

A CASE STUDY ANALYSIS ABOUT THE USE OF A DIGITAL TRANSITION
PORTFOLIO FOR SECONDARY STUDENTS WITH MILD TO MODERATE DISABILITIES
IN AN URBAN INCLUSIVE HIGH SCHOOL CLASSROOM

by

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A dissertation submitted to Johns Hopkins University in conformity with the requirements for
the degree of Doctor of Education

Baltimore, Maryland

May, 2015

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Abstract

This qualitative single case study examined how one teacher used a digital portfolio in an inclusive urban high school career research and development (CRD) class over one semester. Specifically, this research described a) the teacher's perceptions of the use of a digital portfolio for secondary transition; b) how the digital portfolio was used in conjunction with a curriculum for secondary transition; c) the relation between a digital portfolio and curricular content; and d) how the relationships among the digital portfolio, curricular content, and instruction varied for students with disabilities.

Data were collected using semi-structured interviews, participant and passive observation, document analysis/physical artifacts, and field notes. Coding was used in the final analyses. The results revealed the digital portfolio was defined by the purpose, creation, selection of activities, and ongoing development. Overall, digital portfolio development benefited the teacher and his students. Students' portfolio content helped the teacher identify conceptual understandings, and errors.

The digital portfolio was a useful tool for use in a high school transition class. Themes that emerged in the analysis were related to time commitment, availability of digitized materials, and insuring that materials/activities were both appropriate for the digital portfolio and supported student learning goals. Results indicated how the strategic use of technology can facilitate the transition experience for young adults with disabilities.

Barriers related to using the digital portfolio were teacher time, computer accessibility, digitalization, and situational factors. Implications for practice, contributions to the research base, and future research are discussed.

Acknowledgments

As part of my acknowledgements, I would like to express my sincere thanks to my advisors, colleagues, friends, and family. First, I would like to thank each of my advisors, Dr. Michael Rosenberg, Dr. Alan Green, Dr. Deborah Carran, Dr. Edward Pajak and Dr. John Castellani who lost a tough battle with cancer during the final stages of my dissertation. I will never forget his support, patience and willingness to share his technology expertise that enhanced my dissertation.

I would also like to express my gratitude to my committee Dr. Deborah Carran for her encouragement and help at the very end of this process. I would also like to thank Dr. Lynne Mainzer, Dr. Linda Tsantis, Dr. Jackie Nunn, for all your thoughtful questions and for serving on my dissertation defense committee.

I would also like to thank the professional staff at the Johns Hopkins Center for Technology in Education for their assistance and cooperation. You all are a fantastic staff and I am grateful for your assistance and encouragement.

There are no words to describe how thankful I am to my immediate family. To my mother, Gwen Trexler, who fought a tough battle with breast cancer during my coursework but always told me I would finish. My father, Charles Trexler, thank you for instilling your work ethic in me. To my brother and his family, Uncle Mark finished his dissertation. To Pam's family, Donald, Nancy, Erich, Amy and their family, Gretchen and Anna all who would insist on periodic updates at every family gathering. Lastly, I am grateful to my wife Pam Trexler, for her unwavering support and encouragement not only through this process but each and every day. Without your patience, and love, I would not have finished. I will never forget the time you gave so I could complete this process and I am forever thankful.

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Chapter 1

Introduction

Transition planning is an important part of meeting the needs of students with disabilities. In particular, ongoing transition assessment and planning allows special education and general education teachers to make informed decisions about serving the needs of students with disabilities. Regular and special education teachers must engage in ongoing assessment of students with disabilities to comply with the requirements of No Child Left Behind (NCLB) and the Individuals with Disabilities Education Improvement Act (IDEIA), which emphasize the importance of an ongoing evaluation system in educational settings (Campbell & Collins, 2007). In meeting NCLB mandates, all educators should use various types of assessments (e.g., vocational assessments, functional behavioral assessment; norm-referenced and criterion-referenced measures, including high stakes assessments) to obtain the information needed to deliver effective instruction and document student achievement (Cole, 2006). Educators also use the results from high stakes assessments to document student achievement (Ward, Montague, & Linton, 2003). Additionally, they use different type of assessments such as portfolios, group projects, practice exams, rubrics, and research papers (McIntosh, 2011). With the continual advancements of technology in schools, teachers have new ways of delivering and accessing student assessment information. According to Willis and Wikie (2009), “digital portfolios also enhance self-esteem by providing a mechanism through which students can see their progress toward the achievement of personal, academic, and career goals.” The platform of a digital portfolio gives students an effective way to exhibit their workplace technology skills to prospective employers and colleges. The 21st century workplace demands knowledge and expertise of technological skills.

Digital portfolios can be utilized as assessment tools. At a time when many experts in education argue that schools are emphasizing standardized testing as the sole means of evaluating students, digital portfolios offer a strong alternative by evaluating a student in an authentic and holistic process (Zimmerman & Holland, 2015). Because students with disabilities have the opportunity to include a combination of written, graphic, and video-based components in their digital portfolios, they are able to demonstrate their skills and knowledge via multiple avenues. For students with disabilities, digital portfolios can function as both formative and summative assessments, given that they constitute both a process and a product. That is, digital portfolios can serve as a check for understanding of students' learning throughout a specific curriculum unit or throughout the school year, while they can also serve as a finished document that reflects a student's mastery of particular skills.

Black (2010) explains the utility of a digital portfolio, "When secondary students with disabilities develop, maintain, and share their transition portfolio, the likelihood of personal accountability for academics, pride in the products developed, and sense of ownership increases, while the dependence upon teachers and parents decreases." Digital portfolios are student-driven and as a result allow students to take ownership of their learning. The technology used in portfolio development provides a means by which students with disabilities can practice self-advocacy and self-determination (Black, 2010). This self-advocacy and self-determination will lead to a greater chance of success for whatever pathway a student chooses to take during post-graduation.

Background

Despite the wide range of assessments and technology in place, large numbers of high school students with learning disabilities are graduating without post-secondary educational

plans and are not transitioning well into the world of work (Janiga & Costenbader, 2002 & Sabel). While the number of students with disabilities choosing post-secondary education has dramatically increased, the rates remain lower than their peers without disabilities (United States General Accounting Office, 2003).

Post-secondary educational and career outcomes for young adults with disabilities are significantly lower than their peers without disabilities (Rojewski, 1999; United States General Accounting Office, 2003). Students with disabilities have higher school drop-out rates, lower rates of college attendance, lower earnings, and lower prestige occupations compared to their peers without disabilities (Scarborough & Gilbride, 2006). Young adults with disabilities are less likely to have attained a high school diploma or its equivalent compared to their peers without disabilities, more likely to aspire to low-prestige occupations, and less likely to be enrolled in post-secondary education (Rajewski, 1999). The results of Rajewski's work indicate that the career development of students with disabilities differs from their peers without learning disabilities.

Rajewski (1999) found that post-secondary educational and career outcomes for young adults with disabilities are significantly lower than their peers without disabilities. In this correlational study of 11,178 young adults, Rajewski investigated the occupational and educational status of young adults with and without learning disabilities following completion of high school. Using information from an existing database, The National Longitudinal Transition Study-2 (2009), standardized achievement tests, and a questionnaire, the researcher assessed predictors of post-secondary occupational and educational outcomes for young adults with learning disabilities compared to young adults without disabilities.

The most significant predictors of post-secondary education for young adults with and

without disabilities were educational aspirations at grade 12 and successful attainment of a high school diploma or equivalent. The study results underscore the importance of transition planning. Determining which factors impact post-secondary educational plans as aspirations are shown to be clearly significant in improving post-secondary outcomes of students with learning disabilities.

For youth with disabilities, access to technology tools while involved in high school programming potentially maximizes their independence and participation within work and post-secondary settings. The growing use of technology creates new avenues for learning, which in turn create a new type of theories, especially as it applies to students with learning disabilities and their transition on to the world of work. Today's students are active 21st century learners. If students have questions about any topic, they feel confident that they can use different forms of social media to find the answers. Students can choose what they want to learn, how they want to learn, and how they corroborate new information in digital learning teams. This new era of information allows students with disabilities to become more self-directed and independent (Carmean & Christie, 2006). Based on the realities of the emergence of a new type of learner and the spread of technology, McCain (1995) suggests that educators should use technology-based tools for transition planning in their evaluations of students with disabilities.

Rationale for Study

A digital transition portfolio can address all levels of post-secondary planning for students with disabilities. The benefits of a digital transition portfolio lie as much in the discussions they generate among educational case managers, parents and between all IEP team members in providing a realistic flow of information about the child's progress toward secondary transition goals. A digital transition portfolio can capture complex outcomes, display realistic

tasks, and can communicate those achievements students value most. Not only can digital portfolios be a repository for evidence, they can act as a good instructional tool for both teacher and student reflection. The logical way to make realistic transition IEP goals defensible is to back them up with evidence, and digital transition portfolios can provide a receptacle for such collections.

The current method of using a paper-based transition portfolio system can be unwieldy and occupy valuable IEP record room, classroom space and IEP meeting time. Facilitating the access of a child's paper-based portfolio can take up large amounts of valuable IEP meeting time in order to ensure that every member of an IEP team has had the opportunity to view the child's transition portfolio before a meaningful discussion can ensue about the child's post-secondary plans.

The Center for Technology in Education at Johns Hopkins University (2014) has established a pilot digital transition portfolio that will connect to an existing online IEP system that is utilized state wide in Maryland. A pilot program began in school year 2013-14 to introduce digital transition portfolios to secondary teachers to use with their ninth-grade students enrolled in the mandatory career research and development class.

This digital transition portfolio contains digital artifacts including items, such as employment documents, graphics, photographs, video and sound. All artifacts are accompanied by a short paragraph description which describes the work and challenges met by the child along with a student reflection and commentary on the reasons the work shows evidence of attaining a transition IEP goal. The students follow a rubric found in the career research and development and school districts' curriculum to rate their work. Within the portfolio are sections on the digital portfolio plan that is aligned to the career research and

development content (which begins when students are 14 years of age in Maryland and ends with graduation). The digital portfolio has a community reflection piece that provides opportunities for the teacher to provide feedback to students on their work in the digital transition portfolio.

Statement of Purpose

The use and benefits of a digital transition portfolio as part of an overall career readiness for a child with mild to moderate disabilities deserve more attention in the secondary transition field as well as in overall special education programming for adolescents. Students with disabilities creating a digital portfolio offers several advantages over creating paper based portfolios, but it also introduces several disadvantages unique to technology-based tools.

The use of this technology can allow students to present their own personal achievement from a student who is ready to follow a college pathway to an employee ready to work in the 21st century. It allows the student to showcase their results from many courses or functions in one digital tool. This digital portfolio tool is meant to be a vehicle for a student with a disability to have ownership and involvement in their own personal learning growth that spans higher education or the 21st century workplace. Digital portfolios help teachers monitor student learning and identify areas of strength and those that need improvement (Willis & Wilke, 2009)

Paper-based portfolios require that artifacts be printed, organized and prepared for a binder. Heath (2005) noted that it is much easier to keep artifacts in an electronic format and to organize them electronically. He also stated that digital portfolios are much more portable and easier to duplicate and share with a large number of people than traditional paper-based portfolios. Another significant advantage of digital portfolios over paper-based portfolios is that digital portfolios can reveal the interconnections between student artifacts. There has been a lack

of sufficient systematic observation or research documenting the possibilities and drawbacks of a secondary digital portfolio and their application to assist students with disabilities in supporting IEP transition goal development and post-secondary planning.

Examining the nature of digital transition portfolios, their uses, the potential impact on overall post-secondary planning, and instructional planning for these adolescents should be a priority in education in a time when social change is constantly redefining our understanding of how individuals with disabilities can contribute to our society as a whole. To start the conversation, my research will describe how a digital transition portfolio was used by a general educator in an inclusive self-contained classroom setting. This document reviews the impact it has on post-secondary planning, overall IEP transition goal writing and the teacher's perceptions on using a digital transition portfolio for their students.

Research Questions

The purpose of this research is to understand the use of digital transition portfolio in one general educator's inclusive high school classroom for students with disabilities. To accomplish this purpose, I have asked four (4) research questions:

- 1.0 How does a high school teacher create and use a digital transition portfolio for use in post-secondary planning for students with disabilities in an inclusive classroom?
- 2.0 How does the teacher perceive the use of a digital transition portfolio as an assessment tool to measuring one or more transition goals for the child?
- 3.0 What are the relationships among the digital portfolio, curricular content, and instruction?
- 4.0 How does the relationship with the digital transition portfolio facilitate discussion among all IEP team members toward the child's post-secondary plans?

In this dissertation, I examined the emergence of a digital transition portfolio and situate it in the context for creation of a secondary transition portfolio for students with disabilities. I have argued that a digital transition portfolio is an effective tool that can be used to leverage the collective intelligence of school and business community leaders in the service of the public good for students with disabilities in creating their secondary transition portfolio used for post-graduation plans. To do this, I have investigated the use of a secondary transition portfolio by examining factors increasing teacher willingness, confidence and knowledge in implementation of the digital portfolios.

This qualitative single case study examined how one teacher used a digital transition portfolio in an inclusive classroom setting. Specifically, this research described (a) the teacher's perceptions and use of the digital transition portfolio in their classroom, (b) how the portfolio was used in conjunction with secondary transition planning for students with disabilities, (c) the relation between portfolio construction and an existing career exploration curriculum, and (d) how the relationships among transition portfolio assessment, curricular content, and instruction varied for students with disabilities.

The semester long study took place in an urban area high school within Prince George's county where the Maryland career research and development course is taught. The majority of students enrolled in these classes were economically disadvantaged, and African-Americans. Results from the construction of a digital transition portfolio examined to monitor the differences in post-secondary educational plans of students with disabilities. Quantitative and qualitative results based on teacher interviews were used to gauge perceived barriers about using a digital transition portfolio in constructing a child's secondary transition plan.

Data was collected using structured interviews, direct observations in the classroom,

online observation and electronic document analysis. Data collection and analysis occurred simultaneously. Coding was used in the final analyses. I hypothesized that students' digital transition portfolios helped the teacher identify conceptual understandings and facilitate effective transition planning with regard to career expectations and post-secondary academic plans. The portfolio information helped to shape the content of and processes for subsequent instruction for individual students with disabilities and will also guide the selection of secondary transition content for the portfolio that students with disabilities will need for successful post-graduation.

Operational Definitions

Transition: A coordinated set of activities for a student, designed within an outcome oriented process, which promotes movement from school to post-school activities, including postsecondary education, vocational training, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation. The coordinated activities should be based on the individual student's needs, taking into account the student's preferences and interests, and shall include instruction, community experiences, the development of employment and other post-school adult living objectives, and when appropriate, acquisition of daily living skills and functional vocational evaluation. (Individuals with Disabilities Education Act, P.L. 101-476, 20 U.S.C. Chapter 33, Section 1401 (a)[(1990)])

Community Living: Community Living activities relate to daily living such as accessing the community through various modes of transportation, attending to personal care needs (eating, drinking, toileting), budgeting, maintaining

employment, and communicating.

CRD: The career research and development course prepares students with the academic, technical, and workplace skills necessary to seek further education and employment in a career field of their interest upon graduating from high school. The program contains two in-school courses, a portfolio development project, and a work-based learning experience.

IDEA: A federal law stipulating the requirements of public schools in regard to provision of educational services for students with disabilities. The basic the law retains its basic foundational tenets of the law include: (a) a free and appropriate public education (FAPE); (b) the right to be educated in the least restrictive environment (LRE); (c) the right to an individualized education plan (IEP); (d) the right to non-discriminatory identification and evaluation; (e) the allowance of parental participation; and (f) the right to due process.

IEP: An individualized education plan (IEP) is a written document for a student with disabilities that is periodically reviewed and revised based on the student's needs. Each IEP includes a statement on present levels of performance, and must also state how the student's disability impacts involvement/progress in the general curriculum (IDEA, 2004).

LRE: Least restrictive environment (LRE) consists of educating children with and without disabilities together, unless the nature of the child's disability is so severe that education with non-disabled peers in general education classes would not benefit the child with the disability (IDEA, 2004).

Digital Portfolio: Secondary Transition Digital Portfolio refers to the digital product that students create to provide evidence of skills and abilities toward career and college development. Students maintain a portfolio as part of the Career and Development Research grade. The portfolio is an on-going project which they will add to and update throughout participation in the program and as they continue their lifelong career paths

UDL: Creating content that is accessible to all learners by making it available through various means based on pre-existing student needs in the classroom (Hitchcock & Stahl, 2003). An example of UDL is extending the role of the traditional textbook by offering the text on an audio CD.

Chapter 2

Review of the Literature

There are five essential components when considering secondary transition planning and the digital portfolio for students with disabilities that should be considered while preparing teachers to work with students with disabilities: (1) involving students in transition individualized education programs (IEPs), (2) teaching transition planning skills, (3) including in the IEP a comprehensive and relevant program of study, (4) defining in the IEP appropriate and measurable transition goals, and (5) utilizing systematic and age-appropriate transition assessment. Teachers must first be familiar with the predictors of post-school success that relate to the essential components. This familiarity provides teachers with the knowledge and skills to ensure that programs include evidence-based practices leading to positive post-school success.

Research indicates that students who graduate high school with higher levels of self-determination are more likely than students who graduate high school with lower levels of self-determination to have positive post-school employment and education outcomes (Morningstar et al., 2010; Test, Mazzotti, et al., 2009). Self-determination/self-advocacy refers to “the ability to make choices, solve problems, set goals, evaluate options, take initiative to reach one’s goals, and accept consequences of one’s actions” (Rowe et al., 2013b, p. 8). Related to these essential components, teachers must be prepared to teach self-advocacy skills, goal-setting skills, choice-making skills, and problem-solving skills.

Additionally, teachers must be prepared to understand “cultural nuances” while teaching self-determination (Rowe et al., 2013b) and to ensure that cultural identity is considered while supporting students from diverse backgrounds to make transition decisions and utilize self-determination strategies (Trainor, 2005).

Educators must learn how to embed self-determination skills in skill development and opportunities for practice within academic course content. One popular program is the Self-Determination Learning Model of Instruction (Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012), which can be implemented in general educational contexts and special education settings. This program which is very popular among general educators has made very little contribution to secondary transition planning for students with disabilities.

Student-centered Transition Plans

Teachers should have an understanding of using student-centered transition plans that facilitate the process of helping students learn about themselves, which set in-school and post-school goals, and where students participate in their transition planning process. This is especially relevant while preparing students to self-direct their transition planning meetings (Martin et al., 2006). A report by the Education Commission of the States (2007) indicated that student-centered transition plans are being legislatively mandated in a least 20 states. To date, however, there has been no research looking into whether these plans when implemented effectively are having a beneficial impact on preparing students with disabilities to make effective post-secondary transitions.

Student-centered transition plans are an important document and process in supporting the paradigm shift toward student-centered learning. Learning plans are usually created by students under close advisory from a significant and caring teacher or transition coordinator who follow their progress and guide their development over several years with a strong intention in bridging the relevance of knowledge to their learning interest. Students engage in their planned strategic actions to guide their learning experience in high school to transition toward active participation in work and college (DiMartino & Clarke, 2008).

The planning process is usually developmental in nature, training students to take responsibility and exercise self-determination skills for their own education. In many ways, student-centered transition plans share common objectives and intentions with Individual Education Plans (IEPs) by: 1) Individualizing learning for students, 2) preparing students to transit effectively after secondary schools and 3) striving toward high standard in learning and student outcome, the design of student-centered transition plans are modeled closely after an IEP.

Assessing Students with Disabilities

Assessment in special education is a process by which data are collected to inform decision-making related to creating instruction, curriculum, interventions or supports to address the needs of students with disabilities. The purpose of assessment is to provide information in order to assess progress and create or modify a child's educational program. In this way, assessment is used to evaluate the efficacy of special education services and programs (Pierangelo & Giuliani, 2006).

Program planning, and more specifically, the development and review of IEPs, is one form of special education assessment. Program planning is important at every age for students with disabilities. These plans include the Individualized Family Service Plan (IFSP) in early childhood, the Individualized Transition Plan (ITP) in adolescence, and IEP from childhood through adolescence. For an IEP, an IEP team frequently carries out IEP revisions. The IEP team often consists of and/or should consider input from the student, general education teachers, special education teachers, parents, school psychologists, social workers, and other specialists or persons who may be able to identify a student's strengths, needs, and interests.

IEP teams rely on assessment data to develop an understanding of who the student is and

what programs or services may best assist the student's learning. By taking into account a more holistic understanding of the student, the initial or revised IEP may be more effective in enhancing student development. In meetings subsequent to the initial IEP meeting, the team uses ongoing and/or new summative assessment data to determine what progress has been made toward meeting goals and objectives, and revising goals and objectives as necessary. The team also uses this information to determine which supports, services, accommodations, or modifications are needed to facilitate students' learning processes. This process through a holistic approach is particularly true when determining the big picture of a child's transition need. (Bigge et al., 1999; Pierangelo & Giuliani, 2006).

Program evaluation is an essential component of assessment within special education. This includes evaluation of specific instructional programs and approaches, and overall program evaluation. Ongoing evaluation of instruction within a program is a complex process in which the first step is for teachers and other specialists to develop instructional plans to address identified students' needs. These instructional plans are implemented and continuously assessed to determine the effectiveness of the instruction. Usually teachers collect information about students' performance through observations, portfolios, checklists, rubrics, and curriculum based assessments (CBA).

The data can also be used to examine the interaction among students, lesson planning/instruction, and learning. As such, data is used in overall program evaluation. At this level, program evaluation is more extensive and examines the success of the overall program and services to determine their merits (Bigge et al., 1999; Taylor, 2006). In the following sections, the different types of assessments used are discussed: summative and formative, norm-referenced and criterion-referenced, and authentic assessment. This is followed by the controversies that

surround one type of assessment, portfolios, as they relate to special education programming. Lastly, a description through the literature is provided on how to construct portfolios as effective assessment tools for students with disabilities.

Summative and Formative Assessments

There are a variety of assessment types and tools used to evaluate students with special needs. The team in charge of developing an IEP should take into consideration the outcomes of the different types of assessments available. Each type serves different purposes, and the various types provide complementary perspectives on the child.

Summative and formative are the primary terms used to label and categorize different types of assessment. Summative assessments are used at the end of a unit, chapter, semester, grade level, academic year, etc., and involve summarizing students' performance. Examples of summative assessment tools may include tests, quizzes, midterms, final exams, portfolios, rubrics, and others. The purpose of this type of assessment is to provide information about how well students have learned the material, information, or procedures taught (e.g., skills, routines).

In contrast, the purpose of formative assessments is to provide ongoing input about students' progress in learning. This type of assessment is a valuable way to analyze the overall effectiveness of instructional approaches providing the information educators need to modify existing content or strategies to better meet the needs of the student. Examples of assessment tools that can be used formatively include portfolios, mini-quizzes, curriculum-based assessments (or measurements), checklists, and rubrics (Bigge et al., 1999; Fuchs, Fuchs, Hamlet, Walz, & Germann, 1993; Taylor, 2006).

Distinguishing summative and formative assessments can be complicated. For example, a portfolio can serve as either a summative or a formative assessment, depending on the purpose of

the assessment. Formative portfolios are works-in-progress (Carmean & Christie, 2006), where teachers evaluate both the content and the students' portfolio development process, thereby observing students' progress while the learning process is taking place. Summative portfolios are usually evaluated at the end of the academic year. In this case, the learning process is not observed; only the final product is assessed. Therefore, the type of assessment used will determine whether a portfolio will be treated as a final product to be assessed at the end of a semester or year (summative) or as an ongoing learning tool to improve student learning or teaching strategies (formative) (Beck, Livne, & Bear, 2005; Carmean & Christie, 2006).

Norm-referenced and Criterion-referenced Assessments.

When considering assessments, the terms norm-referenced and criterion-referenced typically refer to types of tests. Norm-referenced tests compare a student's obtained score to a norm or reference group (Pierangelo & Guiliano, 2006). These tests are often called normative or standardized tests. The standardizing process takes into consideration the following components: the specific curriculum to be tested, the development of the test itself, administration procedures, scoring methods, and interpretative techniques to compare students' performances with a statistically based norm. There are many norm-referenced tests including the Diagnostic Achievement Battery 3, Kaufman Test of Educational Achievement II, Wechsler Individual Achievement Test, and so on. Tests such as these are used to determine if a student is performing above or below the norm for his or her age/gender.

The main criticism of norm-referenced tests is that they are used to test students who differ demographically from the norming group. For example, some tests were developed several decades ago. Students today come from a variety of ethnic, social, cultural, and economic backgrounds. Diverse backgrounds result in significant differences between today's students and

“yesterday’s” norming populations. As a result, the value of norm-referenced test results is often jeopardized (Pierangelo & Giuliani, 2006; Taylor, 2006).

When creating instructional programs in special education, program developers typically rely on criterion-referenced tests. This type of test does not require comparing scores with other students. Instead, criterion-referenced tests measure students’ performances, or mastery of certain standards, goals, or educational objectives that are categorized as criteria (Bigge et al., 1999; Pierangelo & Guiliani, 2006). For example, these tests can be used to determine skill mastery in career cluster classes such as hospitality and information technology classes. Commercial criterion-referenced tests include multi-component instruments such as the Brigance Inventory and Multilevel Academic Survey Test-Curriculum Level (Taylor, 2006).

A key benefit of criterion-referenced tests is that they can easily be used to develop individualized instructional programs strongly suited for students with disabilities. When administering these types of tests, educators or evaluators can determine what students know, what skills they have mastered, and how they are progressing through a curriculum. Criterion-referenced tests provide specific information about students’ knowledge in relation to the curriculum or learning standards. However, if a teacher wants to compare students with others, criterion-referenced test may not be helpful. If comparisons between or among students are important, norm- referenced tests may be more suitable (Bigge et al., 1999; Taylor, 2006).

Other differences between norm-referenced and criterion-referenced assessments include the scope and depth of the assessment. Norm-referenced tests cover an extensive variety of areas, but these areas are not analyzed in depth. Criterion-referenced tests provide a deeper understanding of students’ knowledge in specific content areas, but may not cover a wide range of areas. The depth of a criterion-referenced test depends on the intent of its creators.

Curriculum writers for vocational programming create criterion-referenced tests to accompany or be independent of specific curricular materials. Career teachers can also create their own tests. Each test administered by a career teacher can help facilitate measuring a students' knowledge on specific skill-based tasks.

Teachers cannot and do not create standardized, norm-referenced tests on their own, and therefore cannot tailor the tests to measure students' progress in programs or curricula, or address unique strengths or weaknesses. As a result, these existing "generic" standardized tests may not provide the information educational case managers and vocational teachers need to develop students' transition goals for the next IEP meeting and academic year. Teachers and IEP teams need more specific, in-depth information in order to develop effective instructional plans; as a result, norm-referenced tests often play a supplementary role in assessing children with disabilities (Bigge et al., 1999; Pierangelo & Guiliani, 2006; Taylor, 2006).

While norm-referenced assessments since their inception have been subjected to a great deal of criticism over the past thirty years, much of this criticism has generally overstated the amount of norm-referencing actually used in standard setting. In fact, the entire practice of norm reference testing continues because teachers and their school administrators are nervous when testing results turnout to be either higher or lower than originally planned. Additionally, some academics continue to apply norm referencing because they believe that academic standards will be "watered-down" when competition is totally removed from the assessment systems. Greater specification of assessment objectives has resulted in a system where students and teachers are able to accurately predict what is to be assessed; creating considerable incentives to narrow the curriculum down to only the aspects of the curriculum which will be assessed (Smith, 1991). Thus neither criterion-referenced assessment nor norm-referenced assessment provides an

adequate foundation for an authentic assessment of a student performance.

The innovative feature of portfolio assessment is that no attempt is made to prescribe learning outcomes. The criteria are defined simply as the consensus of the student selecting the content. The assessment is not objective, in the sense that there are no objective criteria for a student to satisfy, but the existence of a construct (of what it means to be competent in a particular domain) being shared among a community of practitioners (Lave, 1991)

Universal Design for Learning and the Inclusive Classroom

Access to the general curriculum can be provided through the application of UDL. The overall idea of UDL and its tie to this study is to ensure that career and college planning content was accessible to all CRD students by making it available through various means that are based on pre-existing student needs in the classroom (Hitchcock & Stahl, 2003).

UDL methodology as applied in a special education classroom helps to extend the use of technology to create accessibility to learning for all different types of students, including those with disabilities. One example of UDL could be applied to the use of a digital portfolio to reflect student work. The use of UDL principles used in the creation of a secondary transition portfolio can extend the role for the requirement of summarizing a child's performance during their secondary years. Through the use of technology, students with disabilities now have the tools such as: change the size of the font in a career reflection piece, use text-to-speech to make college application information more accessible and video captioning while watching a mock interview for work.

Within the CRD course, providing a means of increasing the potential for students to interact with important employment application and college application information gives them an advantage in learning the materials. Not only can CRD students with disabilities benefit from

the use of UDL, implementation of this concept can be of assistance to all students. All curriculum modifications and instructional accommodations for students designated eligible for special education, as per federal law, must be outlined in the student's IEP (IDEA, 2004).

The three core features of UDL include multiple means of engagement, representation, and expression (Hall, Strangman, & Meyer, 2003). Multiple means of engagement are the hooks that draw students into class activities. For example, teachers can adapt materials or the structure of the class to help increase interest and an understanding of the classroom routine (e.g., Mancil & Pearl, 2008). Multiple means of representation involves ways to present information to more efficiently and effectively support student learning. For example, learning may be enhanced when content is made more concrete through visual or hands-on materials (e.g., Roberts & Joiner, 2007). Finally, multiple means of expression involves ways that students can effectively demonstrate their knowledge. For example, students can show what they know in different ways through the use of a digital portfolio.

Research suggests that teachers will continue to use supports if they fit into their daily classroom routine, are perceived by teachers as effective for all students, and enhance the teacher's repertoire of instructional methods (e.g., Gersten, Chard, & Baker, 2000). Changing what happens in the classroom is a crucial component to creating a successful inclusive environment so students with Autism Spectrum Disorder can receive instruction within a supportive environment (McLeskey & Waldron, 2007). A major concern is that classroom practices are currently set to support the "norm" and teachers are reluctant to modify instruction in ways that extend to students who differ from that norm (Tomlinson, 2004).

Today's classrooms are increasingly diverse and teachers need to proactively set-up the environment and instructional methods in ways that support all learners. A digital portfolio offers

digital features that can enhance organization, scaffolding, and comprehension of context (Englet, Zhao, Dunsmore, Collings, & Wolberg, 2007). Students can use pictures or words to develop visuals using web-based tools and then use them in multiple settings for the following purposes: (a) completing specified transition activities; (b) understanding career content; and (c) promoting independence when completing assignments.

Authentic Assessments

The last assessment type discussed in this section is considered a subset of formative assessments. The term “authentic assessment” is used to cover naturalistic, alternative, and performance-based assessments. These terms are used interchangeably within transition and special education literature (Bigge et al., 1999; Pierangelo & Giuliani, 2006).

What unites these terms is their conception of the nature of assessment and that transition assessment takes place all the time. Students are assessed based on their performance in real-life activities or simulations. For example, if students are taking a course in school to earn a certification in carpentry within a construction trades class, they are assessed while taking a skills test that shows their ability to master each step. When teachers use authentic assessment, students may be required to structure their projects or presentations around a real-life situation, perform a real-life or meaningful task, or construct and apply knowledge (Fuchs & Fuchs, 1996).

Some examples of authentic assessments in CRD include career interviews, student-run business, budgeting the cost of a catered lunch to school administrators and solving math problems with real-world applications associated with personal finance (Hessler & Konrad, 2008). Layton and Lock (2007) describe twenty authentic assessment techniques that can be used by teachers, including using portfolios, directly observing and recording students’ behavior, interviewing stakeholders who know students well, and using rating scales.

Authentic assessments have many benefits. Students may be more motivated to perform an activity or learn new information or skills if these learning targets are relevant to their lives. Furthermore, transferring students' learning to another setting may be easier (Choate & Evans, 1992; Cohen & Swerdlink, 2005). When students face an assessment that is consonant with daily instruction, the assessment can be considered to be more accurate, and students who have learned the material will be more likely to perform well. An important part of authentic assessment is that it includes self-assessment measures. These measures help students build their self-monitoring skills and habits (Choate & Evans).

Though this type of assessment has many advocates, it does have some weaknesses. The initial challenge is the amount of time required to create and set-up effective authentic assessments. Students need their thinking processes reflected in the assessment product. In order to record adequate evidence of students' learning, therefore, the teacher may spend a lot of time talking with individual students (since this is a one-on-one process) to select and/or develop the best methods by which students can demonstrate their learning. In addition, authentic assessment demands that teachers be creative and develop activities that are meaningful, in which students can problem solve or fulfill real-world tasks. This can take a considerable amount of time (Brandt, 1992).

The second challenge is to create real-world activities that reflect the curriculum or learning standards. Often, curriculum and learning standards are not directly related to real-life experiences, and teachers have the difficult task of rethinking the material in order to create meaningful assessment activities. This can lead to validity issues, in which teachers are uncertain whether the assessment actually measures the content in question (Cizek, 1991; Herman, 1992)

When we couple an authentic assessment to a student portfolio where students with

disabilities demonstrate their work, the materials reflected in a portfolio are more subjective than formal assessments since they do not involve a set procedure for administering or evaluating the results. However, for the purposes of transition planning, they provide information about a student's ability to perform the required components of post-school goals such as employment or taking a bus to get to the college campus. While these assessments can yield critically important information, incorporating authentic assessments requires planning to ensure that these assessments are more than an overwhelming, random collection of information. Authentic assessments should be clearly focused and organized in such a way as to provide a picture of student abilities and demonstrate growth over time. In addition to being focused and organized, they require that students "use knowledge in real-world ways, with genuine purposes, audiences, and situational variables" (Wiggins & McTighe, 2006, p. 337). In addition, it is important to note that these "assessments . . . should teach students (and teachers) what the 'doing' of a subject looks like and what kinds of performance challenges are actually considered most important" (Wiggins & McTighe, p. 337).

One final challenge of authentic assessment is the development of clear, specific, but flexible grading rubrics and rating scales that give each student the opportunity to demonstrate learning in his or her own way. The rubric should function as a checklist that students could use to achieve the best possible grade; at the same time, the rubric should be flexible enough to provide students with opportunities to be creative. In addition, a good rubric should be constructed in clear way to avoid misinterpretations (Choate & Evans, 1992).

Portfolio Assessment for Successful Secondary Transition

The portfolio assessment is one of the most widely used assessment methods of students with disabilities (Kleinert & Thurlow, 2001; Thompson, Quenemoen, & Thirlow, 2003). It is

also one of the most controversial. Many researchers have raised red flags and asked whether the use of portfolios is suitable for students in special education programs (Carpenter, Ray, & Bloom, 1995).

Portfolios are supposed to be a meaningful collection of students' work that shows their achievements, interests, likes/dislikes, and progress over time (Gelfer & Perkins, 1998). In special education programs, the content is related to IEP goals and/or common core standards (Quenemoen, Thompson, & Thurlow, 2003).

Portfolios assessment can emphasize the process and product of learning in a holistic way that allows students to reflect on their learning as well as to demonstrate IEP goal progress. As an assessment tool for transition, they also can be used to obtain qualitative information and a holistic view of the child (Jardine, 1996; Keefe, 1995). In this section, I describe the purposes and types of portfolios, and discuss the strengths and weaknesses of portfolios as a method of student assessment in special education programs, and discuss issues in constructing effective portfolio assessments.

Self-determination and Secondary Transition

Self-determination is broadly defined as the ability of individuals to control their lives, to achieve self-defined goals, and to participate fully in society. Students who have self-determination skills are better able to participate in student-focused planning as part of the transition process, and use those skills to be self-regulated problem solvers in later life (Kohler, 1998). Considered a best practice in promoting successful transition to adulthood, self-determination instruction helps prepare students for more satisfying and adult lives, including navigating the labor market, managing independent living arrangements, and accessing services (Twenty-Sixth Institute on Rehabilitation Issues, 2000).

Michael Wehmeyer is one of the leading researchers in investigating self-determination skills for student with disabilities. For Wehmeyer, self-determination is a fundamental human right to govern or direct one's own life without unnecessary interference from others (Wehmeyer & Palmer, 2003). His research, as well as that of others, has shown consistently that self-determination is directly linked to having a high quality adult life (Wehmeyer & Schwartz, 1998). To assist educators in teaching self-determination skills, Wehmeyer and his colleagues developed the *Self-Determined Learning Model of Instruction* (Wehmeyer, Palmer, Agran, Mithaug, & Martin, 2000).

The concept of self-determination includes 12 component skills that students must possess in order to lead a self-determined post-school life: (1) choice-making skills; (2) decision-making skills; (3) problem-solving skills; (4) goal-setting and attainment skills; (5) independence, risk-taking, and safety skills; (6) self-regulation/self-management skills; (7) self-instruction skills; (8) self-advocacy and leadership skills; (9) internal locus of control skills; (10) positive attributions of efficacy and outcome expectancy skills; (11) self-awareness skills; and (12) self-knowledge skills (Wehmeyer & Schalock, 2001).

Based on research findings showing that individuals with disabilities generally are given limited opportunities in which they make autonomous choices and decisions (Wehmeyer & Bolding, 2001), the model posits that students need to learn how to advocate for their own needs and interests by taking action to change circumstances that pose obstacles to their pursuits. To this end, the model recognizes that success in life involves altering those circumstances to make them more favorable for a self-selected pursuit.

Wehmeyer's model and the underlying components of self-determination, enables teachers to assist students in using self-regulated problem solving strategies to achieve self-

selected goals. The secondary transition digital portfolio proposed in this study seems to align itself with what Wehmeyer and his colleagues suggested that teachers develop curricular materials to support their implementation of the model.

The skills of self-determination are essential for success in adult life. As educators, we want students with disabilities to participate and be significantly involved in the development and implementation of their IEPs, including involvement in their IEP and transition planning meetings. Creating and presenting a digital portfolio at one's own IEP meeting demonstrates self-determination. Having made decisions about perceived strengths and preferences in the planning and preparation of one's digital portfolio also demonstrates self-determination. By showing an electronic portfolio at the beginning of an IEP meeting, the student ensures that his or her voice is heard, preferences articulated, and strengths and interests are brought before the team. The power of a digital portfolio lies in image; helping the IEP team members "see" the student as his or her future is considered and discussed.

Purpose and Types of Portfolio Assessments

Portfolios have been used for a variety of reasons (e.g., to individualized students work/outcomes, to collect evidence of students' progress, to show students' progress). Regardless of the reason, they can (a) be individualized by a student, (b) be used to record IEP goals and document students' progress over time, (c) show and build students' creativity and individuality, (d) accommodate the learning styles of diverse students, and (e) enhance the development of self-determination skills (Ezell, Klein,& Ezell-Powell, 1999; Jardine, 1996; Kleiner & Thurlow, 2001).

The collection in a portfolio also should have a specific purpose, making it more than just a space in which students' work is collected. For example, a portfolio might be shared during an

IEP meeting to show that a student has achieved a particular goal. Students and teachers typically decide what will be included in the portfolios based on the purpose of the portfolio (Alper & Mills, 2001). Portfolios may include products related to social, cognitive, emotional, creative, physical, motor, and living skills.

Johnson and Mims-Cox (2006) describe 3 types of portfolios used in academic settings: (1) learning and teaching (Bartell, Kaye, & Morin, 1998); (2) development (Wyatt & Looper, 1999); and (3) showcase (Wyatt & Looper, 1999). In learning and teaching portfolios, students reflect on their learning process and personalize their work. This type of portfolio can be used as summative or formative assessment. The developmental portfolio shows the growth in the CRD class and development of the student over time. In selecting content, students may reflect on their progress and, based on that reflection, choose the best examples of their growth. As is the case with learning and teaching portfolios, developmental portfolios can also be used as either summative or formative assessment. Showcase portfolios demonstrate success; students demonstrate their competency and perhaps aim to impress their teachers or classmates (Johnson & Mims-Cox, 2006).

Developmental portfolios demonstrate the advancement and development of student skills over a period of time. Developmental portfolios are considered works-in-progress and include both self-assessment and reflection/feedback elements. The primary purpose is to provide communication between students and faculty. Developmental portfolios would seem to be a good fit mapped to the required products in the CRD curriculum but have never been explored as it applies to overall transition planning.

In the case of all three types of portfolios, the content depends on students' learning experiences and desired outcomes. Possible materials include but are not limited to work-based

learning assessments, skill observations, photographs, self- evaluations, videos, audiotapes, progress reports, rating scales, behavioral observations, rubrics, and so on. These documents/artifacts may be stored in any form, including digitized documents for a notebook or on a CD or as proposed in this study out on the web in a secure server.

The existing special education literature recognizes the benefits of portfolio assessment. When students with disabilities use portfolios, they assume an active and reflective role in their learning (Jardine, 1996) and their self-determination skills increases (Carpenter et al., 1995; Ezell et al., 1999; Frazier & Paulson, 1992). Furthermore, through the creation of portfolios, students improve their communication skills (Carothers & Taylor, 2003; Ezell et al., 1999) and involvement in their education. Conderman, Ikan, and Hatcher (2000) studied the effect of the student-led IEP conferences coupled with the use of the portfolio, and found that it allowed students to be responsible for their learning and connect their self-determination skills to experiences inside and outside of the school environment.

When using portfolios for transition purposes, students also better understand what they are learning and what they need to learn (Stenmark, 1989). In another study, students who created portfolios demonstrated growth in regular classroom settings as well as in their IEP goals and transition objectives (Boerum, 2000). Boerum also found that creating and presenting portfolios improved collaboration among parents, teachers, and students. Carothers and Taylor (2003) discussed transition portfolios' benefits when used as a method of authentic assessment. Portfolios allow educational case managers to collect authentic information about student learning across settings (e.g., classroom, community and work-based learning internship) use of this type of portfolio was to help teachers get to know students better in an effort to improve their students' education.

Despite their benefits in assisting students with disabilities, teachers perceive the use of portfolios to be challenging. These challenges include time-intensive paperwork (Gelfer & Perkins, 1998; Thompson et al., 2003) and lack of knowledge in how to use portfolios (Johnson & Arnold, 2004). In a study by Flowers, Ahlgrim-Dezell, Browder, & Spooner (2005), teachers described their perceptions of several assessment methods. They reported that portfolios create an excessive paperwork load. Kampfer, Horvath, Kleinert, & Kearns (2001) documented that teachers spent around 25 to 35 hours of their time outside of school working on students' portfolios. Both of these research findings, however, may be influenced by teachers' lack of training in portfolio assessment and an alignment to a suitable curriculum that specifies the criteria across transition domains.

Other potential weaknesses discourage the use of portfolios. Often portfolios are just a collection of students' work with no real purpose or clear method of showing students' growth. For example, Johnson and Arnold (2004) found that portfolios used as authentic assessment do not measure students' progress. Without a set of standards or criteria, students' learning portfolios are just piles of work, which are not suitable for assessing students with disabilities (Carpenter et al., 1995). Creating an easy portfolio implementation method will help increase the use of portfolios as a successful part of assessment.

Summary

Digital portfolios can benefit the teaching and learning process, curriculum, and students' outcomes. One way this benefit can be realized is by the affect digital portfolios have on special education teachers working with students with disabilities. Using digital portfolios give special educators the opportunity to reflect on their teaching practices (Acosta & Lui, 2006; McLeod & Vasinda, 2009) and to expand their vision of student learning to reflect how a student can express

their progress through images, sound, words, and motion (Blair & Takayoshi, 2006; Hartnell-Young, 2006). In addition, by incorporating web-based technology through hyperlinking the student can show how selected content areas are interrelated (Blair & Takayoshi, 2006; Diehm, 2004; Heath, 2004)

Digital portfolios engage students within the same classroom so that sharing of key course content can be exchanged within the same class period in real time. The relationships formed in this exchange can be intellectual or personal; in either case, sharing their experiences through digital media gives students with disabilities a sense of community. This sense of belonging to a community in which students with disabilities are willing to make valuable contributions to others' learning will foster self-determination skills (Batson, 2002).

Chapter 3

Method

The purpose of this study was to learn how one teacher uses a digital transition portfolio in an inclusive setting to assess students with disabilities toward post-secondary planning. This research describes (a) teacher's perceptions about the use of a digital transition portfolio, (b) how this portfolio affects the completion of transition IEP goals and (c) how a digital transition portfolio is being implemented in the classroom in accordance with a specified curriculum. In order to achieve its purpose, this research will address the following guiding question: *How is an electronic portfolio that orients itself toward transition activities used to assess progress on transition goals and prepare for post-secondary planning for students with disabilities?* I have focused on how the teacher uses the digital transition portfolio with students with disabilities, how the teacher perceives the use of the portfolio, and how instructional programming and IEP goal development occurs when teachers and other IEP team members access the digital portfolio.

Research Questions

- 1.0 How does a high school teacher create and use a digital transition portfolio for use in post-secondary planning for students with disabilities in an inclusive classroom?
- 2.0 How does the teacher perceive the use of a digital transition portfolio as an assessment tool for measuring one or more IEP transition goals for the student?
- 3.0 What are the relationships among the digital portfolio, curricular content, and instruction?
- 4.0 How does the relationship with the digital transition portfolio facilitate discussion among all IEP team members toward the child's post-secondary plans?

This chapter includes an overview of the study's design (single case study), the site and

participant, researcher as instrument, instrumentation, data collection, and data analysis,

Participant

Teacher. The participating teacher taught the CRD class to 9th graders. The class had 29 students (age fifteen to sixteen), 12 of whom have IEPs. Students' disabilities were learning disabilities and/or other health impairments.

Once IRB approval was received, I obtained informed consent. I asked the teacher to send informational letters (provided by researcher) home with students to inform parents that a researcher will be observing the class and studying how digital transition portfolios are used in the CRD class. Since this research was about digital transition portfolio use and the teacher's perceptions and instructional practices, students are not participants. Students were not interviewed and their responses to the use of the digital transition portfolio are not solicited.

Observer. My experiences being a special education teacher in a secondary setting have given me strong points of conviction about the need for a secondary transition digital portfolio for students with disabilities. I started my teaching experiences in a nonpublic special education middle school. Each of my students was experts at constructing knowledge about themselves as they developed robotic Lego devices to demonstrate everyday life skills. While teaching in a nonpublic setting, I knew they had the skills that a future workforce would need.

After my experience teaching in a middle school setting I taught for ten years in a secondary nonpublic setting where I realized that my students needed every advantage they could get to show future employers and care givers their skills. At the same time the students with disabilities that I worked with frequently used technology to gather information and to communicate their thoughts and their learning. My students were quick to access their smart phones to get answers. As a result, I started looking at the secondary transition portfolio as a way

to highlight the accomplishments and skills of students with disabilities. During the course of this study, I reflected on making sure that the teacher's point of view in using a digital portfolio for transition planning came through and not my own perspective.

Setting

The research took place in a general education CRD class in an urban high school, within Prince George's county. The school enrolls 650 students from various socioeconomic but common cultural and ethnic backgrounds in grades 9 to 12. Selection of the site was based on four criteria: (1) school staff who are open to the use of technology, (2) the course offering of the CRD class, (3) a school that has adequate technological resources, and (4) students who are likely to be familiar with technology. Familiarity with technology was important because it eliminated the need to train the students to use technology prior to learning how to create and enter information into a digital transition portfolio.

The selected high school had a variety of technological resources available for teacher and students. Furthermore, it offered the CRD class and supports the use of the portfolio. Some teachers were implementing the paper-based portfolio in conjunction with the CRD class. Additionally, Darrin used technology because he thinks it is a great way to teach students with disabilities using the CRD curriculum. This technology included a mobile Macintosh computer cart, interactive whiteboard, and access to Google docs. Also, the administration allowed students to access their smart phones to retrieve key demographic information such as the student's street address and phone numbers.

Materials and Instrumentation

Materials. The sections within the transition portfolio consisted of (1) Overview /Student Profile (student demographics, photo, interests, hobbies, extracurricular activities,

clubs, organizations, and awards); (2) Career (oriented toward career development along with the five most recent work samples submitted by the student with captions, reflections, teacher comments, parent/peer comments); and (3) Post-Secondary Plan (links to career planning tool, educational records, goals for personal, career and educational endeavors). The portfolio also allowed students and teachers to access milestone work samples (a list of individual work samples that the student has chosen to remember).

The digital portfolio shown in figure 1 can allow students to demonstrate skills and aptitudes that otherwise remain hidden from the eyes of workplace supervisors and future caregivers for students with disabilities. The digital portfolio in this study serves a critical purpose in secondary transition planning. With this new tool, there is real hope that phrases such as “college and career readiness” will have new meaning for students with disabilities where the student is leading their IEP meeting stating, “Check out my skills, I’m ready to join the workforce of the 21st century.”

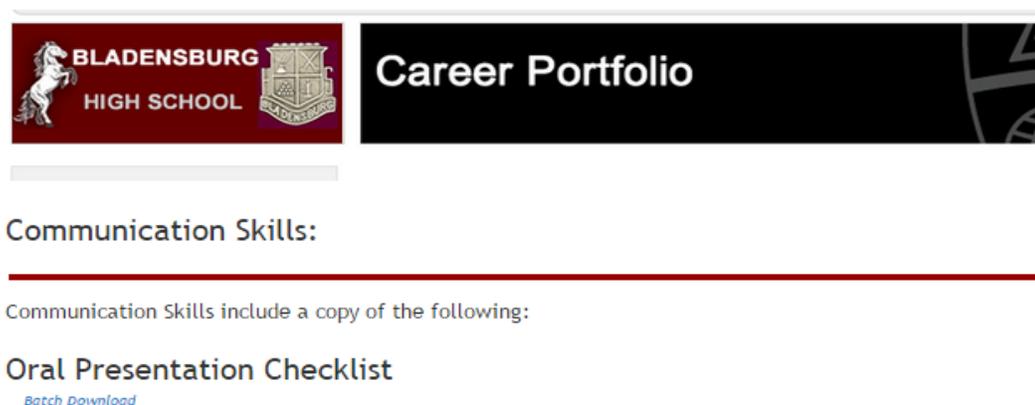


Figure 1: Start up screen for communication skills

Instrumentation. Describing the possible development of the interviews and the topics of the observational form was part of the instrumentation of this research.

Although the interview protocol in some instances changed over the course of the study,

the primary questions remained essentially the same. All the questions used were included in the questions listed below.

These questions do not include follow-up questions asked in relation to observations.

1. What is included in your students' digital transition portfolio?
2. How do you and your students construct their portfolios?
3. What are the benefits of the digital transition portfolio as it relates to the students' IEP transition goals? For you? For your students?
4. What are the barriers to problems with using a digital transition portfolio to document your students' transition activities? For you? For your students?
5. How do you think that a digital transition portfolio interacts or relates with the career research and development curriculum with instructional content or delivery?

In addition to interviews, I observed in the participant's classroom. I used an observation form to structure these observations. This form included the date and time of the observation, duration of the class, and total number of students; descriptions of the instructional strategies used and their timing (if relevant), how of the teacher or students used the portfolio, the physical environment, the teacher's interactions with students with disabilities, and the instructional and assessment activities, needed to further describe the classroom context.

Procedure

Data Collection. Yin (1994) describes three principles of data collection: the use of various sources of evidence, the creation of a database, and the conservation of the evidence. Using a single source to collect data is not appropriate for a case study; instead, the researcher should collect and analyze diverse sources of evidence. The most common types of evidence are

documentation, archival records, interviews, direct observations, participant observations, and physical artifacts. To understand the case, I used different methods to analyze the evidence. The data were collected over two marking periods or 16 weeks using structured interviews, participant and passive observation, electronic document analysis/physical artifacts, and field notes.

Interviews. Interviewing is “inextricably and unavoidably historically, politically, and contextually bound” (Fontana & Frey, 2005, p. 695), a reality that the researcher must continuously keep in mind. Fontana and Frey (2005) define the interview as a creative collaborative effort resulting from the exchanges of two or more people involved in this process. They describe what they call the three main types of interviews: structured, group, and unstructured. Fontana and Frey (2005) also recognize new trends, such as postmodern interviewing and gendered interviewing. I used a structured interview approach, where the interviewer uses a structured guide or protocol that identifies specific topics of interest (Mason, 2002). According to Fontana and Frey, the researcher should follow a specific format and steps; this ensures a structured approach to an interview.

I interviewed the CRD teacher during and after school hours to learn about his perceptions, ideas (Yin, 2003), interpretations, and descriptions of the use of the transition portfolios (Stake, 1995). These interviews took approximately 30 minutes each depending on what was done. The first interview was after a week of class observation. As per Mason’s recommendations (2002) for interviewing, I maintained a topic-centered approach. The focus of the interviews gathered information about teacher’s perception of how a digital transition portfolio affects instructional programming, and the benefits and challenges of using electronic portfolios. I started by reminding the teacher that their participation was voluntary. Then, to

establish rapport, and create a more comfortable environment we talked about what was happening in the classroom, in general. Last, I asked more specific questions based on the topics of interest. I used a list of topics to facilitate the interviewing process. I included more specific questions that arose during my class observations.

Observations. To obtain a better understanding of the case in question, I observed entire class periods once a week for 16 weeks even though in some cases the students may not have had access to their digital transition portfolio. I observed during the entire class period on Wednesdays. The role of the researcher in direct observation varies on a continuum from detached observed to observer as full participant. I was a passive observer two times per month and participant observer once a month. My role as a passive observer was when the digital portfolio was not used. Passive observation helped me to focus on the classroom dynamic without the commitment of helping in the classroom.

Participant observation refers to observation on the full-participant end of the continuum. When a researcher uses a participant observation method, s/he assumes an active role in the ongoing activities during the observation. Mason (2002) defines participant observation as one that includes “methods of generating data which entail the researcher immersing her or himself in a research ‘setting’ so that they can experience and observe at first hand a range of dimensions in and of that setting” (p. 84).

Participant observation is time consuming. Furthermore, being a participant observer may result in bias; as a participant, the researcher is part of the events, which could possibly change his or her perceptions of the “reality” of the events (Yin, 2003). This bias is not an important issue for some researchers, however, because they view reality as an interpretation based on an understanding of the people and the events that take place in their socio-cultural context

(Angrosino, 2005). In addition, I took field notes in which I described classroom activities, issues, and events related with the implementation of the digital transition portfolio.

Electronic Document Review. During the semester, I collected and analyze permanent documents and physical artifacts (Hanley-Maxwell et al., 2007), including a teacher's lesson plans, and digital portfolio sections to add an important perspective on instructional development when using the portfolio (Yin, 2003). I asked the teacher to write a diary. The teacher's dairy contained their notes on the creation and use of a digital transition portfolio, as well as their reflections about the class. The teacher included what was working, what is not working, for whom it is working or not working, and what should the next steps be based on the efficacy of the instruction. According to Yin (1994), reviewing documents is an important process, since documents are written for a specific purpose and audience and therefore may reveal important information for the case study. Reviewing documents or physical artifacts helped me confirm and expand data/findings.

Physical artifacts are documents, objects, media products, artwork, academic work or other physical products made by the students. For example, asking the student to write a journal about their favorite job or career is one way of obtaining a physical artifact. These are a useful way to gather evidence and to better know the each student with disabilities. Through artifacts, a researcher can learn more about what students are thinking or doing, as well as what they like, prefer, or dislike. Unfortunately, issues of selectivity and availability can complicate the use of artifacts and their accessibility (Creswell, 2007; Yin, 1994;). Students may lose track of their work or they may provide only those physical artifacts that express what they want the researcher to know about them or their experiences and not the total picture, creating misrepresentations. The researcher can reduce the chance that these misrepresentations will occur by using strategies

to enhance the trustworthiness of her or his interpretations. These strategies include carefully scrutinizing physical artifacts and documents, identifying any biases they may contain (Yin, 1994).

When reviewing documents, I carefully scrutinized the documents. First, I identified the elements that I observed in previous interviews, observations, or documents. I coded the documents using new codes or codes previously used in the interviews or observations. Weekly, for 16 weeks I did this with all the lesson plans, teacher's diary, digital portfolios, so I could notice any modifications or patterns in instructional changes, digital portfolio implementation or any other element.

Data Analysis. Data collection and data analysis occurred simultaneously (Yin, 2006). This helped me to avoid a common problem that occurs often with inexperienced researchers, when they collect data without having planned how it will be used. Researchers should organize data from the beginning of the collection process (Merriam, 1998; Wolcott, 1994). This allowed me to analyze data more efficiently, and avoid errors that may arise from his or her failure to recall the specifics of relevant observations and when they occurred in time (Wolcott, 1994). To establish validity I used triangulation (Lincoln & Guba, 1985). Triangulation is a mode of inquiry (Huberman & Miles, 1998) that ensures a thorough and accurate understanding of a phenomenon through the use of multiple methods (Fontana & Frey, 2005). In qualitative research, triangulation is used to clarify or verify interpretations and meanings (Skate, 1994).

In summary, several data collection methods helped me answer my specific research questions. To address the question about the teacher's perceptions of a digital transition portfolio as an assessment tool, I used structured interviews and diaries. I answered the questions of how the teacher creates and uses the digital transition portfolio with their students, how the portfolio

affects instructional content or delivery, and how the child's disability did or did not influence the content or use of the digital portfolio thru passive and participant observations, examination of physical artifacts (the teacher's daily plan and diary), review of my field notes, and the interviews.

Design

Case studies may be qualitative, quantitative or mixed methods. The researcher decides between using a qualitative approach versus a quantitative approach based on what methods are most appropriate to answer the research question(s) (Gillham, 2000). Quantitative case studies are suitable when a) the researcher wants to analyze the findings objectively, b) the researcher assumes a detached relationship with the case, (c) the case or its elements need to be isolated for the research purpose, (d) the principal purpose of the research is to develop generalizable findings, and (e) the researcher wants to demonstrate the changes. In a quantitative case study the researcher investigates the case using quantitative research methods and analysis, such as statistical inference, regression, and multilevel analysis (Vogt, 2007), but not necessarily direct observation of the case (Yin, 1994). Researchers conducting a quantitative case study can use experiments, surveys, or mixed methods.

Qualitative case studies look to create meaning in real-world complex interactions that are understood through the researcher's interactive relationship with the case (Gillham, 2000). Qualitative methods include direct and detailed observations, interviews, and narrative inquiry (Stake, 1994, 2005). The nature of my research question was such that I was trying to place the digital portfolio tool into a meaningful construct within the everyday world of transition planning working with adolescents who have a disability.

My goal was to observe how a teacher tasked with teaching a career readiness class to

students with disabilities made use of a digital transition portfolio for post-secondary planning. As the qualitative approach lends itself to understanding the context of events based on the teacher's perceptions, interviews, observations, field notes, documents and physical artifacts, it seems to fit as the most appropriate method to explore how a teacher uses a digital transition portfolio to assess students with disabilities.

A qualitative case study can provide an in-depth examination of an issue, and at the same time, require the researcher to maintain a holistic perspective within a case to learn about a phenomenon (Skate, 1994). By constructing a unique and holistic comprehension of a case, she/he offers an accurate description of the case (Simons, 1996) Case studies are appropriate to use when describing an intervention in its natural context (Yin, 2003), while providing a thick and rich description of that intervention and its consequences through a detailed study (Flyvbjerg, 2004 & Skate, 2000). To answer my research questions, I examined the intervention of a digital transition portfolio, and its connection to teacher behaviors in transition planning and instruction. In addition, this methodology gave me the opportunity to understand the participant's perceptions in the context of the classroom and IEP meeting setting (Simons, 1996).

Furthermore, the selection of this methodology allowed me to study in-depth the use of digital portfolios in a real class scenario. Narrowing the study to only one class section, I focused on describing the development process in that classroom. The unit of analysis therefore was a teacher in one of the CRD class sections in a regular classroom. I observed how the teacher introduced and then implemented a digital transition portfolio, their perceptions about the use of portfolios, and the development and delivery of instructional programming. Using these boundaries it helped me answer my particular queries, establishing strong evidence rich in description (Yin, 2006).

The suitable type of case study to answer my research questions was an intrinsic and embedded single case. An intrinsic case study attempts to learn about a particular case, chosen because of the researcher's interest (Stake, 2000). I selected this issue because transition for students with disabilities has reached a critical crisis in Maryland, and I wanted to learn about the use of a digital transition portfolio to assess students with disabilities. Furthermore, it is embedded because the case contains various entities or subunits to be examined (Yin, 2006; Yin 2003). The overall phenomenon is the use of a digital transition portfolio and the teacher's perceptions of the portfolio, the instructional programming and IEP goal development that occurred while the tool was in use.

Chapter 4

Results

This chapter presents the findings from one semester of data collection and data analysis examining the use of a digital transition portfolio in a regular general education classroom to assess students with disabilities. This case study describes how one career research and development teacher used a digital transition portfolio in conjunction with the career research and development curriculum as an assessment tool for successful transition planning. More specifically, this case study describes one teacher's perceptions about the use of a digital transition portfolio, its use to improve overall transition planning, and its implementation in the classroom. This study addresses four research questions:

- 1.0 How does a high school teacher create and use a digital transition portfolio for use in post-secondary planning for students with disabilities in an inclusive general education classroom?
- 2.0 How does the teacher perceive the use of a digital transition portfolio as an assessment tool for measuring one or more IEP transition goals for the student?
- 3.0 What are the relationships among the digital portfolio, curricular content, and instruction?
- 4.0 How does the relationship with the digital transition portfolio facilitate discussion among all IEP team members toward the child's post-secondary plans?

Digital Transition Portfolio: Empowering students with disabilities

The story of using a digital transition portfolio in this teacher's high school classroom is, in part, the story of how this type of portfolio and transition assessment matched the teaching and learning approach used by the participating teacher. It is also a story of how this type of portfolio assessment is used by the teacher to plan for instruction using a state-wide curriculum in the area

of career research for students with disabilities. As a result, I begin the story by introducing Darrin, his approach to teaching and learning, and multiple dimensions that constitute his professional life. This information provides the context of a digital transition portfolio in an inclusive high school classroom. After introducing Darrin, each of the research questions will be addressed

Darrin

Darrin has been working for more than five years as a special education teacher and most recently as a career resources teacher in a high school setting. He is a driven, resource-based teacher, as noted by his variety of roles in and out of school. At the high school he teaches the career resource and development class parts one and two. At the time of this study, the students were beginning their school year and planning the necessary activities for building their secondary transition portfolios associated with their career research and development class. The active engagement of Darrin in these activities is important to note because many of these activities intersect with the way he teaches, what he thinks about teaching, and the importance of secondary transition planning for students with disabilities. They also reflect his skill to incorporate a variety of technologies in his own teaching practices with technologies (e.g., Gmail, Google docs and PowerPoint) which comprise incorporating a digital transition portfolio.

Darrin believes in learning by doing. He thinks that by providing students with learning disabilities the opportunity to do, discover, connect, and reflect is extremely important in their planning for post-graduation. He likes to use questions about the students' future that allows for a deeper understanding of concepts. The answers to questions provided by the students allow him to assess student learning and where they are with their present level of transition planning. His commitment to sound instructional practices and portfolio-based learning principles were also

evident in the interviews I conducted with Darrin. He discussed how he felt the CRD class best fit with his teaching style, As Darrin noted in one of his interviews,

... “you cannot teach this class through a traditional approach of lecture and then take the test, this approach would leave little room for student reflection. If you want to create a more meaningful activity for students with disabilities, it requires for me to provide the student for the reason behind why we are diving into this activity, as well as understanding each one of its parts, and how they connect with the material...” (Interview, October 14th, 2014)

He acknowledged the workload and time commitment associated with this type of teaching, but remains committed to it.

Research Question One: How does a high school teacher create and use a digital transition portfolio for use in post-secondary planning for students with disabilities in an inclusive general education classroom?

The first question of this case study examines how a teacher creates and uses a digital transition portfolio for use in post-secondary planning for students with disabilities in an inclusive classroom. Each activity has a specified purpose defined by the federal transition standards and the CRD curriculum from the Maryland State Department of Education (2009). The overall driving purpose behind a student’s portfolio is how their portfolio aligns to the individual transition goals reflected on their IEP. These areas tie together as the approach for how a CRD teacher assists the student with the creation of the digital portfolio.

Darrin regularly observed how students with disabilities were developing their portfolios (working pace and work quality), this also influenced the amount of time he needed to set aside for development. Concepts of creation, purpose and activity selection emerged as central themes

in digital portfolio use in transition planning.

Creation

This was his first experience in working with his CRD students to create a digital secondary transition portfolio. The first task was for Darrin to review each portfolio component template. He created a one-page digital handout for each of the major sections of the transition portfolio to help students to create their own transition portfolios (See Appendix A). This one-page checklist for each component section provided students with explicit directions on how to organize their portfolios for that section, including how to insert pictures and tables into this section. Students used the CRD curriculum rubric to score their portfolio on each component.

On September 22nd, 2014 I had a role as a guest speaker and classroom assistant. I talked to students about their digital portfolios and how to create them. Darrin explained how he would use it as an assessment tool for the CRD course. This originated the beginning of the digital portfolio for students. I gave an explanation about how to create digital portfolios using Darrin's classroom Smart Board. Students were receptive and understood what they needed to do. I explained how the digital portfolio would be used in the class as an assessment tool. During the rest of the class, we talked with every student, set-up Gmail accounts and passwords, for access to their digital portfolios.

This was the first time that the teacher and students used Google docs to create their digital portfolios. For both, it was a learning experience. In the beginning, Darrin indicated that he needed to learn and become fully familiar with the google docs platform. Overtime, he felt comfortable that he would use it again.

“...I would tell you that I would use it again... the whole ability that google docs does not require the student to remember to save their

work saves precious classroom time and logistics ...” (Interview, October 5th, 2014).

The digital portfolio creation process was slow. Some aspects affecting the pace in which the portfolio was used were the process of learning about the digital portfolio and the Google docs site, and establishing the overall purpose behind the portfolio. While Google docs provided a technology platform for this study, the cumbersome nature of navigation and the lack of online help support for both Darrin and his students slowed the overall portfolio creation process for student.

“...I believe that at the beginning [it] was a little slow... and it was because we started with no directions only projecting in the classroom what students needed to do as a next step and also what was expected of them in the digital portfolio.....” (Interview, October 14th, 2014)

Purpose and Uses

Darrin’s conceptualization of the digital portfolio’s purpose was exceptionally important since these perceptions lead its use as an assessment tool in the classroom. Darrin believed that the digital portfolio should enable students to (a) construct and connect knowledge, (b) communicate ideas/learning, (c) expand and develop the use of vocabulary words, and (d) reflect on career and transition topics.

Constructing and connecting knowledge included scaffolding new learning on prior knowledge. To assist his students in making these connections, Darrin would begin each class with a review of the “concepts from the class session before” and help the students make the connections between the previous lessons and the lessons of the day. He used the portfolio as “a mechanism that allows the student to connect these aspects.” (Interview, October 14th, 2014).

Students were able to use and develop career vocabulary through the use of the digital portfolio. This is actually a lesson learned from his CRD-1 class where the students created career presentations with ten sets of defined vocabulary words related to that career area. The digital portfolio also “aims to include... those activities in which the student can communicate knowledge and can communicate something they discovered and those activities are done in the classroom...” (Interview, October 14th, 2014).

The digital portfolio student submissions helped the teacher explore the extent of students’ knowledge and identify conceptual errors. Darrin stated that when he reviewed the digital portfolios, the students’ words and the depth of their reflections allowed him to determine if students had grasped the concepts taught. As a follow-up, he wrote emails directly to the students’ about the content they uploaded to their digital portfolios. He aligned this online evaluation to the curriculum rubric that provided a guide to overall content quality.

For Darrin, this was one of the primary benefits derived from using the digital portfolio as an evaluation tool. The portfolios provided him with deep insight into students with disabilities and their learning in an immediate fashion so that if the student was off-track they could be re-directed. As Darrin put it, “The portfolios became a way to explore the level of knowledge the student exhibited in relation to the material. See what ideas they brought and see conceptual errors. ... to give an example[:] my students were able to demonstrate how accurate, current, and unbiased college information is necessary for successful choices about possibly attending a college in the future that links back to their IEP transition goals” (Interview, October 21st, 2014)

Selection of Activities

Time was a recurrent subject when designing and implementing activities that are included in the digital portfolio. When Darrin approached selecting activities that allowed

students with disabilities to reflect about career concepts and their complexities, he believed that his lesson planning promoted and created a richer learning environment and a better learner. Choosing and creating activities were a task that Darrin carried out carefully, so it was time consuming.

“Designing and modifying activities consumes time, because the curriculum I’m using... has lots of activities but very few are designed for students with disabilities and all the activities are oriented toward a paper-based final product.” (Interview, October, 2014)

During instructional planning, Darrin looked for activities that could help his students with disabilities understand and deepen their learning of a transition concept, while also supporting goals related to career awareness and employment. A selected activity had to also be digitized. Digitalization plays an important role when using digital portfolios for transition assessment. Because scanners were only available one time per week to all students, he tried to find or create activities that could be digitalized easily and allow students to respond in digital formats. He spent time presenting these activities using the classroom Smart Board. Activities projected on the Smart Board were digital-friendly and be saved in many formats (such as PDF or PowerPoint).

Through the instructional process the use of the digital portfolio was limited to certain activities that the teacher designed with the digital portfolio in mind and not every classroom activity specified in the CRD curriculum was incorporated in the digital portfolio during our pilot study. Darrin’s activity selection process was laborious because before he decided to use an activity, he had to consider whether it supported his students’ learning and was also appropriate

for the CRD class and portfolio. Darrin often consulted with the researcher as to whether the activity was appropriate for the portfolio. This was an extremely time consuming process. Darrin talked about how difficult all of this was in the context of his broader responsibilities:

In terms of time, since I am a floater teacher and also a special education case manager where I am accessing two different sets of classroom each day, I felt tight with time at a premium. (Interview, October, 10th, 2014)

To answer research question one, the contexts of creation, purpose, and activity selection emerged as relevant to the use of a digital portfolio in a high school transition class. Themes throughout the analysis were related to time commitment by Darrin, availability of digitized materials and insuring that materials were both appropriate for the digital portfolio and supported student learning goals.

Research Question Two: Can the Digital Portfolio be used as a Transition Assessment Tool?

The second research question seeks to understand the teacher's perceptions of the use of the digital portfolio: how does the teacher perceive the use of the portfolio as an assessment tool for transition and transition goals? Darrin's perceptions about barriers and limitations, benefits or positive aspects, are described below.

Barriers and Limitations

The principal limitation related to creating the digital portfolio, time, was also a barrier in using the digital portfolio as a tool. Accessibility, digitalization, and situations delaying the process were also barriers. Darrin thought that reviewing and reading student portfolios was time consuming because he needed to reflect on what students were supposed to learn and how he would achieve that in the classroom. What he learned in this process helped him identify who

needed additional assistance, addressing the need either individually or as a group during the next class.

“This process is not similar to any other classroom role I have as a CRD teacher. For example, grading a quiz where you can access an answer sheet and that's it. Using portfolios required more time to try to think how the student arrived at their final product for upload. Reviewing my CRD students' portfolio required a higher level of teacher review than a student answering career information on a quiz. In this mode I am asking them to utilize their technology skills and connect to the portfolio framework.” (Interview, October 17th, 2014)

Darrin also spent time learning how to use Google docs properly. For example, he had to learn how to email his comments on each students' portfolio directly for review consumed more of Darrin's time than he expected. Through (a) choosing suitable activities, (b) reading all students digital portfolios, (c) writing comments on their portfolios, and (d) learning how to use Google docs properly.

Digitalization was also a barrier. Some activities in the curriculum required the use of computer software or using an internet resource to generate, they were easily uploaded into a digital portfolio. Other activities specified throughout the CRD curriculum were never planned to be digitized. As a result they were not appropriate for inclusion in the students' portfolios.

Another barrier Darrin identified was overall access to the technology tools for the students. On days Darrin chose to do portfolio work, computers were delivered by an instructional assistant on a Macintosh computer cart. Darrin strived to make the digital portfolio

process interactive and in real-time, so he could assess the students' work as they completed it. He felt uncertainty about whether or not he really understood how to design his instruction to fit this need while still be able to assess the students' learning processes. He was not confident about how he should interpret students' reflections. For example, Darrin felt some of the CRD activities were "superficial" because the student did not understand the directions for the activity that was more geared for a paper-based portfolio than a digital portfolio. Often, students were in a hurry to complete the activities because of the marking period deadlines. Darrin thought that extensive communication was needed via personal interaction (questioning) or digital interaction (email comments) to make this type of determination.

Benefits

Darrin identified many benefits derived from using the digital transition portfolio for post-graduation planning. Two positive aspects mentioned were that the portfolio was free of charge and easy to use. He felt that today's students with disabilities gain an advantage especially when using technology to exhibit their thoughts and skills. As a result, this was a straightforward process for both Darrin and his students. Darrin also thought that using the digital portfolio provided students with a digital resume.

He felt that using the portfolio for transition planning helped the student recall and remember what they learned and achieved with career activities. Students could review video clips and images associated with their work-based learning internships and post these directly to their portfolio. Overall, it provided students with a tool they could take with them as they transition in the world of work.

Darrin felt that when students with disabilities reflect on what they are learning it becomes an empowering process that develops higher order thinking skills while improving their

writing and communication skills. He observed that students analyzed more of the career concept or transition problem when they needed to reflect on it. More specifically, Darrin felt that the reflection aspects of their digital transition portfolio facilitated students' expression of ideas, concepts, and learned skills that may not happen during the process of direct instruction in the classroom. Students' reflections helped to inform his teaching, indicating when he needed to modify his teaching strategies, stress important transition concepts, or ask better questions in order to extend students' learning. As a result, the reflections were not just completed assignments to meet a graded requirement but an effective way of communicating knowledge and continuing learning needs.

Students with disabilities and their communication of knowledge through the transition portfolio was consistent with the education goals for the Career Research and Development course. These goals include students communicating efficiently and effectively. The digital transition portfolio provided a space in which students with disabilities could develop this lifelong skill. Darrin was confident that if a student is capable of communicating what was being learned then s/he really learned it.

Darrin noted that the portfolios enhanced his exploration and understanding of the students' learning processes. "It's also a medium for exploring which is an important aspect for students with disabilities in the classroom to be developed ... portfolios in this area are important as it allows students with disabilities to express their thoughts after deep reflection in an open space" (Teacher diary, October 14th, 2014). Students' portfolio entries provided him with the information he needed to determine who learned, who had doubts, what mistakes students were making, and which students needed additional help to clarify a concept. As Darrin described it, "portfolios became a medium for exploring the student's mastery of a career or transition topic."

(Teacher diary, October 14th, 2014).

Clearly, the creation of the transition portfolio resulted in enhanced communication. Darrin was glad that he had the opportunity to review what his students were thinking about their post-graduation plans and in sharing their successes that had come before. He said that in the classroom, most of the time he can know only what a few students were thinking but when it came time to start working on their portfolios he knew what all students thought about what they were learning. This contributed to fostering individual relationships with students and to help the teacher embellish on their successes especially in their annual IEP meeting.

When talking about the digital portfolio product, the teacher stated that asking good questions was essential. He felt that good teacher questions led to improved student work. More specifically, Darrin believed that the quality of the questions helped the students create deep reflections, build on prior knowledge, and make connections, giving the students a framework to guide their work. The teacher was proud of his students' transition digital portfolios.

To answer research question two, as an assessment tool, both positive and negative themes emerged from the digital portfolio. Barriers continued to be time and materials while benefits were enhanced teacher knowledge of the student learning process.

Research Question Three: Relationship between the Digital Transition portfolio and Curricular Content and Delivery

The third research question sought to understand the relationship between the digital portfolio and instructional content or delivery. This question was answered by analyzing documents such as the curriculum, daily lesson plans, and the syllabus of the course; as well as observations, and interviews. The curriculum that Darrin used, The Career Research and Development curriculum was created and published by the Maryland State Department of Education (2009).

Darrin's beliefs and practices overlapped with the curriculum, particularly in the ways to assess students; the importance of communication, connections, and reflection; and the importance of teaching career planning in context. In addition to the curriculum, Darrin created activities aligned with the transition goals for each student in the class.

Compatibility between the curriculum, transition goals, and the teacher's beliefs about how post-graduation goals should be taught was observed. These discussions were related to importance of communication, reflection, connections, and learning, which were also reflected in how Darrin constructed and used the digital transition portfolio in his classroom.

The curriculum established that students will be provided with the academic, technical, and workplace skills necessary to seek further education and employment in a career field of their interest upon graduating from high school. The program contains two in-school courses, a portfolio development project, and a work-based learning" (MSDE, 2009). Darrin believed that when students communicated their ideas they passed through a reflective process, which took time, but allowed them to develop deeper understanding of CRD content.

Making connections played an important role in the learning process. According to Darrin and the curriculum, it is important to scaffold prior and new knowledge. The basis for being successful in the working world is to demonstrate, in a variety of ways, competency in the *Skills for Success*. These skills include (a) learning, (b) critical thinking, (c) communicating effectively, (d) grasping constantly-changing technologies, and (e) working effectively with others (Shapiro, 1999). Students participating in the CRD program have the unique opportunity to practice these skills through employment, portfolio development, and in-class instruction as they focus on continuously improving their skills to move beyond high school into employment and further education (MSDE, 2009).

Darrin thought “making the connection to real-life applications and skills was critical” (Interview, November 5th, 2014). Consequently, he spent time during class helping the students make connections with previous learning, daily life activity, and real world situations. For example, he used career web sites to discuss potential jobs and made them pertinent to real life. The curricular content emphasizes the importance of reflection. “Students learn important transition skills such as self -determination skills when they reflect around [his/her] own reasoning and around their peers” (Interview, November 5th, 2014) Darrin agreed with this curricular focus, believing that reflecting on transition concepts was the most important process in acquiring post-graduation skills.

The digital transition portfolio matched both the curricular focus of the CRD class and the teacher’s general direction of career orientation. He believed that students with disabilities learned best when they reflected on what they communicated and this aspect is fundamental in the portfolio because the portfolio gives the student a means to reflect on what he/she did. As a result, he created activities in which students needed to write reflections. Darrin was pleased with the results, stating that the digital transition portfolio provided him with “much more information about what the student is thinking, what prior experiences s/he is bringing to his/her learning” (Interview, December 3rd, 2014).

The activities Darrin created and modified also reflected both his beliefs and the curricular focus on the construction of career and work knowledge. Both Darrin and the CRD curriculum focused on creating a learning environment that is constructivist and learning activities that allow students with disabilities to create their own learning, helping them to deepen their reflections. Teaching transition skills that are focused on the seven domain areas for self-determination skills as identified through the research, that included:

- self-determination/choice making,
- decision making,
- goal setting and attainment,
- problem solving,
- self-advocacy and leadership skills,
- self-awareness and self-knowledge, and
- self-management and self-regulation skills-along two dimensions

(Wehmeyer, 1997)

At the same time, Darrin's beliefs and the curriculum grounded the instructional content and delivery, including the use of the digital transition portfolio. The use of a digital portfolio did not change curricular content. Instructional content was based on the curriculum, as many of the activities prepared students for their first internship into the world of work.

However, the digital portfolio did affect the detail of his instructions (when re-teaching or clarifying) and the instructional activities. Darrin also worked to create, select or adapt activities that could be digitalized. The instruction included CRD activities, many of which could be created digitally or were adapted so that they could be digitized. The activities that were useful in communicating students' conceptual understandings were included in the transition portfolio.

The use of digital portfolio as an assessment method supported the curriculum, standards, and teacher's beliefs. The emphasis of the curriculum on assessing the post-graduation readiness of secondary students was a process in which students organized and interpreted qualitative and quantitative information in order to make good decisions. This was consistent with the overall structure of the digital transition portfolio. The curriculum specified that the portfolio was an important process in documenting learning and fostering learning through communication and

reflection (MSDE, 2005). The digital transition portfolio facilitated space to increase communication between students and teacher and relied on reflection as part of the overall transition assessment process.

Although the curricular content did not change, instructional content and delivery changed based on the students' portfolios. Since students were able to communicate what they had and had not learned, the teacher was able to identify what needed to be retaught or clarified for the group or individual students. Because Darrin had the opportunity to review student portfolios, he was able to identify conceptual errors or archive errors and correct them through subsequent class discussions. As Darrin said, "the digital transition portfolio was not only an instrument for students to express themselves but was used as a mechanism for me to truly identify information that was missing from their portfolios." (Interview, October 17, 2014)

To answer research question three, the use of technology was a theme that goes beyond a mere teaching strategy used in the classroom or an instructional delivery tool. Darrin used technology so frequently that it was infused in his CRD classes, via his teaching and his learning activities and tools. He used the Smart Board, assistive technology, videos, and the digital portfolio. Additionally, he was willing to try different types of technology that would help his students to understand a concept or improve his teaching. The CRD curriculum he used also promoted and encouraged the use of technology in education. Technology used for secondary transition assessment was consistent with both Darrin's beliefs and practices and the curricular emphasis. However, it also required Darrin to learn new skills, extend his thinking, and be more creative in the use of technology in his everyday teaching so as to create and use learning and performance activities that could be digitalized.

Research Question Four: Influence of IEP Transition Goals and The Digital Transition Portfolio

The fourth research question was pursued to gain understanding on how the students' IEP status and the transition-related goals in instructional content and delivery influenced the use of the digital portfolio along with the teacher perception of the process of creating the digital portfolio. First, I describe how the student's overall IEP status in a secondary setting affected the overall creation and context of the transition portfolio. I provide some examples of the activities that students included in their portfolios. Then, I discuss the teacher's perception about students' IEP status. Finally, I examine how a child's IEP transition goals affect the content the student chooses to place in their digital portfolio.

Students with IEPs and the digital transition portfolio

Darrin's CRD class consisted of 19 students, 14 of whom had IEPs. Students with or without IEPs were responsible for meeting course requirements, including completing their portfolios. In the beginning, Darrin gave all students including students with disabilities the same deadline for their portfolio activities. However, he noticed that most of the students with IEPs were not able to finish on time and meet their deadlines. Therefore, he decided to give these students one additional classroom period to complete each assignment on the portfolio rubric for the CRD class.

With the extra time accommodation, the students with IEPs were able to complete the requirement obtaining grades for their finished activities that were similar to their peers who did not have IEPs. Although extended time was an IEP listed accommodation, the teacher further extended the amount of time allowed by this accommodation, giving them all the time they needed to finish this requirement. Darrin realized the importance with finishing each activity and thought that this was a successful and important accommodation to make, believing that his students with disabilities had a better product because they had more time to comprehend and

grasp the concepts.

Although students with disabilities needed additional support and guidance related to editing their assignments that contribute to their portfolio, Darrin supported students with IEPs by providing constant feedback using their Gmail accounts talking with the students to provide support, and helping to provide organizational support for their transition content.

Darrin was aware of individual students' needs and what they were missing. When I asked about a student with an IEP that had trouble meeting the deadline he said: "He was coordinating with the student's other teachers so the student could submit all the requirements needed to complete the CRD class." (Interview, October 17, 2014) In addition to giving the students with IEPs more time to complete their work, Darrin also facilitated the use of accommodations for all of his students with IEPs to use as needed. These supports resulted in above average outcomes for students with IEPs.

Teacher perception of working with students with disabilities and the Portfolio

Darrin found that teaching students with disabilities is a challenge that he faced every day in the CRD classroom. However, he was not afraid to try different ways to meet these learners' needs. He noted through his interviews how he used different instructional strategies and accommodations that met the needs of students with disabilities. Interestingly, he used a variety of instructional approaches and activities that met the criteria for a UDL classroom when implementing whole group instruction not just for students with disabilities.

Since Darrin decided on this approach, all observations were in an inclusive classroom and during my observations it was not clear whether the variety of strategies used to deliver content were related, or exclusively directed to the students with disabilities. These data, in its entirety, suggested that Darrin used the variety of strategies, activities, and content, irrespective

of students' IEP status. This would be consistent with his beliefs about teaching and learning, and would be consistent with what was observed in the classroom and heard in the interviews. As mentioned before, the only change based on disability status was related to deadlines and the provision of extra support for portfolio activities.

IEP status and digital transition portfolio influence on instructional content and delivery

During my observations in the CRD classroom, I learned that Darrin perceived that the use of the digital portfolio for a student's transition assessment had two additional benefits for students with IEPs. According to earlier interviews, the digital portfolio was a motivator for some students with IEPs and did not change how they were used in the CRD classroom. He also believed that the digital portfolio allowed for flexibility that enabled him to give the students with IEPs the time they needed to reflect on and deeply understand the transition goals reflected on their individual IEPs especially those associated with post-graduation planning. Students with disabilities tended to make more conceptual errors by placing archival accomplishments into the wrong category with the digital portfolio. Using the transition portfolio as a tool to measure progress of transition goals and lay a foundational understanding for each student, students were provided with accommodations and supports as they built out their portfolios.

Darrin noted other benefits and barriers about the use of the digital transition portfolios for students were a constant, whether the student had an IEP or not. The portfolio gave each student the space and time to reflect on their post-graduation plans. They were easy to use and they facilitated communication in the classroom between the students and the teacher. Unfortunately, students did not have full access to a computer each day of the week but only once a week as scheduled thru the computer cart schedule. As a result, these students faced additional challenges when trying to construct their portfolios or receive the feedback they were given by the teacher.

To answer research question four, the theme that a student's secondary transition goals had an overall effect on the content reflected in a student's digital portfolio had many explorations and observations that went beyond these two areas. Through interviews and classroom observations, both Darrin and his students became increasing aware of the student's accommodations in working with digital portfolio. This was a pleasant surprise to the researcher and Darrin. Darrin noted that in the past while he reviewed each student's accommodations he found it hard to focus on this need during the process of daily instruction.

As a case manager, Darrin noted that the portfolio gave him the ability to report a clearer progress toward transition activities that contribute to a child's IEP transition goals. While secondary transition goals are not normally reported out on a quarterly basis in most schools, Darrin felt that the digital portfolio gave him a concrete method to reporting on a student's progress especially for those students who were about to graduate.

Chapter 5

Discussion

Major Findings

Research Questions

The purpose of this single case study is to understand how one general education teacher uses a digital secondary transition portfolio in an inclusive high school classroom.

More specifically, this study addresses four research questions:

- 1.0 How does a high school teacher create and use a digital transition portfolio for use in post-secondary planning for students with disabilities in an inclusive classroom?
- 2.0 How does the teacher perceive the use of a digital transition portfolio as an assessment tool to measuring one or more transition goals for the child?
- 3.0 What are the relationships among the digital portfolio, curricular content, and instruction?
- 4.0 How does the relationship with the digital transition portfolio facilitate discussion among all IEP team members toward the child's post-secondary plans?

A digital portfolio as described in the literature and as seen in this case study, is a digital tool that supports a learner-centric approach to learning in which students with disabilities are required to both think critically about and reflect on their learning experiences (Batson, 2002). Unlike traditional testing, this digital domain gives students flexibility to analyze, reflect, and change their work as needed (Acosta & Liu, 2006). In addition to the students' reflection on their learning, the digital portfolio also serves as conduit for communication between all staff who support the students' secondary transition goals.

As a result, the secondary transition portfolio provided an interactive environment that nurtured students' critical thinking in ways paper-based portfolios cannot. This connected the

secondary transition digital portfolio to the classroom and integrated the instructional planning with the goals of the class (Bartell et al., 2008). The CRD class used a digital portfolio in a manner that provided stored and shared archive information with the teacher in an electronic format so that they were accessible to both students, their teacher and transition coordinators in a virtually unlimited work collection space (Batson, 2002). In this case study, the transition portfolio was used as an interactive, formative assessment, which offered both the teacher and students ongoing information about students' thinking processes as they relate to learning activities in the CRD curriculum completed for post-graduation purposes.

The digital transition portfolios created in the high school CRD class resulted in each student portfolio and the instruction that they received grounded in what the literature refers to as formative portfolios. Typically, formative portfolios are evaluated using predetermined benchmarks that show students' progress across learning experiences (Carnean & Christie, 2006). In this study, the teacher created portfolio content activities aligned to the CRD curriculum and measured against a curriculum-based rubric to evaluate the content of students' artifacts.

Darrin focused on the CRD students' and their understanding of the concepts and processes that were the focus of their reflections. As a result, he evaluated students' learning progress, while using these reflections to determine the efficacy of his teaching in relation to individual students as well as the group. This essential and important work enabled students to collect essential transition information and provided him with the feedback that he needed to know in order to design instruction every day. Additionally, as suggested in the literature, Darrin found that the tool of using a digital portfolio opened up new opportunities for him to reflect on his teaching practices (Acosta & Lui, 2006; McLeod & Vasinda, 2009), including his teaching

activities and beliefs.

Despite the benefits derived, due to both external and internal factors, using portfolios as a transition tool was a slow process that required continuous work. The external reasons were related to time, which included the learning curve for Darrin and his students learning to use Google Docs as the digital portfolio tool. These delays affected how quickly the portfolios became part of the routine in the classroom. Darrin felt that integrating the portfolio into his instructional planning required him to be creative in accommodating meaningful learning activities specified in the CRD curriculum that were also appropriate for the electronic environment. According to Brandt (2002), this process always takes a considerable amount of time. Not only was time needed to seek or create suitable activities, time was also needed to be dedicated to students' completion of their portfolios; Students were given extended time to work on each of their activities. Both of these factors affected the speed of implementation of the portfolio as an assessment tool used in secondary transition.

In sum, using a digital transition portfolio challenged the CRD teacher and his students. This chapter synthesizes the principal findings of the study. The findings are followed by research limitations. It concludes with implications for practice and future research.

Conclusions and Interpretations

The principal findings of this study are issues related to the creation and use of a digital secondary transition portfolio; the teacher perceptions of the use of this portfolio in the classroom; and the relationships among all of the additional variables such as its effect on curricular content and instruction, particularly how these affect students with disabilities.

Creation and use of the Digital Secondary Transition Portfolio

A recurrent finding of this study related to time: time to learn how to create the portfolios

(teacher and students), time to set-up the portfolio environment (teacher), time to input information into the portfolio (students), and time to reflect, evaluate, and respond to transition content and comments (teacher and students). A second finding, integrated within time, is the difficulty of simultaneously learning about the portfolio platform, how to upload content and input any multimedia aspects of the portfolio creation process. A third finding related to creation and use of the digital portfolio focused on the interaction between creation and use as applied to the CRD classroom rubrics as measured against the curriculum and the activities that are specified from within the CRD curriculum.

The last finding related to construction and use, is how the portfolio can be complicated by lack of resources and access to computers in the classroom. Each of these are discussed in this section, starting with the digital portfolio platform and navigation, moving onto the portfolio rubric, and ending with discussions of time, accessibility, and paper versus a digital transition portfolio.

Digital Platform and Navigation

Darrin began the study with knowledge of a variety of technological tools, but no knowledge of a digital transition portfolio and using Google docs or any other similar technology tool like it to generate the student portfolios. As a result, he educated himself about digital portfolios and decided to implement the tool with little guidance from the researcher. As found in the research (Skinner, 2004), Darrin had to spend significant time in preparation, both before and during classroom instruction in order to ensure that the portfolio integrated with classroom activities. In the initial days of introducing the portfolio to the students, Darrin worked with the researcher to create a supportive classroom environment about how to use the portfolio.

Lack of familiarity with the digital portfolio among both students and the teacher,

insufficient guidance, and a few technical problems (including problems encountered setting up student Gmail accounts linked to Google docs for students) delayed portfolio creation and use. These factors also resulted in Darrin being so focused on the mechanics of the portfolio that he had difficulty seeing the “whole” and imagining the potential uses and content of the entire digital portfolio. This tunnel vision led him to making novice mistakes, e.g., not identifying the purpose of an activity from the CRD curriculum and its relationship to an IEP transition goal. Also, not establishing the rubric criteria and applying it to the content of students' portfolio content. He also had a limited understanding of how it interacted with his everyday classroom practices.

In this research, as well in other studies (Johnson & Arnold, 2004; Pimentel, 2010), lack of knowledge in how to use portfolios was a disadvantage. Like Pimentel (2010) suggests, Darrin would have benefited from more guidance or formal training on how to create a digital transition portfolio. Lack of training might have influenced the expended time working on and assisting with each student portfolio (Kampfer et al., 2001).

In addition to learning about the construction of the digital portfolio and the various resources that can support the use of it for transition purposes, it is critical to define the portfolio's purpose before using it (Strudler & Wetzel, 2011). Identifying its purpose from the outset is challenging but important because it can lead to either a successful or ineffective portfolio process (Carpenter et al., 1995; Johnson & Arnold, 2004).

Darrin's use of the digital transition portfolio for learning was unique to the classroom environment. His process on how he constructed the portfolio for his students changed during the course of the semester from using a paper-based portfolio. He noted that he had not had the time or experience to think about the other possibilities besides using a portfolio such as a continuum of assessment approaches to measure preparedness for transition. However, despite

the fact that all portfolio activities could have been paper-based, Darrin felt there were benefits that the students and he could derive from a more collaborative environment created by a digital format.

Darrin viewed the digital portfolio as a more interactive space for his constant feedback and comments to students and their responding. Unfortunately, he was not at the point where he could see that this benefit could have extended to collaborative learning among peers. As a result, Darrin did not use the digital portfolio as a space for collaboration between peers, as recommended by other researchers (Barrett, 2007b; Barrett & Carney, 2005).

Portfolio Rubrics

To meet the purposes Darrin and the researcher envisioned for the digital portfolio, we aligned the digital portfolio rubric found in the CRD curriculum using the broad learning expectations and standards found in the CRD curriculum. As a result, the overall grading criteria for the class were related to the portfolio rubric and its overall construction by the student rather than the general information specified in the CRD curriculum. Darrin's focus on the mechanics was revealed in the lesson plans he created for the portfolio construction. From the rubric, Darrin decided to create a classroom checklist that students used to construct their digital portfolios. Without a set of learning benchmarks, student portfolio entries could result in a waste of time producing an accumulation of work that is not suitable to be assessed (Carpenter et al., 1995; Johnson & Arnold, 2004). Overall, Darrin wanted to use the digital transition portfolio more effectively but he needed support on how to develop the digital transition portfolio entries that exhibit students' growth and learning based on the Maryland College and Career Readiness standards.

Finally, Darrin's lack of familiarity with the digital portfolio coupled with his second year

of teaching experience in the CRD curriculum led to his choices in determining the content of the transition portfolio. Instead of increasing his collaboration with the students to identify their personal transition content, which would have increased student control and ownership, Darrin made the majority of the content decisions. Although as the semester moved along students were involved in the creation, development, and decision-making using the digital transition portfolio and its overall use in this study. They also experienced an active/interactive role between the teacher and researcher in determining the objectives of their learning experiences as they became familiar with the creation process.

The transition portfolio provides students with disabilities with an interactive environment in which they have the opportunity to re-work constantly on their digital portfolio and make sense of what they learned (Mason, Pegler, & Weller, 2004). According to Mason and colleagues, through the portfolio process (which includes the selection of what to include) students can recognize and reflect about their own transition competencies (strengths and weaknesses) and demonstrate their growth. Rhodes (2011) described this process as a “learning exercise.” where each student decides what is contained in their digital portfolio.

Time

As described above, in addition to needing more time to learn about and create the digital portfolio for students with disabilities, Darrin needed more time to learn about how the portfolio is conducted within this milieu, including how to create or select activities that would be suitable for the transition portfolio. Darrin wanted to use the digital portfolio as an authentic assessment tool within the CRD classroom where students constructed their own knowledge about their learning. As the data collection and teacher log pointed out, the amount of time allotted each week to the construction of the secondary transition portfolio presented a common challenge that

affected the set-up process (Brandt, 1992; Dysthe & Engelsen, 2004).

Darrin reported that not only did he spend a lot of time selecting and developing meaningful activities, by which students could demonstrate learning, he also had to seek and create activities that were easily digitized from the CRD curriculum. However, based on what was observed in this research, some of the activities used in the classroom did not have to be digitized for students to complete their digital portfolio activities.

The contradiction between what Darrin said and did was not the result of Darrin being a novice to the use of technology in his classroom, he maintained a positive attitude toward technology and spent time working with students digitizing their completed activities to integrate technology such as his floating classroom Smart Board with the portfolio. What may have happened was that because Darrin did not start with a clear purpose and concept of what could be included in the portfolio, he may not have realized that the way he created his lessons affected what was uploaded by a student into the portfolio.

As a result, the use of a variety of technological resources in the classroom would have had a larger impact on the students' and their digital portfolios. Darrin's recognition that he needed to create digital-ready learning activities may also have reflected his emerging understanding of the potential of a digital transition portfolio. Technical problems, the availability of the computer cart for his classroom and the digitization of activities were time consuming and delayed the use of the portfolios in the classroom.

Defining the purpose, aligning the CRD rubric with his lesson planning, and developing activities were tasks that consumed Darrin's time during the semester. Additionally, he was simultaneously learning about, creating, and using the portfolio himself. In future semesters, with these activities developed and ready for new portfolio creation, Darrin could focus on providing

feedback to students, or expanding the use of their portfolio and their content focusing on the alignment with the child's IEP transition goals.

The second time-related aspect was reviewing and commenting on student work. These activities required Darrin to rethink, react, and provide specific comments thru email on students' work that led to enhancing student learning. For Darrin, this was a multifaceted process that demanded a great deal of time. The findings of the current study parallel those identified in earlier research. That research also indicates that using and implementing a digital portfolio requires a considerable amount of working time for both the teacher and students (Cole, Ryan, Kick & Mathies, 2000; Linn & Baker, 1992), for students with disabilities also reporting that creating portfolios was a time consuming process (Hung & Huang, 2010).

Accessibility

Accessibility also plays an important role for students with disabilities. Teachers and students must have access to technology in general in order to utilize digital portfolios (Jones & Shelton, 2006; Lambert et al., 2007). In this case study, accessibility was a challenge. The portfolio work was done utilizing a floating PC cart because the teacher did not have a dedicated classroom; the limited once a week access forced students to work on their portfolios at other locations around the school such as the computer lab, and the library. This prevented Darrin from doing as Cole and Struyk (2007) recommend, setting a time during the instructional period to allow students to work on their portfolios. However, Darrin did make an attempt to overcome this challenge by coordinating with the librarian and the teacher in charge of the computer lab to gain additional computer access for the students.

Paper versus Digital Portfolios

The main differences between paper-based portfolios and digital portfolios are related to

form, storage, publication, accessibility, and dialogic function. Darrin's use of the digital transition portfolio was a hybrid between the two. Even though digital portfolios are created in a digital form, allowing students to add multiple technologic media (e.g., videos, graphics), the only media Darrin required students to use was word processed documents and pictures from college searches on the internet. Any of these activities could have been oriented toward paper-based portfolios. However, in addition to the benefits described above, unlike paper-based portfolios, digital portfolios were accessible for students and a great motivator since the portfolio came with its own personal email account and the ability to share with anyone including their peers.

As a result, the electronic environment allowed students to more easily modify their work based on the teacher's comments. This virtual space allowed Darrin and his students with disabilities to maintain a baseline conversation around their learning in the portfolio through email. Darrin identified this conversation of the student's transition portfolio as an important benefit associated with its completion as well as a future workplace skill- email communication. On the other hand, as discussed in another section, the communication could have been more inclusive, adding interaction and promoting collaboration between peers (Blair & Takayoshi, 1997; Hawisher & Selfe, 1997) and family members.

Teacher's Perceptions

Broadly speaking, Darrin believed the digital portfolio consumed a large amount of his time. However, he believed that the problems posed by time were outweighed by ease of use and what he saw as the benefits to the portfolio and its overall assessment for the CRD class and overall transition planning. Despite the complications Darrin encountered setting up his students' portfolio accounts and the time investment in learning to use the portfolio functionality through

Google docs, Darrin liked the overall approach and structure. He felt the tools were suitable in building the student transition portfolios because they were easy to use.

In addition to ease of use for the digital portfolio, Darrin believed that the portfolio coupled with the CRD curriculum benefited both his teaching and his students' learning. With the ability to communicate with students on email, teachers can come to know students better, and help them to reach academic goals (Demchak & Greenfield, 2000; Hicks et al., 2007). Students' questions and comments about portfolio content helped Darrin identify misconceptions, while also exploring and understanding individual students' learning processes. He used this information to adjust his subsequent teaching.

Darrin believed the student questions and comments that the portfolio project generated during class time and online via email not only served as the foundation to enhancing their learning, the reflections also provided valuable feedback to him. As suggested in the literature (Acosta & Lui, 2006; Henry, 2006; McLeod & Vasinda, 2009), digital portfolios and their use toward student progress provided Darrin with an opportunity to reflect on his teaching practices and the curriculum. "Teachers must be able to think about their practice and learn from experience. They must be able to critically examine their practice, seek the advice of others, and draw on educational research to deepen their knowledge, sharpen their judgment, and adapt their teaching to new findings and ideas" (National Commission on Teaching and America's Future, 1996, pg. 29). Reflection should evolve from experiences in meaning and usefulness (Rodgers, 2002). Information about how students with disabilities are learning can be utilized to adjust the teaching process or content (Bigge et al., 1999; Pierangelo & Giuliani, 2006).

As a result, a digital transition portfolio can be used as an ongoing learning vehicle to both improve student performance and revise teaching strategies (Beck et al., 2005; Carmean &

Christie, 2006). Darrin believed that the portfolios he used for the CRD curriculum enabled him to gain information needed to make decisions about changing instructional delivery subsequent to each of the portfolio learning activities. Specifically, students' portfolios gave him important information about what and how students were learning career and transition topics.

He believed the use of the portfolio promoted communication between him and his students. However, Darrin only used the portfolio to communicate with students online and not as a method for classroom communication. As pointed out in by Boerum (2000), this was a very limited use of the portfolio. When portfolios are taken into consideration with a wide method for communicating student progress, they can improve communication and collaboration among parents, teachers, and students.

To effectively use a secondary transition portfolio in this manner, Englund (2009) developed guidelines for teachers to use as they share information and improve communication with parents. Again as noted above, collaboration between peers is also recommended (Barrett, 2007b; Barret & Carney, 2005). Within this collaborative environment, a portfolio can improve students' with disabilities and their overall communication skills (Carothers & Taylor, 2003; Ezell et al., 1999). While the portfolio did foster communication between Darrin and his students, improvements seen among students in the CRD class with their communication skills are unknown.

The Effect of the Digital Portfolio on Instruction and Curriculum

Darrin used the CRD curriculum as the basis for his decisions about instructional content and delivery. As he incorporated the digital portfolio into the CRD class, he returned to the curriculum to make decisions about the content and structure of the portfolio. While classroom activities were not originally specified for a digital portfolio, the teacher activities were for students

to connect, reflect, and communicate curricular content learning. The reflection and connection opportunities afforded by the transition digital portfolio were particularly attractive to Darrin.

Darrin believed that creating the artifacts for their portfolios empowered students with disabilities to be reflective on their Career and Secondary Transition skills, to better remember what they were learning, and to build on prior knowledge by connecting new learning to previously learned concepts, algorithms, and applications. The CRD curriculum and Darrin emphasized the importance of reflection as a medium for student learning. He believed that “students thought about their post-graduation activities when they reflected around their own reasoning of what is needed to be successful post-graduation and around their peers” (Interview, December 2014). For the CRD teacher, it is more important that students reflect on what they learn about transition and their goals reflected on their IEP rather than accumulating information that has no meaning for them.

The digital transition digital portfolio had no overt effect on the curricular content in the career research and development class because it complemented one of the curricular goals, career reflection. It also had limited effect on the curricular content because of how Darrin used it. The portfolio presented the students’ learning of the CRD instruction by providing the space in which Darrin could discover conceptual errors, identify where he needed to clarify or emphasize concepts, and determine when he needed to discuss and expand certain topics in class. He also used what he learned in reading the students transition portfolios especially students with disabilities to alter how he taught and the learning activities he used. Furthermore, he became increasingly interested in finding or creating learning activities that could be digitized. In these ways, the digital transition digital portfolio subtly altered or enhanced the day to day lesson content and the learning activities used in the CRD class.

Digital Portfolios for Students with and without disabilities

In this study, there was no difference in the structure or content of the digital portfolio, or in the grading criteria used for students with or without disabilities. However, accommodations related to work time and writing support were provided. Frequently extended time for classroom assessments is provided to students with disabilities. Providing extended time for assessments is intended to allow learners to fully demonstrate their knowledge without the obstruction of a disability (Pariseau, Fabiano, Massetti, Hart, & Pelham, 2010). Debates about this reasonable accommodation for assessment, especially during formal testing, are common in educational venues (Lovett, 2010).

In this study, the need for extra time arose in relation to students with disabilities completing their portfolio rubric assignments for the CRD class. Students without IEPs did not need accommodations to complete their portfolios. On the other hand, students with IEPs did not finish several of their portfolio activities on time. As a result, they needed extended time to work on the activities and submit their portfolios. Therefore, Darrin provided these students with the extended time accommodation to complete their work. This accommodation allowed students with IEPs to create better portfolios and obtain satisfactory grades in their CRD class. Fortunately, Darrin did not believe that this accommodation created undue hardship for him or unfair conditions for students without disabilities.

In addition to extra time, and unlike their peers without IEPs, students with disabilities needed more prompts, guidance, and support in uploading and editing their portfolios and to deepen a conceptual understanding, since they presented more conceptual errors on their portfolios. The teacher helped students with disabilities with content edits and addressed their conceptual errors. This is consistent with the findings of Glor-Scheib and Telthorster (2006) in

their investigation of the development and implementation of portfolio assessment as part of the IEP process. In the future students should present their portfolios at an IEP meeting, demonstrating authentic participation, self-determination, self-advocacy, decision-making, and better understanding of themselves (e.g., interests and strengths).

The notion of collaboration in the CRD classroom was important because Darrin considered teaching students with disabilities a challenge. The challenges they presented him arose from their ongoing need for more time, attention, and support; their need for more or different techniques and teaching strategies; and their need for multiple representations during the learning process. Despite this, Darrin was committed to the students with disabilities and believed that, although he struggled from time to time, his instructional approaches would benefit students with and without disabilities. Furthermore, he was constantly looking for better ways to teach all of his students while attending to the needs of individual students in class or in reviewing their secondary transition portfolios for the CRD class.

Limitations

As with all research, there were limitations. This case study has three principal limitations: access to computers, sampling, and student voice. All of the limitations may have affected the impact of the secondary transition digital portfolio on the curriculum, classroom activities, teacher perceptions, the quality of student work, or the need for accommodations for students with disabilities.

Access

This limitation was related to the fact that students did not have ongoing access to their portfolios outside the CRD classroom. Portfolios used for secondary transition and general student programming can be used more frequently if students have more access to computers

(Fiedler, Mullen, & Finnegan, 2009). Classroom access is important because access allows students to work on their portfolios enhancing the connection of the portfolio with classroom activities and enables using the digital portfolio as part of in-classroom progress toward portfolio completion so that students can receive immediate feedback and the teacher can identify concepts or skills that can be immediately re- taught.

Furthermore, when students work on their portfolio in the classroom, the teacher can observe and give support to all students as they create their artifacts. In this study, students worked on their portfolio inside the classroom but only once a week. This lack of access to computers in the classroom everyday may have affected student support needs or the quality of initial reflections, having unlimited access to classroom computers would give students with disabilities a better chance at selecting content suitable for their portfolio.

Sampling

Another limitation is a result of the sampling process. Darrin voluntarily participated in the research and was interested in technology, regularly using it in his classroom. Furthermore, Darrin was firmly committed to using Universal Design of Learning strategies because of his belief that they created the highest level of work especially in students with learning disabilities. These strategies may explain his feelings about overall portfolio assessment, his teaching practices, and his commitment to try new strategies. On the other hand, Darrin had many teacher responsibilities including that of case management that took considerable amounts of time to accomplish. As a result, he had less time to devote to digital portfolio assessment. Selecting a teacher with fewer responsibilities could accelerate the implementation process or allow portfolio assessment to be used more frequently as an assessment tool.

Selecting a teacher like Darrin, that enjoys integrating technology and is familiar with

transition concepts and teaching students with disabilities these strategies is ideal since the use of digital portfolio requires commitment and feeling comfortable using technological materials for secondary transition planning. The results of this study may have been connected to Darrin's role as a teacher, case manager and former transition coordinator with regard to his practices, beliefs, skills, interests, and constraints.

Student Voice

The last limitation is absence of students' voices. The focus of this case study was how a teacher implemented a digital secondary transition portfolio, so students' voices who had disabilities were not sought. However, understanding students' opinions and perceptions' toward the CRD class, learning activities, and especially, portfolio assessment may be needed to have a better understanding of digital portfolio use for secondary transition.

Implications for Practice

The results of this case study will help others to better understand the use of digital portfolios as an assessment tool for transition. It advances the thinking about using the portfolio for a child's summary of performance which fulfills the federal requirement and expands the knowledge of secondary transition planning. Implications for practice emerged from the results and analysis. These implications relate to readiness and the digital platform as a medium for transition.

Readiness to Use

The first suggestion concerns readiness to use. Darrin and his students were using a digital portfolio for the first time. Introducing new technology is a complex task that requires identifying the challenges and limitations related to its implementation before using a new technology. Practitioners should reflect, identify, and analyze these challenges and decide how

they will be overcome and weigh the possible benefits against the challenges. Other implications related to readiness include teachers' training and understanding/comprehending the use of the portfolio for transition assessment. Before using a portfolio as a tool, the teacher should be trained about the construction and uses of digital portfolios. In this case study, as in Groilböck (2012), it is clear that a preparation process is needed to enhance the implementation into the classroom for students with disabilities.

Professional development must include the purposes of a digital transition portfolio and how the portfolio will address the transition goals for the student. When the case manager is aware of that child's transition goals, the portfolio can be used as an overall assessment tool. Also, teachers need to be trained or familiarize themselves with actual technology platform used to house the child's portfolio.

For this research study, Google Docs was selected because of its open access platform and the overall perception that the tool was easy to use. However, Darrin was a Google Docs beginner who found out that he needed time to learn about the online tools. He struggled to implement at the same time he was learning making it clear that if teachers are using specific software or online applications, such as Google Apps, they need to learn how to create a digital portfolio using the given tools before implementing with students. When teachers do not master the program used, this may result in unnecessary challenges; greater uncertainty about its efficacy as a teaching, learning or assessment tool; and/or limited outcomes (Tuttle, 2007).

Professional development can come in the form of online or face-to-face training programs, formal or informal coaching, or self-training. If self-training is used, there must be a way to ensure the teacher feels confident in her/his knowledge when using it in the classroom. Darrin was self-educated in using the digital portfolio for the project with some coaching from

the researcher. Coaching would be ideal because of the technical difficulties a teacher may encounter or need to improve his/her familiarity with the processes and tools. Indeed, even trained teachers may experience difficulties while using the digital portfolio with students.

Finally, teachers who are learning to create a digital portfolio for transition purposes may benefit from practicing creating their own portfolios prior to working with students with disabilities on their portfolios. Doing so may result in the teacher feeling more knowledgeable and better prepared to answer student questions. Additionally, it may help teachers to envision and provide a concrete model to students with disabilities.

Implementation of use

A second element regarding readiness to implement is the understanding and comprehension of the use, importance, and purpose the portfolio as it's used to measure progress of secondary transition goals. Establishing a clear purpose is essential in the beginning of the secondary digital portfolio implementation (Shao-Ting & Heng-Tsung, 2010). In our pilot project, the teacher struggled with the purpose of the portfolio as it related to measuring progress with transition goals and expectations for their use. Overall, marketing the importance, use, and purpose of the portfolio across a school district becomes an important aspect for implementation of use.

Technical Issues

Addressing technical issues before the portfolio is introduced at a classroom level is the second practical recommendation that emerged from this study. Technical issues that grew out from the research contain five interrelated properties: (a) purpose/function, (b) design, (c) frequency, (d) setting, and (e) facilities.

Purpose/Function

A digital transition portfolio can be used in many ways. It can be used for such things as measuring the progress of secondary transition goals on a child's IEP and it can serve to show the progression of overall student work in a functional life skills class. It can also serve very specific needs for the teacher and student such as documenting the deliverables from the CRD curriculum. Potential purposes within the broader category of learning include enhancing communication among peers, problem-solving for career development and college planning and the development of independent living skills.

Communication and on-going feedback functions may enhance exchanges between the teacher and families, teacher and students, and students and their peers, all for the purpose of improving student learning. Improved relationships, especially for students with disabilities who lack appropriate social skills, could create environments that are more conducive to student learning and teacher practice. Additionally, the power of student reflection where students can reflect on plans around career and /or college aspirations can assist teachers in gaining insight into their students' thinking processes, strengths, and needs. This information can be used to create more effective learning activities that are matched to individual students and groups of students.

Students with disabilities and their teachers who have a need to support self- assessment and self-monitoring can work to recognize errors in their thinking (either as they create their reflections or other artifacts, or in response to feedback they receive from their teacher or peers) and repair their thinking or make adjustments in their learning as they create and share their portfolios. These processes can serve to enhance student construction of knowledge and deepen student learning. The digital portfolio also has the potential to enhance higher order thinking skills related to organization, problem solving and decision making as students choose what

pathway to follow: college, career and independent living. The problem-solving at the student level includes what to say about their learning and their artifacts. Moreover, collaborating with their teacher or peers helps students to refine their critical thinking and social skills.

Design

The consideration for design is important so that students with disabilities can access the portfolio to achieve objectives associated with the portfolio can be accomplished. When designing portfolios where discrete deliverables that are aligned to a curriculum, teachers must determine which skills will be assessed and if these skills can be assessed within groups of students or must be assessed in relation to individual students. The latter decision will help the teacher or designer decide if the creating instructions and activities for portfolio artifacts should be an individual or collaborative group process. While individual portfolio creation is important and can be task analyzed into a step-by-step format for creation, group collaborative portfolio creation is more complex where students provide each other with feedback and interact with one another through various feedback mechanisms.

Darrin experience problems trying to re-purpose activities that were drawn from a curriculum whose end product was a paper-based portfolio. This affected his ability to do instructional planning as he was asked to modify the activity while at the same time change his strategies with lesson planning. During periodic classroom observations, this caused confusion for students who were looking to access specific directions on selecting content appropriate for their portfolios.

Frequency of use

The third technical issue is frequency of use. Daily, weekly, or other schedules for creation of portfolio content and use should be clearly set and adhered to in an effort to remain

true to the selected purpose(s) for the digital portfolio. (Shao- Ting & Heng-Tsung, 2010). However, the schedule may be intentionally revised if such a revision would improve the portfolio's relationship to its purpose and objectives. In this research, Darrin was not able to institute a routine because of the lack of technology resources in the school. This lack of routine reflected on how Darrin and his students interacted with ten digital portfolio and how some deliverables were "short changed" so that they could be accomplished in a short amount of time. We calculate that a routine would have helped students manage time, especially when Darrin had access to the technology resources (Shao-Ting & Heng-Tsung, 2010).

Curriculum

Curriculum is the fourth technical issue that should be considered. The logistics behind where and how the teacher and students will create and use the secondary digital portfolio should be analyzed before their implementation: will the portfolio be coupled to a curriculum like CRD, will it be part of a work-study program outside the classroom, or both? The scenario or setting where the portfolio is accessed and used will depend on the resources or facilities available.

Facilities/Resources

Internet access, number of available computers, and type and extent of digital resources available are components of the fifth technical issue: facilities or resources. Teachers and administrators must consider these three aspects before selecting to go with a digital portfolio platform rather than a paper-based platform. Computers and computer labs in schools, as a technical issue, are some of the most important elements to analyze, and set-up scheduling for access. In this study, limited resources along with an unfamiliar technology platform using Google docs affected the products that the teachers and students were able to deliver for the portfolio. Since the students in Darrin's class had limited resources in school with technology resources and even

more so at home, the digital portfolios' outcomes were based on what students could write, draw, or otherwise compose in a document or reflection. As a result, the type and amount of artifacts were limited.

Analyzing the resources available is an early step when considering a secondary transition digital portfolio for students with disabilities. In this study, students did not have enough technological resources. Consequently, they wrote their reflections and inserted some pictures that could be downloaded, because having pictures was required in the structural rubric. However, they did not insert any videos, scan pictures, or include other types of artifacts. The lack of digital resources also affected the interaction and presentation or publication of the portfolios. Posting feedback and comments on other students' work is nearly impossible to do if students do not have the Internet access needed view one another's work. As a result, Darrin did not require the students to interact with each other through their portfolio work.

In conclusion, when educators incorporate digital portfolios as part of a students' secondary transition programming training for both the teachers and students are imperative. Understanding the overall objective for a secondary transition portfolio, whether the student audience is intended for college, career and independent living is a critical considerations in the successful creation and use of portfolios for students with disabilities.

Technical issues regarding digital portfolios are interrelated, and should be considered before designing a portfolio system for a particular population. The facilities/resources available will affect the technical issues and how the portfolio system can be used. Across all school districts in Maryland with limited resources, analyzing all technical issues is crucial to guaranteeing an effective integration of the digital transition portfolio.

Contributions to the Field of Research

Digital portfolios provide the necessary platform students need to display their knowledge, skills, and capabilities to prospective employers or admissions personnel (Willis & Wilkie, 2009). The portfolios promote the development of self-advocacy skills for students with disabilities as they transition from high school to college or a career (Black, 2010).

Portfolios demonstrate a student's growth, change and performance over a period of time (Carothers & Taylor, 2003). The digital portfolio displays texts, graphics, audio and video in such a way that it may present a more accurate picture of a student's disability, capabilities and strengths. Digital portfolios are easier to reproduce, distribute and access (Heath, 2005). As opposed to a single portfolio binder, which can only be used by one person at a time, a digital portfolio can be shared with a virtual audience simultaneously at any given time.

Digital portfolios allow students to engage in interactive, meaningful displays of performance (Willis & Wilkie, 2009). Students are able to provide prospective employers or colleges with access to their portfolios prior to interviews. The digital portfolio can provide an admissions committee supplemental information that can help clarify the disability, explain inconsistencies in the application (between grades and standardized test scores) and help the committee make decisions about students who are on the fence for admission (Madaus, 2005). Students with disabilities must be able to self-advocate by explaining the specifics of the disability and their need for accommodations in the workplace (Black, 2010). Portfolios provide a much clearer window into the student that a resume or application cannot. In the same way that an application, resume, or transcript may not capture the full potential of a student with disabilities, a digital portfolio provides a more comprehensive view of each student and their full potential.

Research is needed at various age groups and across disability categories in order to

demonstrate the effects of digital portfolios. It is important that digital portfolios are established as an evidence-based tool for every student population that utilizes them in any part of their curriculum. While evidence has begun to demonstrate that elementary-aged students can competently develop digital portfolios, additional evidence should supplement these findings (Zimmerman & Holland, 2015). Moreover, there should be professional development for special and general educators alike on how to incorporate digital portfolios into their curricula and instruction (Cramer, 2009)

Future Research

Research about the use of secondary transition portfolios for overall transition programming is limited. This case study is based on one teacher's first attempt to learn and build a portfolio for students with disabilities in a secondary setting. This study highlighted areas related to implementation of use, content and the actual learning that can help the development of portfolios for students with disabilities. The study offered many questions that must be addressed to understand fully and support the evolution of secondary transition portfolio use.

The first question that is important to address is how teachers' characteristics or beliefs interact with portfolio development and implementation. The participant in this study had knowledge and positive feelings toward technology and a belief in the importance of portfolios for students with disabilities when used in transition programming. He also had a "do it now" approach which aided in the construction of the student portfolios. However, more research is needed to learn which teacher characteristics (e.g., the teacher's years of experience teaching, knowledge of transition requirements, technology proficiency, school support) may be important to portfolio implementation.

For example, it is not known if a new teacher will have a different perception on the use

of portfolios for transition. Also, it is not known if personal ability or characteristics of the teacher, such as the use of technology in the classroom, may affect his/her willingness to explore and implement a digital portfolio rather than a paper-based, fill-out-the-form portfolio. In sum, more research is needed to understand the role that teachers' characteristics, such as experience in secondary transition, technological knowledge or confidence, for the first time or if these factors effect portfolio use by a proficient portfolio user.

Second, stronger evidence about the effects of portfolio construction in students' learning and processes as it relates to their post-graduation plans is needed. Research in this area could focus on several different aspects. In this study, it was unclear whether portfolio content aided in a students' ability to achieve their transition goals, or any other skill sets. Studies about the impact of portfolios on the transition process broken down by pathway: career, college planning and independent living with specific skills or skill domains are important.

Additionally, it is important to know if portfolios improve or support a students' self-determination, and self-efficacy, as well as motivation in students with and without disabilities. Furthermore, more research in which teachers rigorously grade students' artifacts or when students' work is connected to independent living programming is needed. In addition, classroom and school variables should be explored in relation to how secondary transition portfolios and their use vary based on the content of school courses; as well as community-based instruction where students are learning a more functional approach to their transition skills. Equally important is to observe the effects of school location (urban or suburban schools); and how their use is affected by differing types and amounts of resources. Finally, research should focus on the relationship between IEPs portfolio assessment.

Future research should also focus on how IEP teams implement this type of portfolio,

exploring how team members coordinate and support each other during the process. A secondary transition portfolio study should be set-up to further analyze each stage of a school's adoption to the secondary portfolio for students. Such a study could analyze the preparation processes before the actual implementation into the classroom or community instruction. Collaboration between special education teachers and general education teachers should be studied while portfolio implementation is taking place.

Finally, students' voices should be studied to fully understand the implications of the secondary portfolio. Students' perceptions, attitudes, and skills should be examined, in addition to the reasonable accommodations, resources, and support needed by students during the development and implementation processes. Knowing if a portfolio enhances student motivation or engagement is important. Furthermore, it is essential to know how students adjust to or excel in technology-based assessment in order to improve how educators assess and teach in inclusive settings and non-public school settings. It is particularly critical to understand the perceptions, challenges, benefits, and learning for students with IEPs so that teachers can help them to be successful in inclusive school settings.

Summary

The use of a digital portfolio for secondary transition planning has been slow to receive adoption in post-secondary environments, and even more slowly in a larger K-12 environment. This case study describes the process of development and use of a digital portfolio in an inclusive general education classroom. During this research, the teacher used a digital portfolio as a tool to measure progress on secondary transition goals as it relates to overall transition planning. Three elements influenced the use of the digital portfolio, which was defined by the CRD curriculum content, the selection of activities from this curriculum, and its review of progress by

the teacher.

The principal limitations related to the use of the digital portfolio were time, for learning and implementation, and sampling. However, accessibility, digitization, and situations delaying the process were also created limitations for this study.

Benefits of the secondary transition digital portfolio that were identified by the teacher-student relationship included the fostering of students' reflections and communication, facilitating teacher exploration of the students' learning processes, and providing students with space/time to reflect and communicate thoughts while receiving feedback. Student communication of knowledge through the digital portfolio was consistent with the student's transition goals and the CRD curriculum and helped the teacher to make decisions about teaching and learning processes based on what he learned about the students as he read their reflections. The use of the digital portfolio offered motivation and flexibility to students with disabilities to finish their work. Therefore, they had the opportunity to add information to their portfolio any time they grasped or clarified a career and independent living concept.

While the portfolio was used to improve student's skills, it also improved teacher reasoning/thinking and practices. Student reflections on their learning in their portfolios provided the teacher with deep insight into each student's learning which helped the teacher determine what steps he should take to enhance or support student learning. The results showed that both students with IEPs produced good final products, but needed additional support and guidance related to the use of the tool and selection of content to add to their portfolios.

To establish successful use of a secondary transition digital portfolio, teachers must have adequate resources, training, and support during their creation and implementation. Using a digital portfolio as part of overall transition planning for students with disabilities is a

challenging process without essential resources. Analyzing available resources in the school and school district before the digital portfolio is considered for implementation is imperative, especially when resources are limited in a particular school.

The use of a secondary transition digital portfolio is still a subject of study in the process of improving education for students with disabilities. In addition the need to explore its effect on writing better secondary transition goals and its ability to improve overall transition programming are all unresolved questions.

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APPENDIX A
CLASSROOM OBSERVATION DATA SHEET

Teacher _____ Date _____

Observer _____ Program _____

Placement of class or lesson within the Career Research and Development unit of study:

Purpose (objectives):

Intended outcomes

Materials Used (teacher-made, manufactured, district or department-developed;
Characterization of materials):

How students will be assessed (for this lesson):

CLASSROOM DIGITAL TRANSITION PORTFOLIO ACTIVITIES

First Activity/Task: Transition Content; nature of activity, what are students doing, what is the teacher doing; interactions with students.

Student Digital Grouping Number _____ Duration _____
of students _____

Second Activity/Task: Transition Content; nature of activity, what are students doing, what is the teacher doing; interactions with students.

Student Digital Grouping Number _____ Duration _____
of students _____

Third Activity/Task: Transition Content; nature of activity, what are students doing, what is the teacher doing; interactions with students.

Student Digital Grouping Number
of students ____

Duration _____

CLASSROOM OBSERVATIONAL DATA

- 1 - Description of the classroom:
- 2 - Teaching aids/materials (per activity/task if appropriate):
- 3 - Assessment strategies used (per activity/task if appropriate):
- 4 - Time not devoted to teaching and nature of non-academic or procedural activity (e.g., management, announcements, discipline); description of non-instructional event :

APPENDIX C
TEACHER INTERVIEW
PROTOCOL

I appreciate your letting me observe your class. I have some questions I'd like to ask you related to this lesson. Would you mind if I taped the interview? It will help me stay focused on our conversation and it will ensure I have an accurate record of what we discussed.

Learning Goals

I'd like to know a bit more about the students in this class.

Tell me about the ability levels of students in this class.

How do they compare to students in the school as a whole?

Are there any students with learning disabilities?

Please help me understand where this lesson fits in the sequence of the unit you are working on. What have the students experienced prior to today's lesson?

What was the specific purpose of today's lesson?

How do you feel about how the lesson played out?

What do you think the students gained from today's lesson?

What is the next step for this class in this unit?

Career Research and Development Topic

What led you to teach transition topics/concepts/skills in this lesson?

(Use the following probes, as needed, so you can assess the extent of importance of each of these influences:)

How important was that in your decision to teach this topic?

How important are the requirement for the transition portfolio in your decision to teach this topic?

Resources Used to Design the Lesson

What resources did you use to plan this lesson?

Were these resources/materials/activities designated for this class/course or did you choose to use them yourself?

What do you like about these resources/materials/activities?
(Compare the digital portfolio to the paper-based option) What do you not like?

Can you describe the modifications you made and your reasons for making them?

The Teacher

How do you feel about teaching this topic?

Do you enjoy it?

How well prepared do you feel to utilize the digital portfolio in your classroom?

How comfortable do you feel using the instructional strategies involved in teaching and assisting students to create a digital portfolio?

CURRICULUM VITAE

BIOGRAPHICAL INFORMATION

Name: Mark J. Trexler

Home Address: 6 Ballybunion Court Timonium, Maryland 21093

Business Address: 6740 Alexander bell Drive Columbia, Maryland 21046

E-mail: mtrexler@jhu.edu

EDUCATION

Johns Hopkins University Baltimore, MD
Ed.D. Special Education

Master of Science
Special Education, Secondary /Adult, Mild to Moderate Disabilities

Penn State University State College, Pa
Master of Education
Instructional Design with a concentration in adult learning

Kutztown University Kutztown, Pa
Bachelor of Science
Telecommunications with a concentration in video production and multimedia

WORK EXPERIENCE

Program Coordinator
Center for Technology in Education/ Johns Hopkins University
January 2013 to present

Primary responsibilities:

- Coordinating a team of professionals in partnership with the Maryland State Department of Education Division of Special Education division, and key stakeholders for development of the Maryland Online IEP version 10.
- Responsible for coordinating the programmatic and technical implementation of the system; and the design, building, and deployment of the professional development associated with the Maryland Online IEP.
- Coordinating a team of professionals in partnership with the Maryland State Department of Education Division of Special Education division, and key stakeholders for development of the State Professional Development Grant to develop a rich array of

online and face-to-face professional development resources and strategies that promote high quality math instruction for the Maryland SPDG grant

- Responsible for coordinating the programmatic and technical implementation of a digital transition portfolio that includes the design, building, and deployment of the professional development associated with the Digital Transition Portfolio.

Adjunct Faculty

Johns Hopkins University, School of Education

January 2001 to Present

- Responsible for teaching Career Assessment and Programming of Students with Mild to Moderate Disabilities to graduate level students
- Responsible for teaching Teach for America cohort Introduction to Special Education of Students with Mild to Moderate Disabilities to graduate level students

Educational Services Coordinator (Business Partnerships)

Kennedy Krieger High School Career and Technology Center

January 2005 to December 2012

- Develops business partnerships for the school's work-based learning program
- Develops grants that have benefited all levels of school programming
- Assists in identifying, developing, providing and/or arranging professional development activities and in-services for instructional staff
- Recruit, train and supervise Industry Area teaching and paraprofessional staff
- Designed, developed and maintain the New Employee training manual for all high school staff
- Assist teachers in the development and delivery of lesson and unit plans which integrated technology into instruction in a variety of ways