is not significant but does provide evidence to support other themes.

Table 24

Cumulative Theme Data—Same as General Education—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
15	11	0	26

Support and accommodations. The theme of providing support or accommodations to assist Special Education students was introduced within the data and provided a perspective which was unique to the population. The data generated a total of 39 examples of the theme and provided a foundation to suggest that support must be provided to Special Education students. The theme was clearly identified by one questionnaire respondent, "for special education students, this might include alternative artifacts that are applicable to that student's modality of learning." The analysis of the questionnaire located 10 cases of the theme. The sentiments of support and accommodations was indicated by 10 of the 28 (36%) participants.

The need to support or provide accommodations to students was further identified within the interview transcript data; a total of 26 occurrences were noted. The need to support Special Education students by breaking down assignments, providing additional guidance, and additional structures was discussed in nine out of 10 (90%) of the interview transcripts. The triangulation of the data occurred and provided relevancy to the theme as the topic as three incidents of the topic arose from the reflective tool data. The need to provide support to students could be identified in one respondent's thinking as she reviewed the digital portfolio of one Special

Education student; “I realize how much assistance he needed from me to help him complete the activity to put in the digital portfolio.” Similar thoughts were shared by three out of eight (37%) of the participants who completed the reflection tool.

Table 25

Cumulative Theme Data—Support and Accommodations—Special Education

Questionnaire	Interview Transcripts	Reflective Tool	Total
10	26	3	39

Table 26

Cumulative Theme Data—Special Education—Sorted from highest to lowest occurrence

Documenting Growth	46
Reflection	46
Support or Accommodations	39
Communication	26
Same as General Education	26
Assessment	25
Showcasing	25
Ownership	23
Warehousing	22
Pride	16
Feedback	3

Research Question 3. What perspective do general education teachers hold for the difference in the level of academic growth associated with the use of a digital portfolio in their classroom between Special Education students and their General Education peers?

Academic growth. The difference in the level of academic growth through digital portfolios was analyzed on whether participants indicated the tool had an impact or no impact. The two populations were considered separately during the analysis but are combined as a presentation in order to gain a wholistic understanding of the perspective participants held. The data will be presented by impact and no impact to provide a deep understanding of teacher perspective.

Impact. The first portion of the data to be presented is the theme of digital portfolios having an impact on the academic success of the two groups of students. The perspective of the participant's provided the total number of theme appearance of impact 11 times for General Education students and three times for Special Education students. While the data provided an initial division between the two groups of students when reflecting about the impact, a deeper review provides a different perspective. The questionnaire provided one occurrence of impact for General Education students while there were zero notions when teachers reflected upon Special Education students. The same trend was found within the reflection tool data as three instances supported the theme of impact for General Education students, but the reflection tool demonstrated zero incidents of the theme.

The interview transcripts provided a similar view of data. In total, the notion of impact was identified seven times for General Education students and three times for Special Education students. The limited amount of the theme presentation within the data for both populations needs to be considered. In addition, the inability to triangulate the data on the impact of academic growth for Special Education must be taken into consideration.

Table 27

Cumulative Theme Data—Impact

Population	Questionnaire	Interview Transcripts	Reflective Tool	Total
General Education	1	7	3	11
Special Education	0	3	0	3

No impact. The theme of no impact on academic growth through the use of digital portfolios presented a bit stronger from the perspective of teachers. The variance between the theme's appearance with General and Special Education students was minimal. In total, the topic was documented 14 times for General Education students and 19 for Special Education students. The breakdown of the data by research tool provides a more understanding and information to the theme. The respondents to the questionnaire shared no impact on academic growth for General Education students through the use of digital portfolios on 11 different occasions. The similar level of data was noted with in participant perspectives on academic growth for Special Education students as 10 notations of no impacts were located. Aligned trends between the two subgroups were further displayed within the interview transcript data. There were three incidents for General Education students and four occurrences for Special Education students noted for the theme.

The alignment of the data did not continue forth into the reflection tool data. The perspective of teachers provided zero indications of no impact as they reviewed digital portfolios of their General Education students. IN contrast, the theme appeared on five instances when the population of Special Education was reflected upon by participants. The lack of support for the

theme of no impact within the reflection tool indicates a lack of triangulation. However, the theme of no impact on academic growth when utilizing digital portfolios was evident and triangulated with the three points of data when reflecting upon Special Education students.

Table 28

Cumulative Theme Data—No Impact

Population	Questionnaire	Interview Transcripts	Reflective Tool	Total
General Education	11	3	0	14
Special Education	10	4	5	19

Chapter 4 Summary

The results of the data indicate the purpose of digital portfolios for General and Special Education students is varied. As participants reflected on the use of digital portfolios with General Education students, they noted the most common purposes for the tool as reflection, documenting growth, ownership, showcasing and communicating with parents. The themes of documenting growth and communication with parents reappeared in the purpose for utilizing digital portfolios with Special Education students. Reflection was also a theme that was common between the two subgroups; however, the data within the reflective tool did not provide a high level of evidence of the theme. Participants also noted the purpose for digital portfolio for Special Education students is for Support or Accommodation. The additional theme of Same as General Education appeared within the data as well but could only be identified in the interview and questionnaire data.

The impact of digital portfolios on the academic growth between the two subgroups is difficult to distinguish as the data points do not clearly indicate a strong perspective from the participants. The initial disparity between in the data is deceiving as there are 11 incidents for

General Education and three for Special Education. However, the theme appears within all three points of data for General Education students but fails to arise within the questionnaire and reflective tool data when considering Special Education students. In contrast, the appearance of the theme of no impact is present within the data for both subgroups. The only distinctive difference is the lack of data within the reflective tool data for General Education students. The final chapter will present an analysis, interpretation, and recommendations for future research based on the information presented in Chapter 4.

Chapter 5: Discussion and Conclusion

Introduction

The focus of this final chapter is to provide summary and discussion of the results of this research study. The connections and relationships that exists between the research results and the literature in Chapter 2 will also be presented. The limitations to the study will provide an additional layer of information and present any unintended outcomes or consequences. The interpretation and insights gained from the study will be presented to strengthen the understanding and provide connections to new and existing research. Recommendations for future research studies will also be provided through a critical assessment based on the presentation, explanation, and answering of the research questions in comparison to the study's purpose.

Summary of the Results

The research study was conducted as a single descriptive case study in order to provide a thick description of the perspective elementary teachers in a large district located in the Southern region of the United States. There were initially 430 teachers invited to participate in the study; all who had completed digital portfolio professional development from the school district. The total number of participants who completed the questionnaire was 28, the interview was 10, and the reflection tool was eight. The teaching experience of the participants ranged from three to 28 years and all participants had experience serving Special Education students in their classrooms.

This study was directed by the following three research questions:

RQ1: What perspective do teachers hold for the purpose of digital portfolios with their general education students in their elementary school classrooms?

RQ2: What perspective do teachers hold for the purpose of digital portfolios with students who qualify for special education services in their elementary school classrooms?

RQ3: What perspective do teachers hold regarding the difference in the level of academic growth associated with the use of a digital portfolio in their classroom between Special Education students and their General Education peers?

The data collection process for this research project included a questionnaire, interview, and reflection tool completed by participants as they reviewed the digital portfolio of a General Education or Special Education student. Saldaña's (2015) two-cycle coding process allowed each piece of data to be analyzed independently and for themes to arise within the data. The data was then complied within a matrix to provide for connections and conclusions to be formed between each data point (Yin, 2018). The three points of data were utilized to construct a description of the perspective participants hold for purpose and academic growth difference when utilizing digital portfolios with both General and Special Education students.

Theory. The basis of the study was formulated on Social Cognitive Theory (SCT). The theory is related to the research study because it emphasizes growth and change through perceived self-efficacy, modeling, persuasion by others and emotional arousal (Conner & Mark, 2015). Given that the use of digital portfolios as an instructional tool is grounded in back and forth communication as feedback, reflection, documenting growth, and showcasing occur, SCT provided a focus on the importance of social interactions. In addition, an emphasis has been placed on the teacher having a significant impact on the level of effective instruction within the use of digital portfolios (Niguidula, 2005; Renwick, 2017). The theory and conceptual framework aligned to offer guidance for the research and tandemly sought to generate a thick

description of the perspective of teachers hold for the purpose and academic growth difference when utilizing digital portfolios with General and Special Education students.

Seminal literature. The purpose of this study is supported by a brief review of the seminal literature. The practice of digital portfolios has been investigated and confirmed as effective when integrated in instruction (Demir & Kutlu, 2016; Shirvan & Golparvar, 2016; Wyk, 2017). Digital portfolios were also identified as a tool which could alter learning if implemented with a student driven focus (Kahn, 2017). The sentiment was further echoed as literature confirmed the reliance students demanded for the process and guidance from teachers as digital portfolios were enacted (Assaggaf & Bamahra, 2016; Cirocki & Caparoso, 2016; Mngo & Mngo, 2018; Roman & Soriano, 2015; Yan, 2017). In addition, the literature shared teachers are not always confident in their ability to support Special Education students (Clancy & Gardner, 2017; Mngo & Mngo, 2018; Ruppar et al., 2015; Wang & Neihart, 2015). Ensuring teachers knowledge and ability to support students was further emphasized as the concepts of trust and relationships were identified within the literature (Faravani & Atai, 2015; Skipper & Douglas, 2015). Since the completion of the Literature Review in August of 2018, there is no additional significant research on the perspective of teachers on the purpose and academic growth difference Between General and Special Education students.

Methodology. The methodological practices utilized within this qualitative descriptive single case study design provided a thick description of the perspective of elementary teachers on the purpose and academic growth difference when utilizing digital portfolios with General and Special Education students. The purpose of the study was to provide education policy and leaders with an in-depth understanding of the perspective teacher hold for the purpose and

effective of digital portfolios when employed with the two subgroups. The current research and literature connected to the conceptual framework and theories of this study.

The data analysis of each data point, as described in Chapter 4, contributed to the thick description of the teacher perspective of digital portfolios. The questionnaire, interviews, and reflection tools each provided unique evidence on the perspective of the purpose and academic growth of General and Special Education students through the use of digital portfolios. The questionnaire provided an initial insight, interviews offered a more in-depth understanding, and the reflective tool provide a hands-on reflection as participants shared their viewpoints. The results identified key evidence that reflection, documenting growth, ownership, showcasing and communicating with parents are key purposes when using digital portfolios with General Education students. Whereas the themes of documenting growth, communication, reflection, support or accommodation, and Same as General Education were prevalent for the purpose of digital portfolios when utilized with Special Education students. Finally, the perspective of teachers on the impact of digital portfolios effecting academic growth difference between the two subgroups leans in favor of General Education students while concluding no impact for Special Education Students.

Discussion of Results

The methodological components and data analysis of the results provided insight and understanding of the perspective teacher hold for the purpose and academic growth differences for General and Special Education students when digital portfolios are utilized. The results will be reviewed in relation to each research question. A final discussion of the data will be presented at the end of the chapter.

Research Question 1. The design of this research question was to uncover the perceptive teachers hold for the purpose of using digital portfolios with their General Education students. Teacher perception identified multiple purposes for utilizing digital portfolios with General Education students. Documenting, growth, showcasing, communication, and generating self-regulated learning were the primary purposes identified. Data to support this finding was gathered and triangulated between the questionnaire, interviews, and reflection tool in order to answer this research question. Other themes such as warehousing, assessment, pride, and feedback were not identified as a purpose for digital portfolios. To further understand the more prevalent themes, I will break them down in to two subgroups; purpose and self-regulated learning.

The themes which will be discussed in the subgroup of purpose are documenting growth, showcasing, and communicating with parents. The data clearly indicates the use of digital portfolios to document student growth is a key purpose for digital portfolios when working with General Education students. Documenting growth was the most predominant theme and was supported consistently throughout the three points of data. The notion of being able to physically observe the growth students made through the year was clearly a key finding of the data.

Showcasing student work also emerged as a common purpose as participants believed the digital portfolio allowed students the opportunity to demonstrate their learning or show their best work to others. The theme of showcasing appeared frequently within the participants' responses within all three points of data. Using digital portfolios as a tool for parent communication was evident within all three points of data; however, it appeared the most within the interview transcripts. The low occurrence of data points in the questionnaire and reflection tool for parent communication suggest that while communication with parents is a component of the digital

portfolio, it may not be one of the main purposes for which teachers are employing the instructional tool. Each of these themes fall in line with the frameworks of Renwick (2017) and Niguidula (2005) as key purposes for the use of digital portfolios.

The final two themes that presented within the data are reflection and ownership; both were categorized under self-regulated learning. These two themes provide a different outlook as they focus on the student's own ability to control or advocate for their own learning (Zimmerman, 1990). Reflection as a factor of digital portfolios was highly apparent and dominated the purpose of digital portfolios. The theme was embedded within all three pointes of data but was weaker in the reflection tool. Regardless, the use of digital portfolios to embed reflection into instruction was evident. Along with reflection, the notion of creating ownership of learning through the digital portfolios was uncovered. The data for the theme of ownership was not as strong within the questionnaire and reflective tool but was highly present in the interview data. Combining the reflection and ownership data together provides insight that self-regulation is a purpose for digital portfolios when utilized with General Education students.

Overall, the data presented that teachers have aligned purposes for the use of digital portfolios when utilized for General Education students. Embedded within the purpose is documenting growth over time, displaying quality work for others, sharing through parent communication, and creating a self-regulated learning. Further discussion will be provided later in the chapter on how this information can be used to impact policies and practices.

Research Question 2. The focus of research question 2 was to uncover teacher perspective on the purpose of digital portfolios when they are utilized with Special Education students. Documenting growth was consistently identified as the sole purpose for digital portfolios. While the theme of reflection was evident the need for supports contradicted the data

and nullified this as a true purpose. In addition, parent communication was determined as a priority, but participants did not qualify this as a purpose for the use of digital portfolios with Special Education students.

The data collection process remained the same for this research question, but teachers were specifically asked to reflect on this subgroup of students and how they viewed the purpose of digital portfolios. Multiple themes emerged within the data and many aligned with the themes for General Education students; documenting growth, reflection, and communication with parents were the key aligned themes. However, the need to support students with accommodations and a general theme of Same as General Education emerged within the data for the subgroup.

As with General Education students, the theme for documenting growth through digital portfolios rose to the top. Participants identified recording student growth as a priority for the working with Special Education students and in some instance even shared how this could benefit the Individual Education Plan. The theme was strongly supported throughout the three points of data. The indication for using digital portfolios as a means of documenting growth for Special Education students is a significant finding. Similarly, communication with parents presented itself well within the data and could be considered a purpose for digital portfolios as well. The one point to note is the low level of data presented for parent communication within the questionnaire for communication; however, the Same as General Education theme presented later in this section, negates the data and provides evidence of communication as a purpose.

The theme of self-regulation was not as prevalent within the data focused on Special Education students. The data on the purpose of digital portfolios as a support or accommodation further negated the use of the tool as a means of increasing self-regulation Overall, teachers

seemed to indicate the need to highly guide Special Education students through the process of digital portfolios and did not view the tool as creating a sense of independence for these students. A similar conflict arose as the theme of reflection emerged regularly within the data but was also negated by the theme of support or accommodations. Thus, the data suggests that while reflection may be part of the purpose of digital portfolios but it is not the most prevalent purpose when teachers embed digital portfolios into instruction with Special Education students.

As previously mentioned, the theme of Same as General Education provided another lens to view the data through. This theme was present within the questionnaire and interview transcripts; the absence within the reflective data would most likely be due to the teacher thinking specifically about the subgroup as they reviewed the digital portfolio. Overall, the data was not highly prominent, but it does offer a point that must be considered. Participants clearly noted the connections of purpose of digital portfolios between General and Special Education students.

The data results provided evidence that documenting growth is a clear purpose for the use of digital portfolios when utilized with Special Education students. The notion of self-regulated learning and the theme of reflection was contradicted by the theme of supports or accommodations within the portfolio. In addition, parent communication as a purpose of digital portfolios was present but difficult to truly define as a purpose. These later three themes are all than negated by the notation of the Same as General Education theme. Thus, the only purpose which can truly be identified through the data for the use of digital portfolios with Special Education students through the perspective of teachers is documenting growth.

Research Question 3. Research Question 3 was structured to determine the perspective of teachers on the academic growth differences generated through digital portfolios when

comparing General and Special Education students. Overall, the data indicated teacher perception on the academic impact created using digital portfolios is non-existent when utilized with Special Education students. However, teacher perception of the academic impact of digital portfolios within the General Education population was varied. To construct this finding, the data was categorized by impact and no impact for each of the subgroups. It is important to note that participants struggled to separate their beliefs on the academic impact from the themes that were presented in the discussion of research questions 1 and 2. To further understand the perspective on academic impact, the two populations will be discussed separately before a final conclusion is drawn.

Participants provided some support for the use of digital portfolios impacting academic success when they are utilized with General Education students. In comparison to other data points, the theme did not present strongly; however, the notation of the theme with this population exceed the data presented on impact with Special Education students. This provided relevancy to the low level of data. In almost equal fashion, the no impact data on academic success using digital portfolios presented itself much more significantly. Here the theme was prominent within the questionnaire and interview data; but lacking in the reflective tool. Together the two data points conclude an undistinguishable impact on academic performance when digital portfolios are employed with General Education students.

The data gathered from participants on the effect of digital portfolios on the academic impact of Special Education students is a bit more distinguishable. It was clear that participants do not believe the digital portfolio has an impact on the population's academic success. There were few notations of impact presented with in the interview transcripts and no other examples identified within the other points of data. However, the theme of no impact arose significantly

within the three points of data and suppressed data presented around General Education students. These two points together provide an evident case of understanding that teachers do not believe digital portfolios impact the academic success of Special Education students in their General Education Classrooms.

The research question seeks to determine if a difference exists within teacher perspective on the academic impact digital portfolios have on academic success of the two populations. The data would suggest that there is a difference in how the teachers view academic success created with the instructional tool. The clear definition within the data that digital portfolios do not impact the success of Special Education students and the blurry viewpoint on the impact with General Education students provides evidence that teachers view the tool as having a varied level of success with the two population.

Discussion of the Results in Relation to the Literature

The basis of this section is to provide connections between this research study and the literature. This initial problem presented for this study was founded on the notion of increased accountability for schools (Klein, 2018; United States Department of Education, 2018) while seeking a tool that not only assess but increase the level of instruction. Digital portfolios place teachers and students as active members of the process to support the removal of standardized testing (Renwick, 2017). However, the power teachers hold in implementing the digital portfolios and the level of effectiveness which may be of result has been clearly been document (Alacam & Olgan, 2015; Assaggaf & Bamahra, 2016; Cirocki & Caparoso, 2016; Gámiz-Sánchez et al., 2016; Mngo & Mngo, 2018).

Since teachers hold a high level of importance within the implementation of digital portfolios, it was necessary to determine their perspective on the purpose and academic growth

generated by the instructional tool. Ruppar et al. (2015) concluded digital portfolios are impacted by the teacher's own level of self-efficacy and knowledge of how to support the needs of Special Education students. In addition, Clancy and Gardner (2017) stated the need for supports and guidance as teachers begin to implement the practice into their classrooms.

Literature on the effectiveness of digital portfolios claimed that teachers must first recognize the purpose of the digital portfolios. Cordier et al. (2016) offered a purpose for digital portfolios by distinguishing between assessment for learning and assessment of learning. The definition of the purpose creates the opportunity to embed ownership from students as engage in the creation of the digital portfolio. Demir and Kutlu (2016) and Wyk (2017) agreed with this by emphasizing growth occurring as students engaged in the creation of digital portfolios. This research did not allow for a similar conclusion as the literature due to the miss alignment of teacher perspective between the two populations. The data concluded that teachers have a more define purpose for General Education students than Special Education students.

In addition, teacher belief or perception plays a large impact on the self-regulated learning and the implementation of digital portfolios. Alacam and Olgan (2015) concluded digital portfolios were not successful with students if teachers did not view students as active participants in the creation of digital portfolios or create process to empower the students. Ngara and Mahdi's (2016) further confirmed teacher belief impacted the success of students. This research aligns with both pieces of literature as teacher perception on the use of digital portfolios for both General Education and Special Education students was not aligned. In addition, the various beliefs of the effectiveness of digital portfolios on academic impact further supports the literature.

In summary, this research study further provided evidence that the gap of effective practices discovered within the literature and current practices still exists as teachers implement the practice of digital portfolios with both General and Special Education students. The inequities within the purposes set for the use of the instructional tool with both populations provides an understanding that teachers are still not aware of how the tool benefits both groups of students. The strong sense of having no academic impact for Special Education students in contrast to some impact for General Education students through use of digital portfolios offers further evidence that teacher mindsets have not shifted to support both subgroups.

Limitations

This portion of the dissertation discusses the limitations and possible modifications which could have reinforced the study. One factor that would have increased the effectiveness would have been to increase the sample size. Having garnered more respondents to the questionnaire would have provided a deeper level of knowledge. An additional limitation for this study was the focus on one single school district. The study focused on only participants that had completed professional development on digital portfolios within the district; broadening the reach of the research to include other districts who have provided similar training would have strengthened the results of the research.

In addition, having more participants complete the reflection tool would have increased the reliability of the data collection. In hindsight, having provided a common digital portfolio for all participants to reflect upon would have provided a more consistent level of data. Offering multiple digital portfolios to be reviewed for both populations would have also increased the dependability of the data.

Implication of the Results for Theory, Policy, and Practice

This research project's results provides several recommendations for the implementation of digital portfolios. The implications will first be drawn between the research and Social Cognitive Theory. The final portion of this section will provide insight on the implications for policy and practice.

Theory. Social Cognitive Theory (SCT) provided direction and guidance to this research project. The results of this research hold a reciprocal relationship with SCT as both affect and depend on one another simultaneously. In addition, the results of the study not only align with SCT but also garners support with the literature review. The synonymous relationship between the theory and the results provides the foundation for this research project and provided a launch of the study. Prior studies supported the theory, conceptual framework, and results generated through this study. Literature also noted the strong impact teachers hold on the implementation of digital portfolios (Alacam & Olgan, 2015; Assaggaf & Bamahra, 2016; Cirocki & Caparoso, 2016; Gámiz-Sánchez et al., 2016; Mngo & Mngo, 2018).

The impact of teacher beliefs and perspective on the success of Special Education students was noted in study completed by Ruppar et al. (2015). The study identified that teacher perceptions have a direct correlation to the actions they take within the classroom as they enact strategies to support students. This study found that teachers did not hold the same belief for the purpose of digital portfolios for General and Special Education students. In addition, the perspective of the academic impact created through the use of digital portfolios is not present for the Special Education population and is varying for General Education students.

The research of Mngo and Mngo (2018) confirmed that the role of teachers does have an impact on the success of Special Education students. In this study, Mngo and Mngo (2018)

discovered that teachers prefer not to have Special Education students in their classrooms because they feel underqualified to properly support the level of need. The results of this study would confirm this as teachers' perspective of the purpose and the academic growth generated with digital portfolios was different then with General Education students.

Clancy and Gardner (2017) provided a clear message through their research stating that teacher need direct support as they implement digital portfolios. While the research did not extend to Special Education students, the connection for the need for supports to guide teachers in the implementation of the tool with the population can be drawn. This research further supports the need to provide teachers further professional development and support on how to support Special Education students when implementing digital portfolios.

Policy and practice. The professional development of teachers on how they implement digital portfolios with Special Education students is imperative. The results of this study provide evidence that teachers are feeling more comfortable with utilizing the tool for General Education students, but that they struggle understanding how to apply the same purpose to Special Education students. Specialized professional development focused on how to build self-regulated learning into the digital portfolio for Special Education students would provide more alignment with the tool between the two populations. Providing teachers with information on how to generate additional student ownership and support reflective practices within the digital portfolio would increase the effectiveness of the tool for Special Education students.

The need to provide a direct connection or mentor for General Education to Special Education teachers who have more knowledge and training on how to support Special Education students may also be of benefit. The unfocused results of the research as to the purpose and academic growth generated for digital portfolio provides a grounding of the need for this

connection within policy and practice. Leaders should focus on how the natural collaborative supports could be implemented within the school setting and establish structures that enhance the abilities of General Education teachers.

In addition, creating a network of collaborative supports for teachers will allow for dialogue and ideas to be shared on how teachers are supporting Special Education students with the implementation. Mngo and Mngo (2018) identified that teachers did not believe in inclusionary practices simply because they felt ill equipped to support Special education students. Opening a network would allow teacher the natural ability to share their success and brainstorm as a community as they seek to increase the effectiveness of the tool with Special Education students.

Recommendations for Further Research

This research study produced results which presented opportunity for future research on how teachers perceive the purpose and academic growth differences between General and Special Education students when digital portfolios are utilized. The nature of this qualitative cases study does not lend the results to generalization; thus, additional research to confirm within other settings would broaden the research. Other school districts have implemented the use of digital portfolios, gaining information on how their teachers perceive digital portfolios would provide additional evidence and further inform education leaders. Further examining, why teachers do not perceive the instructional tool as creating an academic success for Special Education students would also be worthy of additional research. In addition, utilizing a quantitative measure to provide another level of validity to the perspective of teachers might be considered.

Conclusion

This primary purpose of this chapter was to present the findings of the research, draw connections to the literature, and provide implications. The results indicated that teacher's perspective on the purpose of digital portfolios with General Education students were more focused. The data indicated that growth over time, showcasing, parent communication, and creating a self-regulated learning through reflection and ownerships were primary purposes for digital portfolios with this group of students. In contrast, documenting student growth was the only common them presented in the data regarding the purpose of digital portfolios with Special Education students. Parent communication was relevant but not significant while self-regulated learning was negated as two different viewpoints of reflection and support or accommodations conflicted with one another. Finally, the notation of Same as General Education disputed the data and muddled the data.

Despite the confusion within the purpose for digital portfolios with Special Education students, it was clear that participants believed the tool did not impact academic success. Whereas, the data provided evidence that teachers may believe differently when thinking about their General Education students. This data is important to the educational community as it provides a direct insight into the perspective of teachers. Since teacher beliefs impacts the success of digital portfolio implementation, it is important for educational leaders to understand this perspective and implement supports that will guide teachers in the implementation of digital portfolios with their Special Education students.

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Appendix A: Participant Consent Form

Research Study Title: A Case Study of Teacher Perspective on Digital Portfolios in Comparison of General and Special Education Students
Principal Investigator: Daniel Simons
Research Institution: Concordia University–Portland
Faculty Advisor: Dr. Jillian Skelton, Ph.D.

Purpose and what you will be doing:
The purpose of this phase of interview and reflection phase of the research is to continue constructing knowledge of teachers' perception on the purpose of digital portfolios and the effectiveness of the instructional tool as it relates to both General and Special Education students. Participants in this phase all completed the initial questionnaire and represent the median of respondents. No one will be paid to be in this phase of the study or within any other phase of the study. The interview and reflection phase will begin April 1, 2019 and will conclude by June 1, 2019.

During this phase of the study, you will be asked to participate in an interview with the researcher and asked to reflect through a written journal as you explore one General and one Special Education students' digital portfolio. Doing these things should take less than 90 minutes of your time.

Risks:
There are no risks to participating in this study other than providing your information. However, we will protect your information. Any personal information you provide will be coded so it cannot be linked to you. Any name or identifying information you give will be kept securely via electronic encryption or locked inside the personal desk of the researcher. Interview sessions will be audio recorded. Recordings will be deleted immediately following transcription and member-checking. Recordings will be double recorded and can cease at any time during the observation upon the participants request. When we or any of our investigators look at the data, none of the data will have your name or identifying information. We will refer to your data with a code that only the principal investigator knows links to you. This way, your identifiable information will not be stored with the data. We will not identify you in any publication or report. Your information will be kept private at all times and then all study documents will be destroyed 3 years after we conclude this study.

Benefits:
Information you provide will help support the field of education as policy makers and educational leaders prepare to support teachers in the implementation of digital portfolios. The insights gained could also further the success of all students as educators would better understand the perceptions of teachers and provide new levels of supports as of digital portfolios are integrated as an instructional strategy. You could benefit by reflecting on your own practices about digital portfolios as an instructional tool with both General and Special Education students.

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

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

Contact Information:
You will receive a copy of this consent form. If you have questions you can talk to or write the principal investigator, Daniel Simons at [redacted]. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email obranch@cu-portland.edu or call 503-493-6390).

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

_____	_____
Participant Name	Date
_____	_____
Participant Signature	Date
_____	_____
Investigator Name	Date
_____	_____
Investigator Signature	Date

Investigator: Daniel Simons email: [redacted]
c/o: Professor Dr. Jillian Skelton, Ph.D.
Concordia University–Portland
2811 NE Holman Street
Portland, Oregon 97221

Appendix B: Letter to Participants

Dear Invitee,

My name is Daniel Simons and I am currently seeking my doctoral degree at Concordia University–Portland. I am kindly requesting your participation in my doctorial research study titles "A Case Study of Teacher Perceptions of Digital Portfolios in Comparison for General and Special Education." Thus, I am seeking to invite elementary teachers who have completed the district professional development on digital portfolios to participate.

The study would ask teachers to complete a questionnaire on the purpose and effectiveness of digital portfolios when utilized with General and Special Education students. A small subset of respondent will be interviewed and asked to participate in a reflective journal. At no point will student information or data be collected or utilized within the research.

Participation in the research study is completely voluntary and you may request to end your participation at any time. Confidentiality will be maintained throughout the study. In addition, no personal identification or any identifying information will be used.

If you would like to participate in the study, please read and review the informed consent document by clicking on the link below. After completing the informed consent, you will be directed to the questionnaire.

Thank you for your time and for your participation in this research study. It is important that educational leaders understand the perspective teacher hold toward digital portfolios in order to provide the optimal level of support.

Sincerely,

Daniel Simons, Doctoral Student, Concordia University–Portland

Appendix C: Participant Questionnaire

Thank you for your participation in this research study. The focus of the study is to learn about the perspective General Education teachers hold regarding the purpose and academic gains of digital portfolios with both General and Special Education students. Thus, your participation is essential to the research and appreciated.

Please begin by listing your name and years of teaching experience. Please note that all personal and identifying information will be kept confidential.

Name: _____ Email address:_____

Years of teaching experience: _____

Please answer the following questions by selecting yes or no.

I currently serve both General and Special Education students in my classroom: Yes No

I have participated in district professional development on digital portfolios: Yes No

Please respond to the following questions in two to three sentences. Please feel free to leave the question blank if the question is not applicable to your current classroom.

What do you believe is the purpose of digital portfolios in your classroom used with General Education students?

What do you believe is the purpose of digital portfolios in your classroom used with Special Education students?

Do you believe digital portfolios are provide quality assessments for your General Education students? Why?

Do you believe digital portfolios are provide quality assessments for your Special Education students? Why?

How do you see the use of digital portfolios effecting the academic success of General Education students?

How do you see the use of digital portfolios effecting the academic success of Special Education students?

What shifts in academic success have you seen because of implementing digital portfolios with your General Education students?

What shifts in academic success have you seen because of implementing digital portfolios with your Special Education students?

Thank you for completing this questionnaire. Your time and assistance are greatly appreciated. The next portion of the research is to complete an interview and research journal. If you are selected, you will be contacted via email. Thank you.

Appendix D: Interview Questions

Name: _____ Date: _____

Thank you for your willingness to participate in this portion of the study. A recording of the interview will be taken only to allow the researcher the opportunity to review and ensure all information is gathered. Your personal information and all identifying information will be kept confidential.

Please answer each of the questions as fully as possible. The researcher may ask additional questions to fully understand your perspective. Please feel free to ask if you need any questions repeated or rephrased. Than you again for your participation.

Please begin first by stating your name.

1. How have you integrated digital portfolios into your classroom?

2. What factors drive the purpose of digital portfolios when they are utilized for General Education Students?

3. What effect does the digital portfolio have on the academic success of General Education students? What do you believe leads to this?

4. Why or why aren't digital portfolios effective for General Education students?

5. What role does the digital portfolio hold in creating academic growth for General Education students?

6. What factors drive the purpose of digital portfolios when they are utilized for Special Education Students?

7. What effect does the digital portfolio have on the academic success of Special Education students? What do you believe leads to this?

8. Why or why aren't digital portfolios effective for Special Education students?

9. What role does the digital portfolio hold in creating academic growth for Special Education students?

Appendix E: Reflective Journal Prompt

Teacher Name: _____ Date:_____

Thank you for your participation in this research study. For this portion of the research you will be asked to review two digital portfolios; one from a General Education student and one from a Special Education student.

First, please select a digital portfolio for one of your General Education students. For the purpose of this study, General Education refers to any student not receiving Special Education services. Please review the digital portfolio and then answer the following questions in two to three sentences.

1. When reflecting on the student's digital portfolio, what information is most prevalent to you?

2. What components of the digital portfolio seem to be the most beneficial for this student?

3. What components of the digital portfolio seem to be the most troublesome for this student?

4. How you feel this student is progressing academically by using the digital portfolio?

5. After reviewing the student's digital portfolio, what do you believe the main purpose of the portfolio? Why do you believe this?

Second, please select a digital portfolio for one of your Special Education students. For the purpose of this study, Special Education student refers to any study who receives Special Education services. Please review the digital portfolio and then answer the following questions in two to three sentences.

1. When reflecting on the student's digital portfolio, what information is most prevalent to you?

2. What components of the digital portfolio seem to be the most beneficial for this student?

3. What components of the digital portfolio seem to be the most troublesome for this student?

4. How you feel this student is progressing academically by using the digital portfolio?

5. After reviewing the student's digital portfolio, what do you believe the main purpose of the portfolio? Why do you believe this?

Thank you for your participation in this research study. Your support and contribution is greatly appreciated. Please feel free to reach out to me if you have any questions.

Appendix F: Statement of Original Work

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

Statement of academic integrity.

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

Explanations:

What does "fraudulent" mean?

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

What is "unauthorized" assistance?

"Unauthorized assistance" refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another's work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (continued)

I attest that:

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

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

Daniel Simons

Digital Signature

Daniel Simons

Name (Typed)

8/23/2019

Date