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Teacher Perceptions of the Digital Badge in Kindergarten Reading Attainment

Amy Cooper
Concordia University - Portland, amycooper100@yahoo.com

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Amy Cooper
Concordia University - Portland

Concordia University–Portland

College of Education

Doctorate of Education Program

WE, THE UNDERSIGNED MEMBERS OF THE DISSERTATION COMMITTEE

CERTIFY THAT WE HAVE READ AND APPROVE THE DISSERTATION OF

Amy Melissa Cooper

CANDIDATE FOR THE DEGREE OF DOCTOR OF EDUCATION

David Kluth, Ed.D., Faculty Chair Dissertation Committee

Kallie Dace, Ed.D., Content Specialist

Gerald Kiel, Ph.D., Content Reader

Teacher Perceptions of the Digital Badge in Kindergarten Reading Attainment

Amy Melissa Cooper

Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

Professional Leadership, Inquiry, & Transformation

David Kluth, Ed.D., Faculty Chair Dissertation Committee

Kallen Dace, Ed.D., Content Specialist

Gerald Kiel, Ph.D., Content Reader

Concordia University–Portland

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Abstract

Educators are consistently seeking appropriate measures of assessment and guidance tools in the 21st century. Tools in classrooms today are lacking the needs relevant to digital natives. Digital badges are a form of assessment, achievement, and accomplishment that show competencies and growth. This phenomenological research study was conducted to examine the experiences of seven teachers and three principals in a suburban school in a Northeastern state regarding the implementation of the digital badge in early literacy. The analysis of the data showed digital badges as intrinsically engaging, preferred over report cards, with a strong impact on instruction and relationships, validating, visual, and creating equitable and opportunity-based learning. Digital badges in their infancy may create challenges in continuation toward carry through to future grades and immature software hardships. The study was guided by a constructivist framework. Using a phenomenological approach, participants completed semistructured interviews, and provided artifacts. Findings revealed the digital badge creates strong partnerships among families, students, teachers and administration. The digital badge serves to engage students and increase academic achievement based on nationally normed tests. Teachers' perceptions of digital badging were favorable; the digital badging process serves student and learner-centered preferences.

Keywords: badges, digital badges, micro-credentials, open badges, open credentials, phenomenology, student-centered, teacher perceptions

Dedication

It is important to acknowledge the guiding forces of this process. My fiancé, Ben Wolke, who supported me through each trial and test along the way with love and a steady heart of patience. My mother, Melissa LaFlamme, for always believing in me, setting a strong example, and for being a firm advocate in my life. My father, Steve LaFlamme, for providing a compelling moral compass and work ethic. My two young boys have loved me through this journey of challenge, joy, and celebration. Thank you Luke and Brooks, for giving away some of your childhood time with your mother so she could pursue this mission. Lastly, to my colleagues, students, families and leaders who have provided the purpose and passion to endure this process.

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resources openly with me, and Dr. Kiel for asking the questions that provided deeper inquiry to

grow as a researcher and educator.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction

Introduction to the Problem

Thirty-two million adults in the United States cannot read at an increasing rate (U.S. Department of Education, 2017b). If people are unable to read in early elementary school, they are four times more likely to fail high school and six times more likely to become illiterate as adults (Hernandez, 2011). In a longitudinal study following 2,443 children over approximately 16 years, when reading difficulties occurred in 7 or 8-year-olds the risk of negative consequences such as lack of job attainment increased (Smart et al., 2017). The evidence that millions of adults are deficient in their ability to read creates a true concern for the functioning of American society (Ryan, 1992). "Twenty-one percent of adults in the U.S. read below a fifth grade level, and 19% of high school graduates can't read" (Kirsch, Jungeblut, Jenkins, & Kolstad, 2002). Therefore, it is important that educators implement sound reading practices as early on as possible (Fiester, 2010).

By facilitating effective reading instruction early on, individuals have a greater chance to become literate members of society (Kirsch et al., 2002). Part of the issue with reading instruction is the complexity of learning to read English (Lundberg, Frost, & Peterson, 1988). Reading attainment can be a frustrating experience for learners and students frequently feel misunderstood (Smart et al., 2017). Students want validation with reading so they can interpret their learning (Handley, Price, & Millar, 2011). Students often do not know how to move forward because the entire reading experience can be overwhelming; many steps are involved in learning to read (Lundberg et al., 1988). The initial acquisition of reading skills is a sequential and critical process that invites progression from one skill to the next (Lundberg et al., 1988). Reading starts with recognizing alphabet letters, phoneme segmentation, to blending sounds and

words, finally creating literacy knowledge to read texts (Ball & Blachman, 1991). Kindergarten

is a critical time for learning to read (Park, Chaparro, Preciado, & Cummings, 2015). The need

to progress from skill to skill can create barriers to moving forward and may hinder students'

learning process (Park et al., 2015). A student may experience frustration if the teacher does not

understand the child's specific reading needs. Further, the gaps in skill attainment necessary to

move forward can discourage an already overwhelmed child.

The digital age ushered in the development of additional tools that complement the

learning process. A digital badge is a tool that may help with the skill gap and frustrations some

young readers face. Badging, sometimes referred to as badges, digital badges, open badges,

open-credentials or micro-credentials, is one possible solution to the issues associated with

learning processes today (Sheninger, 2015). Kindergarteners in classrooms today are digital

natives. Digital native is a term created by Prensky (2012) that describes people born into a

culture of digital tools creating natural use of digital and electronic products. Digital natives'

inherent environment include the interactions with technology being available and visible in

most any setting.

Digital natives are fundamentally more likely to face frustration with literacy than those

in the past (Prensky, 2012). Students today learn 70% of facts outside of class (Ravaioli, 2015).

Learning and reading from computers, phones, or tablets require students to read quickly and

aggressively. Educators must capture how students learn to avoid frustration. Digital badges are

a way to locate skills of proficiency and address the concerns of learners in an intrinsically

motivating way (Wardrip, 2014). Digital badges offer specific skill acknowledgment with each

badge earned. The student works towards a badge until mastery is met. Digital badges combine

various fragmented skills learned outside of school (Schwarz, 2016). Students today become

discouraged with educators who are not familiar with how it feels to grow up amidst a world of digital devices with "gaming" features (Prensky, 2012). The digital badge serves to create a transparent goal path incorporating the skills students need to attain in a fashion similar to gaming features (Mozilla Foundation, Peer 2 Peer University, & The MacArthur Foundation, 2011). The digital badge is used to help students visualize their path towards mastery in subjects such as reading, math, or science.

This study focused specifically on teacher perceptions of kindergarten reading skills attainment in the digital era. While the idea of using grades and assessments to guide learning is not new, digital badges are a recent trend to address learning for the 21st century student (Homer, Hew, & Tan, 2018). The pervasive digital environment requires children to read and decode quickly for understanding (Schmar-Dobler, 2003). Reading on the Internet is a part of the development of reading today (Bulfin & Koutsogiannis, 2012). Students are seeking information that is readily available from websites, social media outlets, and device applications. Badging is illustrative of the constant learning used in Internet gaming technology. Students often game and interact with "levels" or "leveling up" (McGonigal, 2011). The badge carries inherent motivational characteristics for students, unlike traditional grading formats (Reiners & Wood, 2016). The ways in which students are assessed and display achievement should match how they learn to read and obtain information in today's culture (Mozilla Foundation et al., 2011). A digital badge bridges the way between how students find information and how students are assessed.

Digital badges serve as a form of formative assessment to guide learning over time while helping instructors address learning objectives (Wardrip, 2014). Digital badges are unique because the badges offer clear metadata that are time stamped, issuer reported, skill criteria

detailed, evidence supported, and are accessible over time (Mozilla Foundation et al., 2011). The digital badge offers the ability to acknowledge and recognize what can be accomplished beyond typical grades or assessments (Gibson, Ostashewski, Flintoff, Grant, & Knight, 2015). The digital badge may connect reading learning from the student's past, including informal experiences, to present reading skills. Badges carry over from year to year (Ahn, Pellicone, & Butler, 2014). As a student progresses through grade levels, the reading goals continue throughout a child's learning experience. Digital badges capture these learning skills over a student's academic career. Observing their own progress can serve as a motivating factor for students (Shields & Chugh, 2017).

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

Background. Instructing and assessing reading has remained traditional despite changing times (Keengwe & Georgina, 2013). As stated in the National Education Technology Plan put forth by the U.S. Department of Education (2017a), a need exists to integrate assessments, digital tools, and communication technologies into instruction to close learning barriers for students. However, research about the efficacy of such integration on the literacy learning of elementary children is minimal (U.S. Department of Education, 2017a).

The digital native learns best when pedagogy is adaptable to the learner's needs, yet many classrooms lack the learning mechanisms that enhance skill acquisition for digital natives (Keengwe & Georgina, 2013). Digital natives may use tools that resonate with ways students learn to read while addressing the unique needs of being immersed in a digital culture. Digital tools may not solve all the issues, but they can reduce barriers to learning (U.S. Department of Education, 2017a).

This study was situated in the constructivism theory, also described as student-centered learning. Hannafin (2010) examined student-centered learning as putting the students' choices, voices, and influence towards their education at heart of the learning experience. Student-centered learning is driven by an active instruction of knowledge, self-motivation, and self-driven paths (Hannafin, 2010).The teacher acts as a facilitator to the learning process, recognizing the importance of background knowledge, cultural setting, and understanding learners as innately curious (Kraft, 1994). Student-centered learning focuses on the student and uses formative assessment to drive instruction (Stull, Varnum, Ducette, Schiller, & Bernacki, 2011). Formative assessment is feedback that informs instruction and guides the learning path.

Badges represent a different approach to assessment that place the focus on individual students and their learning accomplishments (Wardrip, 2014). As a record of achievement, badges can recognize the completion of projects either within a traditional curriculum or through online or community efforts (EDUCAUSE, 2012). Once earned, badges can follow students to be displayed online within portfolios, social media, or may be included on college applications or resumes. Students are ultimately in control of their badges and can choose how to display them (Ash, 2012). Badges may be physical, but most often are digital tokens awarded by institutions, organizations, groups, or individuals. Student-centered learning focuses on the needs and self-determination of learners (Hannafin, West, & Shepherd, 2009). Self-determination theory states that students must be a part of their learning process and monitor their work as a key to internal motivation (Turnbull & Turnbull, 2001). Therefore, an understanding of digital badges through the self-determination lens within the constructivist approach is necessary.

This study addressed ways that digital badges create self-gauging tools needed specifically for digital natives. Student-centered learning provides motivation by use of self-

determined paths (Lepper, Greene, & Nisbett, 1973). Digital badges create autonomous visual learning (Wardrip, 2014). Students strive to achieve learning targets which are provided by the badges they wish to obtain. Digital badges serve as visual guideposts, motivating students to reach their end goal. Furthermore, digital badges address the cultural needs of the digital native. These needs include high social networking platforms, non-sequential learning, finding information on the Internet quickly, and becoming incentivized by the rewards of immediate feedback (Eynon, 2010). Because technology has changed the culture for digital natives, educators must bring new tools to classrooms to fully engage in the culture students live in and understand. Digital badges are a tool for the digital native that allow for intrinsically motivating tactics. Digital badges engage deeply with consumers of technologically-driven times (Jovanovic & Devedzic, 2015). The aim of this study was to understand how digital badges are viewed in kindergarten through semistructured interviews with teachers and by collecting artifacts of learning acquisition in the kindergarten environment.

Digital badge use in elementary schools has not been fully explored, nor has digital badging as it pertains to foundational reading skills. The qualitative, phenomenological study took place in a suburban, public, general education elementary school. Teachers who use digital badges to help facilitate intrinsic motivation in reading were included. Participants discussed variations in reading success and motivation with the presentation of a new digital tool. The researcher attempted to understand teacher perceptions of kindergarteners' use of digital badges.

Modern Educational System. Teachers in the study included kindergarten instructors in a general education setting. The study took place in the Northeast region of the United States. Badges are used in the selected Northeastern school district to demonstrate a variety of reading skills in an attempt to improve reading skill acquisition. Educators in this chosen Northeastern

district voiced that digital badges are effective in meeting the diverse needs of students. The badge implementation is used to excel reading skills while addressing skill gaps that students face.

History. U.S. schools and society currently face an evolution of global economy and technological advances, yet the nation's schools continue to function much the same as they did a century ago (Sheninger, 2015). Traditional grading procedures including letter and numerical grades have remained for more than 100 years; however, this currently accepted form of assessment does not provide students with the information or motivation to direct their learning (Norton, 2014). The need for assessments that properly guide and motivate reading for students is imperative (Stanley, Petscher, & Catts, 2018).

The evolution of intrinsic motivation dates to the 1950s and Skinner's theory of self-motivation (Ryan & Deci, 2000). To understand the tools needed to motivate students today, it is important to recognize the value of intrinsic motivation for young readers. Ryan and Deci (2000) claimed that for humans, intrinsic motivation is based on self-determination factors which include self-determining goals, the need of feeling accomplished, and connectedness to others. Ford (1992) demonstrated that competence and self-efficacy increase students' internal motivation while Winne (1985) showed that people who work diligently on skills they personally value instill those skills intrinsically. In effect, educators should understand in what ways digital natives apply personal value to experiences and feel self-efficacy and accomplishment in those experiences.

Motivating assessment tools are instrumental to readers because it engages students in successful experiences (Ciampa, 2016). Researchers consistently support the link between motivation and achievement as students with high levels of motivation achieve at higher levels

than those with low levels of motivation (Guthrie & Wigfield, 2000). The research on reading success highly supports intrinsically motivating tools as conducive to youngsters' reading success. Intrinsic motivation is an inward need to read as one's personal choice. Dweck (2012) described intrinsic motivation as one's capability to choose how learning will happen and direct their learning for given purposes. The studies showed that intrinsic motivation can be increased with greater self-belief to grow and achieve (Ryan & Deci, 2000). Students are intrinsically motivated by attainable goals supported by appropriate tools. Thus, badges are the tools that help students find intrinsic motivation to learn and set goals (Abramovich, 2016).

The student-centered learning approach is highly connected to self-regulation: the ability to plan, reflect, and control learning (Bandura, 1986). Therefore, learning that involves self-regulation creates greater student-centered learning. The process of student-centered learning motivates children to read. Guthrie and Wigfield (2000) examined key motivating factors for readers including students' self-efficacy and attainable performance goals. In a study by Pintrich and de Groot (1990), intrinsic value was deeply connected to self-regulation and a stronger sense of self when reading. Students were found to have the most success in reading when they were given the opportunity to master reading skills early on (Park et al., 2015). Giving students access to opportunity in how they are learning and assessed evokes student interest and motivation (Allington & McGill-Franzen, 2013).

Conceptual Framework for the Problem

This dissertation was completed using a conceptual framework situated in constructivism that applies to Vygotsky's (1978) zone of proximal development and cultural impact of learning within Vygotsky's sociocultural theory. Further, Piaget's (1969) theories of cognitive development and motivation contributed to an understanding of how learning is acquired. Both

theories operate under the idea that learning, development, and culture affect how young children develop healthy cognitive functioning. To fully conceptualize student reading in the digital age, it is imperative to understand the systems, societal concerns, and theories that are closely aligned with reading. The combination of 21st century learning demands and importance of literacy in our society creates a call for immediate research. In a longitudinal study of over 3,000 students tracked from kindergarten to tenth grade, foundational reading skills attained in kindergarten were found to affect future reading comprehension (Stanley et al., 2018) The urgency for early reading attainment has been historically and theoretically proven as critical (National Center for Education Statistics, 2018).

The constructivist approach may be applied to the digital native learner as it pertains to reading. Moreover, a constructivist approach supports the concept of a digital framework to address the needs of young readers in the 21st century (Land, 2000). The constructivist, or student-centered, approach is described in the following paragraphs as it pertains to digital natives' reading in second grade with the use of digital badges. The theoretical framework addresses the unique learning needs of digital natives in reading.

Technological advances in the 21st century have created new educational expectations for readers. Students are learning through graphic displays, responding with icons like emoji's, and gaining information from mass videos versus traditional reading and learning tactics (Prensky, 2012). Despite the changes in learning modes, society still has a need for foundational basic reading skills. Readers must keep up with the pace of reading text quickly with a variety of genres and online platforms. Readers are expected to respond quickly and responsively within email, text messages, and among social media platforms. Yet, a crisis in reading exists in U.S. schools. For over 10 consecutive years the educational system's ability to prepare future citizens

to read has fallen short (U.S. Department of Education, 2017b). Currently, 32 million U.S. adults cannot read (U.S. Department of Education, 2017b). Student needs may be prioritized by looking closely at these statistics. Students rarely catch up with their peers on grade level when they do not acquire foundational reading skills prior to third grade (Smart et al., 2017). After third grade, students begin to read to learn and teacher instruction for practical reading skills fades. After third grade, children transition from learning to read to learning the content of subject areas, and thus have a need to read fluently (Kel-Artinian & Parisi, 2018). If students do not obtain foundational reading skills by third grade, they are four times more likely to drop out of school (Hernandez, 2011). This statistic makes catching the needs of specific reading skill attainment critical to the reading learning processes.

Stakeholders should consider the lack of reading strategies and tools to motivate our learners. Reading by third grade is imperative to societal functionality; Concerns about a lack of reading proficiency are well-founded (U.S. Department of Education, 2017b). The expectation that U.S. citizens will be able to read and write has been a cultural value since the late 1800s. Being literate is a social expectation and an immediate need for general functioning within the American culture (Kirsch et al., 2002). Lack of ability to read early on is highly connected to continued struggle and failure at the high school level and into adulthood (Fiester, 2010). Students facing literacy issues are the most likely to have difficulty graduating high school, obtaining a job, and abiding by the law. Fiester (2010) noted that every single individual who does not graduate from high school "costs our society an estimated $260,000 in job earnings, taxes, and productivity" (p. 1). The problems students face with reading at a young age are known to compound and affect their futures. Those individuals incarcerated since 2007 are 70%

illiterate (U.S. Department of Education, 2017b). The importance of strong reading skills early on cannot be overemphasized.

Children must sequentially learn the technical skills of reading not just to read, but to improve how they think and reason (Neuman, 1998). Students have an optimal window for reading skill acquisition; this window of learning requires proper progression and skill attainment (Park et al., 2015). The mastery of reading fluency skills in the primary grades is significantly related to better general reading outcomes in later grades (Cunningham, & Stanovich, 1997). The results of a nationwide research study of over 1,300 students in grades K–3 showed that students are more likely to struggle in the coming years when skills are not attained between kindergartens to third grade (Park et al., 2015). In a path study of over 200 students, a lack of skills in early reading such as decoding letter sounds was a precursor of more difficulty in future grades (Cunningham & Stanovich, 1997). The sooner the skills are met, the more likely students can continue to improve their reading skills.

Reading skills attainment requires sequential processes to progress and move forward to the next expected step. Without each reading development stage in place, students can struggle in stages to come. Piaget (1954) described this reading phenomenon as 'schema,' meaning students understand and learn by using current knowledge and skills to organize and create future information. The ability to assimilate various skills leads to the assimilation of the reading process while developing reading for the upper grades (Piaget, 1954).

Reading skills remain as important today as in years past; however, today's digital native student has a critical need for early development of reading skills. Prensky (2007) believed educators and policymakers must look at both the methodology and the lesson content delivered to students. In order to motivate, engage, and teach the youth of today educators should foster

approaches that are similar to the game-like features encountered in everyday life (McGonigal, 2011). These game-like features include being able to level up; leveling up allows students to move up to a more challenging level with each improvement in skills. The advent of gamification with reading applications can support differentiation processes which support early literacy skills (Martens, 2014). Children value the use of technology in their culture. Teachers must create atmospheres that are familiar to digitally native students. One way to connect student learning in reading is by use of a digital tool that can allow for a 'leveling up' process. The digital badge is precise at leveling up digital natives in ways to which they are accustomed.

Digital natives need learning tools that drive their intrinsic motivation. Teachers can emphasis intrinsic motivation by adapting their teaching methods to incorporate students' digital and technological mindset. Vygotsky (1978) stated that the learning process is meant to meet students' current ability level and also be slightly challenging. Learning should be matched in some way with the developmental level of the child (Vygotsky, 1978). The digital badge system is designed to meet the student's developmental level. It helps the student progress from one badge to the next and eventually to a summation badge of a larger skill (O'Byrne, Schenke, Willis, & Hickey, 2015). Vygotsky described a need for tools, instructors, and methodology that mediate learning. The digital badge might serve as an effective tool to mediate learning according to the child's developmental level. The digital badge levels up as proficiency is met (Besser, 2016). The badge meets the student's developmental level as the digital badge skill expectation goes up (Wardrip, 2014). The student is self-selecting the digital badge with the guidance of the teacher to move into their zone of proximal development. The zone of proximal development states that students are using previous knowledge to learn new knowledge with some challenge and is considered an ideal level (Vygotsky, 1978). In this sense, a digital badge

12

works to meet a student's capacity to complete each progressive stage (Vygotsky, 1978). Intrinsic motivation is facilitated by meeting specific developmental periods (Ryan & Deci, 2000).

Intrinsic motivation can be addressed through the constructivist psychological theories of Piaget (1969) and Vygotsky (1978) in which learning is a process in which active construction of meaning by learners creates intrinsically motivated learning. Vygotsky emphasized reciprocity between student and culture. The student is intrinsically motivated by their involvement with education and their role in the path of gaining a self-directed learning outcome. Piaget (1954) showed the importance of assimilation into the experience as intrinsically motivating for learning. Students who have tools that take them from what they know in their 'schema' into what they need to learn are motivated. The digital badge may serve to take the known reading schema to understand the unknown. Badges may be understood as the mental representation that is described by Piaget (1983) in his constructivism theory.

Constructivism is a theory based on observation and scientific study. Constructivism includes a person's ability to construct knowledge from previous learning (Vygotsky, 1978). Constructivism involves a fluid and constant process that builds upon current knowledge while building new frameworks of understanding (Piaget, 1954). Constructivists believe learning happens in individual ways. The learning is constantly and actively happening. Students adjust their understanding based on the continual path of creating meaning by accumulating constant learning progressions (Piaget, 1954; Vygotsky, 1978).

The concept of constructivism influenced all facets of this dissertation since it relates to technology such as digital badges. The idea of constructivism can be directly related to digital natives' learning, intrinsic motivation, and badging. Early on, constructivism examined cultural

experiences; this emphasis was considered when viewing the cultural experience of digital

natives and what shapes their learning patterns in the digital age. Vygotsky (1978) stated,

"learners need to personally make sense of ideas, concepts, and skills" (p. 98). The

personalization understood by Vygotsky creates a seminal point for the digital badge as the tool

may work to support student-centered learning among digital natives within the constructivist

approach. The digital badge can personally adapt skills to students' skill base and conceptual

thinking.

The theories that guided this dissertation provide insight into how the research questions

were derived increased understanding of digital native learning. The research on student-

centered learning and child development related to digital native reading. To understand how

young students learn there must be an understanding of digital natives, early reading tools and

reading concerns as was described. The constructivist theory is at the heart of how digital

natives learn in unique ways. The theory was derived from thorough investigation of the body of

knowledge surrounding how students learn in technological times.

Statement of the Problem

The problem addressed in this study concerns The Nation's 2015 Report Card which

reported that 35% of students are at or above proficiency in reading in Grades 4, 8, and 12. The

low percentage of proficient readers has remained a common trend since 1992 (National Center

for Education Statistics, 2018). The concern over reading has risen with the changing needs to

motivate and engage children in the digital age (Prensky, 2012).

Digital natives learn in unique ways. To build an understanding, the definitions, theories,

and current research on digital badging were analyzed to show the gaps in the learning of digital

natives. The current literature surrounding digital natives lacks key tools for understanding and

14

learning in classrooms today. Educators may find ways to connect how students learn in informal settings to the classroom. Specifically, elementary education teachers may help motivate students to intrinsically read by using digital tools such as digital badges.

The current literature demonstrates a body of evidence around motivating students by connecting student-centered learning that is happening in constant ways towards methods of organized, self-regulated, and active learning processes to meet student needs. The digital badge may accommodate the needs of the reading equity gap and constant learning that occurs with students today. In the past, students learned in linear ways (Prensky, 2007). However, with an increase in technologically changing times, student needs have changed specifically in how they are motivated to learn in today's classrooms. Digital badges may provide the link between how students are motivated to learn to successful reading achievement in the classroom.

Purpose of the Study

The purpose of this qualitative, phenomenological study was to attempt to understand how digital badges function for reading skill acquisition. Researchers demonstrated that digital badging is an effective motivational tool at other grade levels and settings (Abramovich, 2016; Chou, Block, & Jesness, 2012; Jovanovic & Devedzic, 2015; Wardrip, 2014; Yang, Quadir, & Chen, 2016). Chou et al. (2012) found that students showed improved skill knowledge and motivation to learn and read when digital badges were present. Yang et al. (2016) assessed 50 fifth-grade students' self-efficacy in English language learning using gaming elements. The results demonstrated improved built on the findings of previous studies to examine the perspectives of kindergarten teachers who use digital badging as an intrinsically motivating tool.

Research Questions

      RQ1: What are the digital badge experiences of the kindergarten teachers at three

              elementary schools in a state located in the Northeast region of the United States?

      RQ2: How do kindergarten teachers describe digital badge impact on the student's

              ability to gain reading skills in kindergarten?

      RQ3: How do kindergarten teachers describe traditional grading methods compared to

              badging assessments?

Rationale, Relevance, and Significance of the Study

Struggling with the reading process can occur for many children. Relating to students

who do not feel teachers are aware of their knowledge or recognize known skills has been felt

personally. Traditional grading often focuses on the weaknesses in reading without

acknowledging progress.

As a struggling reader, I remember low self-esteem around literacy skills. I would have

appreciated a mechanism like the digital badge that recognized the positive things I

accomplished related to reading. At times, it was hard to see the finish line. Therefore, it would

have been beneficial to see the progress I established along the reading path. The digital badge

may be a tool to offer motivation by recognizing students' skills achievement. Yang et al. (2016)

examined the English language learning population, a common group that struggles with

learning to read. ELL students in game-based, badging settings showed improved self-efficacy

as compared to non-badging classrooms (Yang et al., 2016).

Over the past 15 years as an elementary educator, I have observed distraught students

struggling with the reading process. There is a lack of tools that use formative assessment to

individualize learning. Digital badges might be an effective way for an educator to recognize the

skills and strengths of students versus standardized report cards or formal assessments. Digital badges are a tool that can be used to immediately recognize a student's progress in reading. Ahn et al. (2014) examined the encouragement the badges provided students related to self-efficacy. Digital badges offer inspiration and attainable goals along the way resulting in higher self-esteem (Ahn et al., 2014).

Students who struggle with reading are a prominent concern for parents and educators. The education domain has always had struggling readers, but there is a lack of research on the use of digital tools to address the needs of struggling readings in the digital age. The number of struggling readers is growing due to changes experienced with technology. Keengwe and Georgina (2013) identified that digital natives have specific technological expectations and preferences for learning. As technology advances, a noticeable desire for immediate gratification has increased students' struggle with reading since reading is a skill learned over time (Keengwe & Georgina, 2013). The decline in students' attention, motivation, and engagement has been directly observed in my classroom. Students often seek fast-paced responses and learning similar to the quickness of the Internet. In my current school, reading is a growing concern as new initiatives roll out such as "Read Well [K-3]" (Minnesota Department of Education, 2017). The "Read Well by Grade 3" initiative emphasizes the importance of learning to read in kindergarten to create a foundational reading base. The administrative expectation is that students will be provided with tools that enhance instruction to appropriately move students along to becoming proficient readers (Minnesota Department of Education, 2017). These expectations align with the comprehensive support that digital badges can offer.

Another significant issue surrounding the need for the digital badge is the rise in the equity gap. Schools face growing concern over the widening gap in reading proficiency.

17

Educators are finding skills are not retained from year to year (U.S. Department of Education, 2017b). In my classroom, I piloted programs with technology and maintained data to show closure for the equity gap. While piloting a 1:1 iPad program, students were able to level up in reading. The "leveling up" addressed specific skill benchmarks on the developmental reading assessments (Cooper, 2016). In an anonymous classroom online survey, 95% of students reported perceived improved reading (Cooper, 2016). Twenty of the 23 students described earning badges as helpful to their learning style. Reading by "leveling up" provided immediate feedback to remedy student misconceptions during lessons; as a result, reading scores improved from 70% class average to 89% (Cooper, 2016). Digital badges represent skills in digital or physical format, creating accessible classroom tools to help students gain proficiency in reading.

The gap in research around digital badges in elementary schools is strong (D'Agostino, Rodgers, Harmey, & Brownfield, 2015). I completed a comprehensive literature search for scholarly work with digital badges and found only one study with fifth graders (Wardrip, 2014). After connecting with the author cited in this study, there was agreement that little research exists with digital badges in elementary schools and in reading. There is a high need for research on the "relationship between badging and learning environments and student achievement, if the badges are to exist within formal school settings" (Wardrip, 2014, p.110).

This study was conducted in a school district in the Northeast region of the United States whose teachers are piloting badging in kindergarten reading. Other than this pilot program, I did not locate any studies on practical literacy skills with badging. Schwarz (2016) stated a badge earner has interest in greater learning regardless of age; her study was conducted with adult learners, not elementary students. There is no literature to date on how badges can improve reading, nor is there scholarly work around elementary education badging. In their retrospective

study of badging, Gibson et al. (2015) highly recommended studying the effect of badges on intrinsic motivation in education. Additionally, the literature found on digital badging was filled with recommendations to research digital badges in the key areas this dissertation will explore (Abramovich, 2016; Besser, 2016; Ray, 2013; Wardrip, 2014).

Many researchers reported a need for reading tools that connect to the social media platforms and fast-paced Internet that students encounter in everyday life. Ray (2013) showed a need for tools in technology to engage readers. He showed increased reading interest when technology or tools mimicking technology were present in literacy activities. However, Ray did not demonstrate how tools that represent student achievement with motivation were met. Besser (2016) recommended follow-up studies on digital badging in motivation and learning mastery and Wardrip (2014) recommended further studies on digital badges in lower level grades across various contexts. Abramovich (2016) also noted a need for further work in lower level grades.

Definition of Terms

For the purposes of this study, the following definitions are detailed:

Badging. A form of symbolism which can be in digital or physical form. Badging is representative of skills, experience, or a combination (Grant, 2016).

Badge earner. Individuals that go after a badge to demonstrate skills and accomplishments to a wide-range of audiences (Alliance for Excellent Education, 2013).

Badge ecosystem. A connected whole inclusive of goals, badge definition, procedures, and technology built on procedures, and norms within an online autonomous learning environment (Hickey & Otto, 2016).

Badge issuer. Individuals, schools, employers, institutions, communities, or groups that create credentials to demonstrate mastery of skills and achievements that are of particular value to the issuer" (Alliance for Excellent Education, 2013).

Digital native. People born into a culture of digital tools creating natural use of digital and electronic products (Prensky, 2012).

Constructivism. Constructivism takes place through differentiation, which occurs when students create self-autonomous learning from current knowledge to new ideas. Constructivists believe students are at the center of learning and the teacher facilitates understanding by adjusting and adapting learning goals (Schulte, 1996).

Digital badges. A digital badge is a credential that represent skills, interests, and achievements a part of a badge ecosystem which allows the badge to be accessed online and secured for credibility; a badge includes "issuers," badge "earners," and badge "consumers" (Alliance for Excellent Education, 2013).

Formative assessment. A formative assessment is a continuous measurement of evaluating skills and knowledge while providing feedback to inform instruction, as opposed to summative assessment which provides a final grade (Stull et al., 2011).

Formal learning. Instruction occurs in formal educational settings with objectives and structure (OECD, 2018a).

Informal learning. Unorganized activities in outside of formal instruction. Informal instruction is unplanned, voluntary, and self-guided activity (OECD, 2018b).

Micro-credentials. Recognition of achievements through showing mastery based on experience or skill attainment which can be used across a broad range of industries (Online School Centers, 2018).

Open badges. "Open Badges are verifiable, portable digital badges with embedded metadata about skills and achievements. They comply with the Open Badges Specification and are shareable across the web" (Open Badges, 2016, para. 1).

Open credentials. Open credentials are a set of claims that refer to a qualification, soft or hard skill, achievement, or personal quality, that are verifiable identities for being suitable to complete a particular task (Korb & Sporny, 2018).

Scaffolding. Using previous knowledge to customize to future student needs by deliberately making connections to those items understudy to assist in accomplishing his/her learning (Belland, Glazewski, & Richardson, 2008)

Student-Centered Learning. This learning theory is based on the constructivist point of view which places the learning path and participation into student's hands enabling lifelong learning habits (Hoidn, 2017).

Assumptions, Limitations, and Delimitations

Assumptions. Creswell (2013) ascertained that assumptions cannot be avoided and must exist for research to occur. The intent of this study was to provide educators and principals a voice in their perceptions of digital badging, through the lens of observation. This created the assumption that selected participants willingly, openly, and honestly shared their thoughts in response to interview questions. Another assumption was that the research questions would lead to an understanding of how badging was perceived. Additionally, the assumption was made that teachers implemented the digital badge initiative similarly across classrooms with fidelity.

Limitations. This study contained limitations as is true in any study (Creswell, 2013). This study was limited to seven kindergarten teachers and three principals who implemented digital badges for a minimum of two years while also having the experience of traditional

assessment. Digital badges are an emergent tool, limiting the sample population options. The researcher drew from a singular identifiable district implementing digital badges with young readers across the district. This led to a small sample size restricted to one region. Consequently, the representation of limited geographic regions and demographics could position a challenge to generalizability. However, the findings may be transferred into practice because they provide insight on perceptions of digital badge use.

Delimitations. The study was narrowed to kindergarten teachers. The selection of controlling the research population to teachers of students in kindergarten was deliberate in order to preserve the involvement of progressive reading common to this developmental phase. This created a limitation by including an expectation of those familiar with novel readers while understanding the significance of an innovative tool for formative assessment

Another limitation of the study included the researcher as the primary instrument. The researcher neither operates the information nor controls the themes within qualitative research (Patton, 2015). According to Creswell (2013), reliability can be interfered by personal impact or beliefs. Therefore, bracketing and reflection of existing presuppositions and perspectives was accomplished through researcher awareness and reflection. To diminish potential bias the researcher used bracketing to frame biases, beliefs, or assumptions about the phenomenon (Widodo, 2014). Member checking occurred to cross-check accuracy of statements. All feasible measures were implemented to ensure fidelity.

Summary

This phenomenological study was conducted to understand how kindergarten teachers perceive a new digital tool, digital badges. The current literature demonstrates a body of evidence around motivating students by connecting student-centered learning that is happening

in constant ways toward methods of organized, self-regulated, and active learning processes to meet student needs. Digital badges represent skills in digital or physical format, creating accessible classroom tools to help students gain proficiency in reading. The technologically-changing times have added another layer to the challenges when learning to read and must be addressed (Prensky, 2012). The digital badge may accommodate the needs of the reading gap and constant learning from the Internet that occurs with students today. There is a high need for research on the "relationship between badging and learning environments and student achievement, if the badges are to exist within formal school settings" (Wardrip, 2014, p. 110). This study was conducted in a school district in the Northeast region of the United States where teachers are piloting badging in kindergarten reading. As stated in the National Education Technology Plan put forth by the U.S. Department of Education (2017a), a need exists to integrate assessments, digital tools, and communication technologies into instruction to close learning barriers for students. Vygotsky (1978) stated, "Learners need to personally make sense of ideas, concepts, and skills" (p. 98). The personalization understood by Vygotsky creates a seminal point for the digital badge as the tool to support student-centered learning among digital natives within the constructivist approach.

Chapter 2 presents the conceptual framework, gap in research, review of literature, methodological background, synthesis of research findings, and a critique of previous research. Chapter 3 is focused on the methodology of this study, the purpose statement and design, research population and sampling method, instrumentation, procedures, expected findings, and ethical and beneficial issues of the study. Chapter 4 contains an analysis of the data along with a review of the methodology. The chapter also presents the findings of the study. Chapter 5

provides a summary of the study, recommendations for practice and research, and implications

for practice, policy, and theory.

Chapter 2: Literature Review

Introduction

"Without continual growth and progress, such words as improvement, achievement, and success have no meaning" (Franklin, 2018). The digital badge serves to create a continuum of progressions (Mozilla Foundation et al., 2011). The digital badge may connect reading learning from the student's past, including informal experiences, to present reading skills developing milestones along the way (Besser, 2016).

While the idea of using grades and assessments to guide learning is not new, digital badges are a recent trend to address learning for the 21st century student (Homer et al., 2018). Our digital natives deserve an opportunity to engage in ways that resonate with how they live by use of digital pedagogy to motivate and enrich their learning (Kivunja, 2014). Digital badges are unique because they offer clear detailed displays that can be showcased on social networks similar to the social networking culture students encounter (Mozilla Foundation et al., 2011).

Students today become frustrated with educators who are not familiar with how it feels like to grow up amidst a world of digital devices with gaming features (Prensky, 2012). Complicating the changes in technologically driven times are the increased issues with reading attainment (Smart et al., 2017). Digital badges serve to inform the reading process and meet the digital native's needs (Wardrip, 2014). The conceptual framework focuses specifically on kindergarten reading skills attainment as it pertains to teacher perception in the digital era.

Conceptual Framework

This dissertation was completed using a conceptual framework situated in constructivism that applies to Vygotsky's (1978) zone of proximal development and cultural impact of learning

within Vygotsky's sociocultural theory (p.39). Further, Piaget's (1969) theories of cognitive development and motivation contributed to an understanding of how learning is acquired. Both theories operate under the idea that learning, development, and culture affect how young children develop healthy cognitive functioning. To fully conceptualize student reading in the digital age, it is imperative to understand the systems, societal concerns, and theories that are closely aligned with reading. The combination of 21st-century learning demands and importance of literacy in our society creates a call for immediate research. In a longitudinal study of over 3,000 students tracked from kindergarten to tenth grade, foundational reading skills attained in kindergarten were found to affect future reading comprehension (Stanley et al., 2018) The urgency for early reading attainment has been historically and theoretically proven as critical (National Center for Education Statistics, 2018).

The constructivist approach may be applied to the digital native learner as it pertains to reading. Moreover, a constructivist approach supports the concept of a digital framework to address the needs of young readers in the 21st century (Land, 2000). The constructivist, or student-centered, approach is described in the following paragraphs as it pertains to digital natives' reading in kindergarten with the use of digital badges. The theoretical framework addresses the unique learning needs of digital natives in reading.

Technological advances in the 21st century have created new educational expectations for readers. Students are learning through graphic displays, responding with icons like emoji's, and gaining information from mass videos versus traditional reading and learning tactics (Prensky, 2012). Despite the changes in learning modes, society still has a need for foundational basic reading skills. Readers must keep up with the pace of reading text quickly with a variety of genres and online platforms. Readers are expected to respond quickly and responsively within

email, text messages, and among social media platforms. Yet, a crisis in reading exists in U.S. schools. For over ten consecutive years the educational system's ability to prepare future citizens to read has fallen short (U.S. Department of Education, 2017b). Currently, 32 million U.S. adults cannot read (U.S. Department of Education, 2017b). Student needs may be prioritized by looking closely at these statistics. Students rarely catch up with their peers on grade level when they do not acquire foundational reading skills prior to third grade (Smart et al., 2017). After third-grade, students begin to read to learn and teacher instruction for practical reading skills fades. After third grade, children transition from learning to read to learning the content of subject areas, and thus have a need to read fluently (Kel-Artinian & Parisi, 2018). If students do not obtain foundational reading skills by third grade they are four times more likely to drop out of school (Hernandez, 2011). This statistic makes catching the needs of specific reading skill attainment critical to the reading learning processes.

Stakeholders should consider the lack of reading strategies and tools to motivate our learners. The concerns around lack of reading by third grade are imperative to societal functionality. The expectation that U.S. citizens will be able to read and write has been a cultural value since the late 1800s. Being literate is a social expectation and an immediate need for general functioning within the American culture (Kirsch et al., 2002). Lack of ability to read early on is highly connected to continued struggle and failure at the high school level and into adulthood (Fiester, 2010). Those illiterates are the most likely to have difficulty graduating high school, obtaining a job, and abiding by the law. In a report, every single individual who does not graduate from high school "costs our society an estimated $260,000 in job earnings, taxes, and productivity" (Fiester, 2010). The problems students face with reading at a young age are known to compound and affect their futures. Those individuals incarcerated since 2007 are 70%

illiterate (U.S. Department of Education, 2017b). The importance of strong reading skills early on cannot be overemphasized.

Children must sequentially learn the technical skills of reading not just to read, but to improve how they think and reason (Neuman, 1998). Students have an optimal window for reading skill acquisition; this window of learning requires proper progression and skill attainment (Park et al., 2015). The mastery of reading fluency skills in the primary grades is significantly related to better general reading outcomes in later grades (Cunningham & Stanovich, 1997). The results of a nationwide research study of over 1,300 students in grades K–3 showed that students are more likely to struggle in the coming years when skills are not attained between kindergartens to third grade (Park et al., 2015). In a path study of over 200 students, a lack of skills in early reading such as decoding letter sounds was a precursor of more difficulty in future grades (Cunningham & Stanovich, 1997). The sooner the skills are met, the more likely students can continue to improve their reading skills.

Reading skills attainment requires sequential processes to progress and move forward to the next expected step. Without each reading development stage in place, students can struggle in stages to come. Piaget (1954) described this reading phenomenon as 'schema,' meaning students understand and learn by using current knowledge and skills to organize and create future information. The ability to assimilate various skills leads to the assimilation of the reading process while developing reading for the upper grades (Piaget, 1954).

Reading skills remain as important today as in years past; however, today's digital native student has a critical need for early development of reading skills. Prensky (2007) believed educators and policymakers must look at both the methodology and the lesson content delivered to students. In order to motivate, engage, and teach the youth of today educators should foster

approaches that are similar to the game-like features encountered in everyday life (McGonigal, 2011). These game-like features include being able to level up; leveling up allows students to move up to a more challenging level with each improvement in skills. The advent of gamification with reading applications can support differentiation processes which support early literacy skills (Martens, 2014). Children value the use of technology in their culture. Teachers must create atmospheres that are familiar to digitally native students. One way to connect student learning in reading is by use of a digital tool that can allow for a 'leveling up' process. The digital badge is precise at leveling up digital natives in ways to which they are accustomed.

Digital natives need learning tools that drive their intrinsic motivation. Teachers can emphasis intrinsic motivation by adapting their teaching methods to incorporate students' digital and technological mindset. Vygotsky (1978) stated that the learning process is meant to meet students' current ability level and also be slightly challenging. Learning should be matched in some way with the developmental level of the child (Vygotsky, 1978). The digital badge system is designed to meet the student's developmental level. It helps the student progress from one badge to the next and eventually to a summation badge of a larger skill (O'Byrne et al., 2015). Vygotsky described a need for tools, instructors, and methodology that mediates learning. The digital badge might serve as an effective tool to mediate learning according to the child's developmental level. The digital badge levels up as proficiency is met (Besser, 2016). The badge meets the student's developmental level as the digital badge skill expectation goes up (Wardrip, 2014). The student is self-selecting the digital badge with the guidance of the teacher to move into their zone of proximal development. The zone of proximal development states that students are using previous knowledge to learn new knowledge with some challenge, and is considered the "just right level" (Vygotsky, 1978). In this sense, a digital badge works to meet

the "child's mental abilities that are made because of specific early completed developmental period" (Vygotsky, 1978). Intrinsic motivation is facilitated by meeting specific evolving periods (Ryan & Deci, 2000).

Intrinsic motivation can be addressed through the constructivist psychological theories of Piaget (1969) and Vygotsky (1978) in which learning is a process in which active construction of meaning by learners creates intrinsically motivated learning. Vygotsky emphasized reciprocity between student and culture. The student is intrinsically motivated by their involvement with education and their role in the path of gaining a self-directed learning outcome. Piaget (1954) showed the importance of "assimilation" into the experience as intrinsically motivating for learning. Students who have tools that take them from what they know in their 'schema' into what they need to learn are motivated. The digital badge may serve to take the known reading schema to understand the unknown. Badges may be understood as the mental representation that is described by Piaget (1983) in his constructivism theory.

Constructivism is a theory based on observation and scientific study. Constructivism includes a person's ability to construct knowledge from previous learning (Vygotsky, 1978). Constructivism involves a fluid and constant process that builds upon current knowledge while building new frameworks of understanding (Piaget, 1954). Constructivists believe learning happens in individual ways. The learning is constantly and actively happening. Students adjust their understanding based on the continual path of creating meaning by accumulating constant learning progressions (Piaget, 1954; Vygotsky, 1978).

The concept of constructivism has influenced all facets of this dissertation since it relates to technology such as digital badges. The idea of constructivism can be directly related to digital natives' learning, intrinsic motivation, and badging. Early on, constructivism examined cultural

experiences; this emphasis will be considered when viewing the cultural experience of digital

natives and what shapes their learning patterns in the digital age. Vygotsky (1978) stated that

students must make meaning and sense of ideas that are personal to them. The personalization

understood by Vygotsky creates a seminal point for the digital badge as the tool may work to

support student-centered learning among digital natives within the constructivist approach. The

digital badge can personally adapt skills to students' skill bases and conceptual thinking.

The theories that guide this dissertation provide insight into how the research questions

were derived increased understanding of digital native learning. The research reviewed student-

centered learning and child development related to digital native reading. To understand how

young students learn there must be an understanding of digital natives, early reading tools, and

reading concerns. The constructivist theory is at the heart of how digital natives learn in unique

ways. The theory was derived from thorough investigation of the body of knowledge

surrounding how students learn in technological times.

Gap in the Research

The literature review revealed a gap in research related to digital badging at the

elementary school level, and specifically in reading. Ray (2013) pointed out that badges have

been researched generally, but there is little research about digital badges in specific content

areas. Moreover, research about digital badges in grades K–3 is nonexistent. Wardrip's (2014)

study of fifth graders in a private, religious school setting is the lowest grade level study

performed to date. Joseph (2012) also conducted research in fifth grade around gaming elements

and recommended research be conducted in other settings and in other grade levels. Wardrip

recommended further studies in motivation and Stetson-Tiligadas (2016) recommended the study

of motivation in content learning areas. Therefore, this research on digital natives using digital badges was designed to follow recommendations found in the literature review.

Review of Research Literature and Methodological Literature

Digital natives learn in unique ways. According to Prensky (2001), today's average college grads have spent fewer than 5,000 hours of their lives reading...by the time they are 21 they will have played more than 10,000 hours of video games, sent and received 250,000 emails and text/instant messages, spent 10,000 hours talking on digital cell phones...computer games, e-mail, the Internet, cell phones, and instant messaging are integral parts of their lives. (p. 1)

Educators can utilize how students live with digital tools to increase learning. Digital natives often learn in informal ways creating internally motivating factors (Preusse-Burr, 2011). The digital badge is a bridge between the culture of the student and the encouragement of intrinsic motivation. Specifically, digital badges may support elementary teachers' efforts to intrinsically motivate students to become lifelong readers. The decline in student engagement and motivation has become increasingly evident in the classroom. Students need pedagogical practices that resonate with their style of learning.

The current literature on student motivation provides evidence for connecting fragmented learning that happens outside of school toward methods of organized, self-regulated, and active learning processes in school (Gibson et al., 2015; Grant, 2014). Students today are finding autonomous learning experiences by seeking information from technology tools (Keengwe & Georgina, 2013). Digital badges are one tool to accommodate the needs of these students. Much of the evidence related to learning pathways with digital badges was obtained through qualitative interviews, case studies, and field notes (Davis & Singh, 2015). Abramovich (2016) and Wardrip (2014) both considered various research based on qualitative analysis. Further, digital

32

badge research has been focused on self-regulation, self-motivation, and access to opportunity, providing diverse learning pathways, and recognizing specific skills that can follow a person throughout life (Davis & Singh, 2015). The digital badge is consistently labeled as giving value to students' intrinsic needs (Gibson et al., 2015).

In the past students learned in linear ways. When a student learns in a linear way, they absorb information in step-by-step process (Coffield, Moseley, Hall, & Ecclestone, 2004). Student learning today has evolved to match a technologically driven society (Prensky, 2007). Digital natives' motivation for learning has specifically changed due to constant interaction with technology (Tapscott, 2009). Students today encounter the use of technology in how they play, socialize, interact, work, and connect on a global basis, yet traditional assessments for learning acquisition remain in place (Cox, 2012). Sound research demonstrates traditional learning tools are no longer appropriately preparing students with the skill base needed for lifelong learning in future workplaces (Grant, 2014; Olneck, 2014). Digital badges may provide the link between students' intrinsic motivation and learning through improved classroom instruction focused on digital natives' technological savvy.

Historical perspective. The evolution of intrinsic motivation dates back to the 1950s and Skinner's theory of self-motivation (Ryan & Deci, 2000). To understand the tools needed to motivate students today, it is important to recognize the value of intrinsic motivation for young readers. Ryan and Deci (2000) claimed that for humans, intrinsic motivation is based on self-determination factors which include self-determining goals, the need of feeling accomplished, and connectedness to others. Ford (1992) demonstrated that competence and self- efficacy increase students' internal motivation while Winne (1985) showed that people work diligently on skills they personally value and the skills become intrinsically instilled. In effect, educators

should understand in what ways digital natives apply personal value to experiences and feel self-efficacy and accomplishment in those experiences.

Intrinsic motivation is highly connected to self-regulation: the ability to plan, reflect, and control learning (Bandura, 1986). Therefore, learning that involves self-regulation creates greater intrinsic motivation. These skills intrinsically motivate children to read. Guthrie and Wigfield (2000) examined key motivating factors for readers including student's self-efficacy and attainable performance goals. In a study by Pintrich and de Groot (1990), intrinsic value was deeply connected to self-regulation and a stronger sense of self when reading. Students are found to have the most success in reading when they are given the opportunity to master reading skills early in their academic career (Park et al., 2015). Giving students access to opportunity in how they are learning and reading evokes student interest and motivation (Allington & McGill-Franzen, 2013).

Digital native learning. Digital natives today lack the optimal engagement in general school settings to become motivated to learn. Prensky (2012) and Keengwe & Georgina (2013) showed that students learn outside of the classroom in dynamic ways this varied leavening creates a natural form of optimal engagement. However, social networking, Internet surfing, and various applications used outside of the classroom are not transferring over to the school setting. Kivunja (2014) found in a global study of 7,685 students that a need exists for new pedagogy to match how students are spending their recreational time to in school learning. As a result of failed pedagogy and tools, children are becoming disengaged. Digital natives' reflexes are honed to the swiftness and lack of inhibition that technology provides (Tapscott, 2009).

Students are seeking self-selected outlets to achieve and show their learning. Digital natives are constantly exposed to devices that are available in nearly every environment they

encounter. The ability to easily access information creates fragmented learning that happens

outside of school. Therefore, learning occurs beyond a teacher's instruction (Kivunja, 2014).

Students come into the classroom and are asked to turn off the ways in which they learn most

comfortably, which leads to boredom (Prensky, 2012). Digital native learning is both unique and

varied from learning of previous eras. Students are excited and geared up for digitally enhanced

tools (Moos & Marroquin, 2010). Self-selected tools are considered a form of intrinsic

motivation. Digital natives need intrinsic motivation for effective task performance. Without

these tools, educators go against the grain of what is intrinsically motivating to students.

Digital natives may become engaged by tapping into their intrinsic motivation. The

literature on intrinsic motivation showed the way humans have always been motivated will work

for students today. Digital natives are intrinsically motivated by much of the same things as their

predecessors, but the tools of motivation have changed. Csikszentmihalyi (1978) described

intrinsic motivation as one's ability to increase or decrease their level of challenge for

appropriate task completion. Vygotsky (1978) described the zone of proximal development in

which students are not under or over challenged similarly to Csikszentmihalyi's idea of perfect

level. Csikszentmihalyi also noted that clear performance goals and feedback should be a part of

the process for intrinsic motivation to occur. The digital native needs ways that resonate

intrinsically in today's classrooms through clear goals at their appropriate level. Ray (2013)

explored using clear, choice driven goals to intrinsically motivate students by using blogging.

Ray found students who have attainable goals provided by tools similar to the functions of open

badges create leveled goals and become intrinsically motivated.

Educators must apply intrinsic motivation to connect the gap for how students spend their

lives learning and how they learn in the school setting today (Keengwe & Georgina, 2013).

Rather than creating separate learning arenas, educators should connect intrinsically motivating

strategies in classrooms (Bennett, Maton, & Kervin, 2008). Self-driven learning is an indicator

of intrinsic motivation for the digital native. In a survey of 4,374 students across 13 institutions

in the United States, surfing the Internet for pleasure occurred in 99.5% of the population of

students (Bennett et al., 2008). The skills obtained from these searches include academic

knowledge as well as self-directed learning. Bulfin & Koutsogiannis (2012) found in interview

studies with 90 pupils over several months in two countries that students deeply craved

connection between digital learning in casual atmospheres to the experiences they encountered in

school. The use of digital tools may connect the way students learn beyond typical classroom

lessons. "Today's education system faces irrelevance unless we bridge the gap between how

students live and how they learn" (Partnership for 21st Century Skills, 2009, p. 3). Keengwe and

Georgina (2013) used formative groups to show that digital natives are innately driven by the

ability to learn in flexible, self-driven and personal ways. O'Byrne et al. (2015) showed that

learning happens in multiple ways that and the digital badge will capture the varied learning

modes. The self-driven ways include social networking, Internet videos, and Internet searching.

Digital natives are self-driven by encountering activities they are passionate about. Learning

passions must be acknowledged that are happening constantly to keep learning paths fluid

(Prensky, 2012). A tool to open learning paths may be the digital badge.

The digital badge: A pathway for learning. As digital natives' curricular experiences

have evolved so has the need for diverse learning mechanisms. The urgency for more successful

tools of appraisal, guidance, and ways to encounter self-driven pathways is necessary. The

incorporation of badges (also called micro-credentials, open badges, visual insignia badges or

advanced identifications) shows transparent learning goals in timely, accurate, and clear ways

(Sheninger, 2015). Traditional grades lack the progress and growth that badging can offer.

Current grading frameworks do not give satisfactory data for appropriate guidance, self-selected

goals, or for the educator to create individualized lessons (Norton, 2014). Bringing instruments

like badges into the classroom might keep students engaged with the curriculum. Schwarz

(2016) examined the digital badge served as a pathway towards learning within a manufacturing

context despite age of an earner. Instructors become competent in partnering with students to

create pathways by communicating the goals and selected badges to guide students to their

learning needs (Preusse-Burr, 2011). Teachers can collaborate with students to create clear

learning paths by using badges.

Digital badges work as a tool to intrinsically motivate learners. The digital badge may

work to intrinsically motivate pupils by connecting informal learning to formal learning. The

badge function is to recognize a vast range of skills (Mozilla Foundation et al., 2011). Digital

badges address the needs of student self-regulation. Valuable assets earned outside of school and

in non-sequential ways should be creditable (Ifenthaler, Bellin-Mularski, & Mah, 2016). The

results of Schwarz's (2016) study showed that regardless of age, a badge earner has increased

interest in earning a badge. In a survey completed by Jovanovic and Devedzic (2015), badges

were a motivating tool that positively affected the learner's ability to control their learning. The

survey report showed positive skill attainment when students could go after a skill at their level.

The digital badge created self-motivation that digital natives enjoy. Shields and Chugh (2017)

demonstrated that badges work with the learning process by addressing the skills achieved

outside of the classroom to connect skills within the formal learning environment. The badge

offers more than traditional grades; it contains specific claims and self-selected or co-created

goals to enhance motivation.

Intrinsic motivation is critical to primary age readers because it motivates them to read. Years of research have consistently found and supported the link between motivation and achievement as students with high levels of motivation achieve at higher levels than those with low levels of motivation (Guthrie & Wigfield, 2000). The research on reading success highly supports intrinsically motivating tools as conducive to youngster's reading success. Intrinsic motivation is an inward need to read as one's personal choice. The studies showed that intrinsic motivation can be increased through self-efficacy. Students who have attainable goals provided by tools like digital badges are intrinsically motivated.

Digital badges pave the reading path by supplying attainable, practical goals. Self-paced and self-regulated reading creates greater self-efficacy and intrinsically motivates children to read. Guthrie and Wigfield (2000) examined the key motivating factors for readers as self-efficacy and attainable performance goals. Pintrich and de Groot (1990) found that intrinsic value was deeply connected to self-regulation and a stronger sense of self-efficacy when reading. Pintrich and deGroot showed that by allowing students access to self-selected reading goals and allowing choice reading motivation occurred. Allington and McGill-Franzen, (2013), demonstrated that allowing choice decreased reading struggles with data collected longitudinally. Digital badges allow for self-directed educational experiences and self-efficacy.

A digital badge may facilitate self-efficacy, which is a key component of intrinsic motivation. Digital badges create longer-lasting recognition that can follow with the student as the student chooses. The digital badge allows for the self-regulation of how skills are achieved, and in what ways the badge will be displayed (Wardrip, 2014). In a participatory design study, digital badges served as the reflection of personal growth. This motivated students because they could view the learning path which improved self-confidence (Loughlin et al., 2016). Self-

efficacy was also found with the badges across various educational settings. Yang et al. (2016) developed a study across various schools that involved 50 students which all showed improved self-efficacy for elementary and English Language Learners when using digital badges with gaming elements. Ahn et al. (2014) examined the encouragement the badge can offer toward self-efficacy by offering inspiration and attainable goals along the way. Besser (2016) examined how digital natives have an internal need to receive feedback, as the internal motivation lies in understanding and believing in what one is able to accomplish and what is needed to meet new goals to succeed. Therefore, digital badges serve as a form of personalizing formative assessment piece which could potentially improve self-efficacy (Yang et al., 2016).

The digital badge creates scaffolded opportunities in learning. Scaffolded learning takes current knowledge and builds upon that to create advanced meaning (Belland et al., 2008). Brophy and Wentzel (2014) showed that scaffolding was necessary to motivate students. Scaffolding brings the student to a very detailed place within a lesson for which they can make sense and relate. Chou et al. (2012) conducted a study in which specific reading goals were determined through scaffolding and leveling experiences for students. The researchers worked congruously to level and adapt reading areas which resulted in improved intrinsic motivation (Chou et al., 2012). Digital badges help pinpoint where children are lacking in skills. Ahn et al. (2014) described badges as a scaffolding tool. Badges provide visible indicators of what the learner has achieved and what a learner is attempting to reach. The scaffolded process is provided by a badge because it develops a transparent learning path. Badges may be used to signify clear learning targets to serve as visual guideposts towards motivating one to reach their end goal and engage (Jovanovic & Devedzic, 2015). The ability to scaffold serves as an element of motivation for the elementary educator.

39

An elementary education teacher can help motivate students to read by using informative digital technology (Ronimus, Kujala, Tolvanen, & Lyytinen, 2014). Over the past 15 years as an educator, decline in motivation and engagement has been observed. A great amount of research today looks at the decline of achievement with our digital natives (Tapscott, 2009). Digital natives are learning with all sorts of technological avenues outside of the classroom (Schwarz, 2016). This fragmented learning creates self-chosen interests that do not leave when students enter the classroom (Bennett et al., 2008). Therefore, we must find ways to identify with how students are motivated best. The data around digital badges showed increased self-regulation, self-motivation, access to opportunity, accommodation to varied learning pathways while addressing specific practical skills (Abramovich, 2016; Ahn et al., 2014; Chou et al., 2012; Wardrip, 2014). The digital badges were consistently labeled as giving value to varied and informal learning (Mozilla Foundation et al., 2011).

Educators may apply intrinsic motivation to connect the gap for how students spend their lives learning and how they learn to read at the primary level. Intrinsic motivation is critical to primary age readers because it engages. Digital badges may provide the link between how students are incentivized to learn. Digital badges could provide optimal engagement in a kindergarten reading instruction platform.
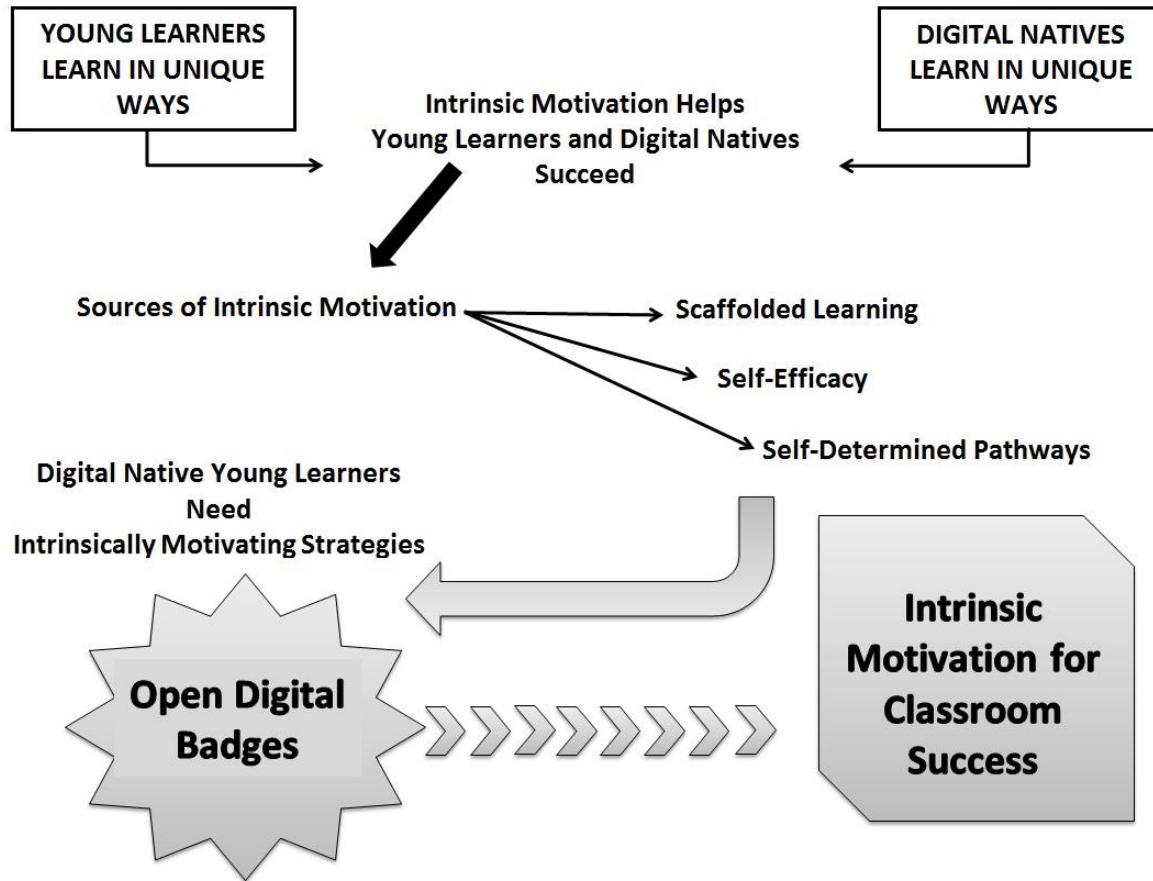
Figure 1. Open Digital Badges as Intrinsic Motivators for the Classroom

Review of Methodological Issues

There were many mixed results among the research data. Some researchers found that digital badges were very effective in motivating learners while other data showed that the digital badge served as a motivating tool until it was no longer a novel experience. For example, Wardrip (2014) and Jovanovic and Devedzic (2015) both concluded that the technology formats used were a motivating force only as a novel experience. This brings into question how the study might vary if it was conducted longitudinally. Besser (2016) showed positive motivational results with badges but had some concern over motivation and mastery. Gibson et al. (2015), Shields and Chugh (2017), and Yilderim, Kaban, Yilderim, and Çelik (2016) and all found

41

results that showed digital badges as being a motivating force in learning. In contrast, Stetson-Tiligadas (2016) found that digital badges had no bearing on motivation.

   Research context. It is important to note that prior research focused on digital badging was primarily based on higher education data or high school. There was one study that focused on fifth grade learners as it pertains to gaming (Yang et al., 2016). Moreover, some of the research was based on gamification elements at the primary level since the digital badging information was not evident at the primary education level. Schwarz (2016) showed badge results for higher education but did not have information on the lower levels of learning. Schwarz did suggest studies across broader age ranges. Ray (2013) showed how tools for technology were used for reading engagement, but not specifically with digital badges. However, studying how tools were used even if they weren't digital badges gleans insight into how the digital native might react to digital tools in general. Yang et al. (2016) was able to show how badging as a gaming element worked with an English Language Learning group but did not have information about the functioning of badges in the general classroom. Wardrip (2014) showed a use of badges in a fifth grade context at a private K–12 educational setting. Therefore, Wardrip's dissertation was not directly related to the age level of this dissertation.

   Sample pools. Many data pools within the research involved small sample sizes which creates concern for the ability to generalize the results to larger groups. Another issue with sample pools was how the participants were selected. O'Byrne et al. (2015) involved a small sample pool of less than four participants. The small sample size restricted the ability to adapt the results to all groups. Wardrip (2014) obtained a strong sample size of 16 teachers for which they voluntarily participated. Additionally, some samples involved data pulled from convenient

samples which creates fidelity issues. Stetson-Tiligadas (2016) used convenient samples to complete the research. Wardrip used a convenience sample of those willing to participate.

The body of research supporting the need for early reading research contained both methodological strengths and weaknesses. One of the strengths supporting the main topic was that much of the literature in reading focused on the importance of intrinsic motivation as a tool to engage and create successful readers. Ray (2013) noted that reading engagement is a pertinent issue for the digital native population. Ray's study was strong in that it was a mixed method model which created a dynamic view around the research obtained. The mixed methods research offered varied insight. The qualitative portion of Ray's study involved various case studies compared to the quantitative results, which offered a personalized look at the data. Ray's study involved a quantitative t-test comparing classrooms with technology-driven tools to classrooms that did not have the technology. Ray found statistical significance in increased reading involvement when technology was present. The negative to Ray's study was that it involved a convenience sample; this was noted as a limitation of the study due to the difficulty to randomize classrooms.

Ronimus et al. (2014) created a strong study with a large data pool of 138 children who were assessed over eight weeks to determine motivation connections between reading and technology devices. The negative to Ronimus et al.'s sample selection was that children were selected based on their willingness to participate in the online platform. Moreover, participants needed parent consent forms returned. Although parent consent is a factor that is nearly impossible to avoid, the parent involvement piece and investment with the online learning platform could have impacted the research more than the variables being studied. Another notable aspect of Ronimus et al.'s study was based on online interaction versus the classroom.

43

This dissertation involved classroom participants, so the online environment was incompatible. Another element considered for this dissertation was determining if gaming elements would be proportionate to the digital badge data. Many badge researchers like Ronimus et al. studied leveling up with gaming. Digital badges allow for students to level up, but are not always game based. Ronimus et al.'s study included a qualitative perspective based on surveys of student and parent feedback. Another positive to Ronimus et al.'s study was that both students and parents were required to complete weekly surveys, allowing for a holistic view of the program longitudinally. The longitudinal study helps understand how students will react to digital tools over time. The study results were clear. The ANOVA test proved that there was no increase in reading interest. The impact of 'leveling' up did not increase reading interest. However, parents in the study noted that the concentration improved (Ronimus et al., 2014).

In another study by Park et al. (2015), the researchers focused on the importance of mastering early reading skills. This study contained a large pool of 1,300 students spread out across the United States. The nationwide study was strong, as it decreased isolating results to locations. Many researchers were involved which helped alleviate researcher bias. Park et al.'s study was completed over three years. The results were compared to previous results to look for patterns. The comparative analysis in Park et al.'s study developed strong results. The negative to the study was that the schools were random, but were participating in a national reading initiative focused on a tiered evidence-based system. The criteria to participate in the "Reading First Initiative" required schools to have poor reading outcomes and to serve high-poverty populations. Thus, the "Reading First" schools and students represent a relatively high-risk group, which does pose a threat to the generalizability of these findings. The authors used quantitative analysis using an ANOVA test. The results of the study "show[ed] that mastery of

reading fluency prior to currently established benchmarks [was] a significant positive predictor of later reading skills in primary grades even after student demographic information and initial reading levels [were] controlled" (Park et al., 2015, p. 1). The results provide additional evidence for the importance of early reading development and intervention.

Digital badges. Wardrip (2014) created a survey, field notes, and interviews for a mixed-methods study on the functionality of badges. The varied approach allowed for a greater understanding of the functionality of badges with rich field notes and interviews, while the quantitative aspect added precision. Although the sample size was small, intensive one-on-one interviews provided solid insight into the digital badge experience. The results of this study were clear that the badges offered the teacher more information about their students for planning and personalization (Wardrip, 2014).

Schwarz (2016) used quantitative methods to obtain descriptive and inferential observations. The chi-square monte was used to find results. The sample included five schools in Missouri. The large pool of schools allowed for vast information. The results of the study showed that the earner found the badges valuable for creating individual paths of learning. A secondary result of the study showed concern over the loss of higher level thinking with the presence of badges. The earner was found to have interest in the badge regardless of age (Schwarz, 2016).

Stetson-Tiligadas (2016) showed the impact of badges on motivation in higher education. The method included a quasi-experiment, one classroom served as the control group and another non-control or non-digital badge classroom. The study included a large sample size of 106 students. There was some concern over internal validity since the sample was not randomized.

The results showed that motivation was not decreased or increased with the use of the badge (Stetson-Tiligadas, 2016).

Hatzipanagos and Code (2016) used digital badging to assess peer feedback and formative assessment for engagement with online environments. Their qualitative study was derived from case studies and field notes, the authors based badge involvement on the number of posts completed online. The negative was that the study was completed online versus in a general classroom setting (Hatzipanagos & Code, 2016).

Keengwe and Georgina (2013) showed how digital natives learn with qualitative research by using formative groups. The authors did not state how they formed the groups. The results show that digital natives have learning preferences which include flexible and personalized learning domains. This research was taken from middle school, so all factors from the study may not be applicable to those in this primary level-based study (Keengwe & Georgina, 2013).

Synthesis of Research Findings

By synthesizing research findings, the discovery of themes, connections, research recommendations, and gaps in research were identified. The synthesis of research identified the relationships, key concerns, concepts and areas to target. Sound reflective practice with the literature allowed for conclusions to be drawn. In this section, the argument of discovery will be understood through the foundation of literature synthesis and build the framework for the argument of advocacy. The body of research builds a strong case for the type of methods used in this study. The synthesis of the literature combined how learners are motivated, how digital natives learn, and in what ways readers gain literacy skills through intrinsic motivation. The methodological plan was formed by uniting the methods with the theories.

The idea of constructivism is not new; founding educational leaders used constructivism throughout the formation of formal education. Many psychologists have contributed to the sound seminal work that supports constructivism dating back to the late 1800s. The impact of the work on constructivism provides a guide for educational functioning in the 21st century. Dewey (1899) examined keys to education as knowing a child and building on prior experiences to expand into new experiences. Dewey (1899) showed that students in early education need a strong base of knowledge by planning and being a part of their educational experiences to learn best. Vygotsky (1978) explained the phenomenon of how children learn by understanding the unique learning paces students pass through overtime. Vygotsky (1978) believed that a child's competence should be expanded by using what they know to move into new zones. Piaget (1983) showed active construction and involvement in one's education was a great contributor to the acquisition of knowledge. Although much of the literature has given rise to changing practices in the 21st century, the theories behind learning have remained intact.

Intrinsic motivation can be understood in the 21st century by looking at how the research supports motivation and digital tools. Ciampa (2016) explored digital learning by understanding intrinsically motivating strategies. Ciampa's study was based on cognitive evaluation theory (Ryan & Deci, 2000) which is similar to constructivist learning in that the student has control over learning and is internally motivated by this empowerment. Ciampa's study was conducted with qualitative field notes and case studies which showed that improved learning was achieved when student autonomy was present resulting in ownership of one's learning. The synthesis of student autonomy meshes well with digital badges. Digital badges may serve to create self-autonomous learning environments by working with the student to choose visual badges (Jovanovic & Devedzic, 2015). Wardrip (2014) also used the cognitive evaluation theory to

assess students' intrinsic motivation through choice and self-selected paths. Both Wardrip and Ciampa positioned their research methods as qualitative to gain rich descriptions of student perceptions of varied uses of digitally-driven methods on intrinsic motivation. They used interviews, questionnaires, and field notes.

Clear reading benchmarks create achievable experiences to the success of readers and their future. Vygotsky (1978) examined understanding appropriate benchmarking as "the zone of proximal development" in which students take what they currently know and move forward to areas unknown (p. 39). Skills must be attained to move on to higher levels or higher grades. Studies around schema have relied on quantitative tests that are longitudinal to view how the schema and continuation of skills occur over time. The results of a nationwide research study of over 1,300 students in grades K–3 showed that students are more likely to struggle in the coming years when skills are not attained between kindergarten and third grade (Park et al., 2015). The results of the quantitative ANOVA study "show[ed] that mastery of reading fluency prior to currently established benchmarks [was] a significant positive predictor of later reading skills in primary grades even after student demographic information and initial reading levels [were] controlled" (Park et al., 2015, p. 1). The key to this study was that quantitative analysis could clearly demonstrate a need for skill attainment early on to be successful in later learning (Park et al., 2015). This may serve as a productive way to assess digital badges for progress with reading proficiency while understanding how badges assist the developmental level of the students.

Differentiation is viewed by many theorists as helpful to individual students. Digital badges can be considered a form of differentiation. Students engage in leveling up. The ways in which leveling up creates differentiation can be applied to practical skills such as those in reading. Digital badges create goals for classrooms that simulate 'gaming' within learning

formats. Kivunja (2014) explained that differentiation as important to engagement because badges personally adapt to what students need. Kivunja (2014) completed qualitative research on differentiation with badges by completing interviews. While Vygotsky (1978) explained differentiation through a constructivist theory in which children need to personally make sense of idea concepts, Piaget (1983) conducted qualitative observational research around differentiation from a constructivist view. Despite the fact that Piaget observed his three young children, his studies occurred over 3,000 days and were expansive. Piaget explained differentiation as assimilation and accommodation. Assimilation is constructed when individual students connect what they know to fresh experiences, ultimately resulting in accommodation (Piaget, 1983).

Piaget (1983) and Vygotsky's (1978) theories correlate to studies on how students respond to leveling up in differentiated classrooms by reaching various digital badge goals. Yilderim et al. (2016) found results that showed digital badges as being a motivating force in learning due to the ability to differentiate. Yilderim et al. completed a mixed methods research study of 51 participants to show that digital badges improved motivation and academic achievement. Yilderim et al. used Kolb's learning styles inventory for the quantitative portion of the study while the qualitative study used semistructured interviews to show that the digital badges were impactful towards differentiated strategies.

Motivation with the learning process is well-regarded as necessary to learning by many theorists. Intrinsic motivation is critical to primary age readers because it engages them and creates success. Internal motivation creates successful efforts and experiences (Guthrie & Wigfield, 2000). The research on reading success highly supports intrinsically motivating tools as conducive to youngster's reading success. Gibson et al. (2015) conducted research to determine if badges contributed to motivation and engagement with learning. Gibson et al. used

quantitative measures by randomizing student selection to assess metrics based on posts that students interacted with on discussion forums, log-ins, and response to badges. The results showed that digital badges support intrinsic-motivation theory (Gibson et al., 2015).

Self-efficacy is demonstrated within Bandura's (1982) theory. Bandura believed that one's sense of self-efficacy plays a major role in how tasks are achieved. Bandura's assumptions were based on the social cognitive theory in which individuals' cognitive experiences are affected by their self- confidence. Yang et al. (2016) developed a study across various schools that involved 50 students who all showed improved self-efficacy for English Language Learners (ELL) when using gaming elements similar to digital badges. The study surveyed one-hundred students in third grade ELL groupings. The hypothesis was tested with data analyzed using quantitative measures with a paired sample t-test (Yang et al., 2016).

The methods of the studies conducted on motivation, self-efficacy, and intrinsic learning were widely varied. The constructivist theory was demonstrated to be well-suited to advocate for digital badges as a form of intrinsic motivation. The methods of research addressed above use both qualitative case studies, formative groups, case studies, and interviews. The studies on digital badging for internal motivation for differentiation often use quantitative measures. Due to the wide range of subtopics within this dissertation, a mixed-method approach was most reliable.

Critique of Previous Research

The purpose of the research critique is to evaluate how digital badges function to intrinsically motivate primary education learners to support foundational reading skills. This critique demonstrates conclusions created from all facets of the research. The literature review developed key topics within digital badges that support how badging creates optimal learning in primary education. The literature review showed evidence that the digital badge works as an

intrinsically motivating tool for scaffolding learning paths, recognizing milestones, creating autonomous learning experiences and developing mastery of learning. However, the positives of digital badges are not immune to concerns around credentialing reliability, external motivation concerns and practicality of implementation concerns. The following assessment will show the argument of discovery and form the argument of advocacy in which a true gap in research can be understood (Machi & McEvoy, 2016). In critiquing the research literature, patterns and relevant information surfaced.

The literature has placed a new lens on how digital badges may function in an elementary education setting. The research consistently showed that digital badges are a way to capture a student's learning path (Ahn et al., 2014; Hatzipanagos, & Code, 2016; Wardrip, 2014). Digital badges are used to scaffold learning while creating partnerships with the teacher (Wardrip, 2014). The digital badge captures the skills students acquire in developmentally appropriate ways (Abramovich, 2016). Badges create autonomous experiences for the student versus standardized grades which have historically dictated attainment (Besser, 2016). The badge becomes an encouraging tool as students can see what they have mastered while envisioning what achievements to tackle next. Continued positive recognition serves to be intrinsically motivating (Ryan & Deci, 2000).

Digital badges may increase students' intrinsic motivation. As is the case with most any emerging trend, advocates and opponents of the research topic exist. Standardized accountability with digital badges is a concern. The quality of credentialing and regulation of awards is concerning to the public (Friesen & Wihak, 2013). Direct observation of skills is not always required with digital badging since earners can receive credentials in informal ways online. However, Ash's (2012) study results showed that the digital badge creates standardization since

each badge holds depth in the content and issuer associated with the badge. In elementary education, the issuer is a teacher. Just as teachers are trusted to implement fidelity with standardized grades and lessons, educators can be trusted to appointment badges in much the same way. Badges carry credibility because they encapsulate information including the issuer's specific skill attained, time-stamped achievements and clear descriptive content (Mozilla Foundation et al., 2011).

Many stakeholders could gain more information about how students learn by using badges (O'Byrne et al., 2015). Student interests and knowledge bases are likely to increase when implementation is executed appropriately. Proper execution requires an agreed upon standardization of skills (Friesen & Wihak, 2013). The digital badge offers more than a grade for feedback to families and for instructional planning when executed properly. Halavais (2012) showed that badges have always been used to signify reliable milestones. The military has trusted in badges to appoint military officials and generals; similarly, badges have been used for honoring and respecting many folks in history. The digital badge has more breadth and reliability because it contains multi-faceted micro-credentials such as artifacts, stamped dates, multimedia evidence, and progressive growth frameworks (Casilli & Hickey, 2016). The badge tells all stakeholders the exact skills achieved beyond what was previously known. Badges perform better than standard grades which do not help families or teachers understand what a child truly knows or areas in which the child needs more work. A standard grade cannot show if the child already mastered the information or what key skills need to be learned. The digital badge differs in that an earner can attach artifacts to the badge (Casilli & Hickey, 2016). Specificity badging allows for differentiated instruction and communicates the true nature of a student's learning.

The literature led to an overwhelming consensus that a badge is a tool for creating an intrinsically motivating learning path, despite scrutiny over extrinsic motivation. The earner is going after small goals that continually function to meet new unknown skills. This progression forms the learning parts of the foundational structure which eventually build the scope of student skills (Glover, 2013). The experience of sculpting the learning path becomes a visually attainable experience for all stakeholders. The visual pathway badges hold creates some concern over external motivation, and the need to be aware of outward reward where the learner's goal could shift from acquiring skills to obtaining a lot of badges (Fontichiaro & Elkordy, 2015). Educators should focus criteria on qualitative characteristics rather than quantitative aspects to avoid losing the rigor and meaning behind digital badges (Fontichiaro & Elkordy, 2015). Fontichiaro and Elkordy (2015) examined the importance of focusing on self-attainment to avoid extrinsic motivation. Hamari (2017) also discussed concerns over intrinsic motivation lacking because of the external visual goals involved with badges. The key to avoiding external or novel motivation is to facilitate active involvement and investment in one's attainment and self-growth (Ryan & Deci, 2000). When students focus on progression and work ethics versus static external rewards they are invested in growth (Dweck, 2012). The progression of skills related to digital badging acts to facilitate deep learning (Diaz, 2013). Extrinsic motivation is believed to impede motivation and create fixed-stagnant learning. The ability to self-regulate learning by ensuing badges moves students forward towards lifelong learning. In a longitudinal study of fifth grade students, students felt self-driven and had personal desire to earn badges (Wardrip, 2014). When progression and growth related to the badges are incorporated, badges lend themselves to intrinsically motivating scenarios.

Despite having clear learning goals and celebrating success along the way, concern over students feeling inadequate or competitive when issuing digital badges has surfaced. The researcher did not find data to support this anecdotal concern voiced by colleagues. However, traditional reading groups, grades, stickers, and report cards have proved to be a competitive force and demotivating factor. Osher (2016) examined that grading can undermine learning. Learning is about developing skills and creating deeper learning by means of student agency (Osher, 2016). Students lead their learning path when gaining digital badges, developing solid self-efficacy and feelings of adequacy in their learning goals. Carey (2012) promoted the idea that badges work cooperatively and positively. As students are progressing on their individual goal path they gain a sense of personalized goal seeking in comfortable ways.

The research shows that the way we are educating digital natives will not suffice. Traditional ways of motivation and informing instructional practices are not meeting needs of students, parents, and schools (Fink, 2015). Badging is a key way to bridge the needs of traditional schooling to the needs of 21st-century learners. Digital badges afford students the ability to gain self-control and autonomy with their learning process. Students may encounter the kind learning experiences that genuinely work to help a child grow. Whether a student needs more challenge or by contrast, needs foundational skills, the digital badge can give students a passion for learning.

Summary

Students in our classrooms today are encountering learning like never before. The ability to access information and engage in virtual gaming worlds has developed new interests and reactions to learning (McGonigal, 2011). This calls for a need to use new tools to intrinsically

motivate students. Systems of assessing and creating learning experiences must reflect the learning encounters of the 21st-century learner (Shannon, 2015).

An elementary education teacher may increase intrinsic motivation of students by using a digital badge across subject areas such as reading. Reading attainment is critical for the development of a student's academic career (Morgan, Fuchs, Compton, Corday, & Fuchs, 2008). The digital badge is a tool that helps facilitate the learning process for readers in the 21st century. The current literature demonstrates a body of evidence around motivating students by connecting student-centered learning that happens in constant ways toward methods of organized, self-regulated and active learning processes for the school setting (Ryan & Deci, 2000).

Badges may be used to signify clear learning targets that serve as visual guideposts towards motivating one to reach their end goal and engage (Jovanovic & Devedzic, 2015). A decline in digital natives' motivation and engagement has occurred with the changes brought forth in the 21st century, The literature review focused on all facets surrounding the topic of digital badges to intrinsically motivate students in reading at the elementary school level. Many of the studies showed digital badges as a strong source of skill achievement for intrinsic motivation.

Intrinsic motivation is critical for the young learner because it engages and sustains reading success long-term. Years of research consistently support the link between intrinsic motivation and achievement as students with high levels of motivation achieve at higher levels than those with low levels of motivation (Adelman & Taylor, 1983; Campbell et al., 1997; Fredericks et al., 2004; Guthrie & Wigfield, 2000). The research on reading success highly supports intrinsically motivating tools as conducive to youngsters' reading success (Cerasoli, Nicklin, & Ford, 2014).

The data around digital badges showed increased motivation, self-regulation, and access to opportunity, accommodation to varied learning pathways while addressing specific practical skills. Yang et al. (2016) demonstrated improved self-efficacy via the use of gaming elements similar to digital badges. Pintrich and de Groot (1990) demonstrated that intrinsic value was deeply connected to self-regulation and a stronger sense of self when reading. Giving students access to opportunity in how they are learning and reading evokes student interest and motivation (Allington & McGill-Franzen, 2013). Digital badges may provide the link between how students are motivated to learn to successful reading achievement in the classroom. Digital natives need tools that resonate with the way they learn today. Digital badges are a tool to support personalized learning pathways; the badge serves as a device to help students obtain early reading skills which are critical to student development, while intrinsically motivating a lifelong learning process (Joseph, 2012).

Chapter 3: Methodology

Introduction

This descriptive phenomenological study was designed to understand perceptions of kindergarten teachers' observations about how digital badges might impact student-centered learning in kindergarten reading. The objective of this research was to understand how teachers perceive digital badges through a constructivist or student-centered lens. The researcher sought to understand in what ways teachers observe the use of digital badges in the classroom to promote student learning. The goal of this study was to develop greater insight on how digital badges impact student learning based on teachers' description of badge use in their classrooms. Badging is a system in which students may earn a physical or digital representation as a token of their learning mastery as it suits the students' particular learning sequences. Various theorists emphasize phenomenology as an appropriate approach to study new pedagogical practices to gain rich depth and understanding of new subjects based on lived experiences (Creswell, 2013; Giorgi, 2012; Moustakas, 1994). The researcher attempted to understand if digital badges were intrinsically motivating by evaluation of student experience from the student-centered viewpoint revealed by teachers who use digital badging. The hope was to gain clarity on badges and scope out patterns to understand digital badges by use of semistructured interviews, artifacts, and cognitive picture representations to determine if digital badges were motivating through the constructivist lens.

This phenomenological study was conducted to understand and interpret how digital badges function in the classroom of digital natives. Included in this chapter are the research questions, rationale, purpose, design, setting, and sampling method. The qualitative rationale and support are described in the coming paragraphs. The semistructured interview process and

creation of this instrument are described in detail and supported with relevant literature on

phenomenological methodology. The tools, data collection, analysis procedures, credibility, and

reliability are addressed in detail. The research and ethics to support the design are explained.

Research Questions

In this study, the perceptions of kindergarten teachers were elicited to understand in what

ways, if any, digital badges create student-centered learning in reading by comparing experiences

of traditional assessment tools to the digital badge. This phenomenological study was conducted

to answer the following questions:

RQ1: What are the digital badge experiences of the kindergarten teachers at three

elementary schools in a state located in the Northeast region of the United States?

RQ2: How do kindergarten teachers describe digital badge impact on the student's ability

to gain reading skills in kindergarten?

RQ3: How do kindergarten teachers describe traditional grading methods compared to

badging assessments?

Purpose Statement and Design

The purpose of this qualitative, descriptive phenomenological study was to collect and

understand the lived experiences of teachers' digital badge use based on the perceptions of seven

teachers and three principals in a state located in the Northeast region of the United States.

Teachers are an essential factor in the classroom; therefore, it was appropriate to solicit teachers'

perspectives as they shift from traditional classroom tools to digital badges (Babu & Mendro,

2003; Sanders & Rivers, 1996). Teachers in kindergarten classrooms spend almost 1,000 hours

on average per year with their students (OECD, 2018b). The amount of time kindergarten

teachers have in contact with their students creates a reputable source for teacher perspectives on

important issues in classrooms. Therefore, teacher perspectives of their students' reactions to the implementation of digital badges were gathered.

Data collection was completed through semistructured interviews, cognitive representations, and artifacts. The semistructured interviews were important to understand the increased issues educators are seeing in student reading skills. The artifacts supported the classroom implementation of badging. The artifacts offered a firm description of the process attached to the digital badging in a classroom. The cognitive representations were simple picture drawings sketched based on how teachers view typical badging experiences. Artifacts supported interpretations and confirmed interview understandings.

Children face significant issues in their ability to attain reading skills at the correct pace while matching their specific learning needs. Classroom instructional methods need to be examined in light of changing technologically-driven times (Sutherland, 2016). Digital badges may be a tool to address the needs of many readers. By incorporating tools to obtain foundational skills, children's learning needs may be met to move forward in school (Morgan et al., 2008).

The researcher used a descriptive, phenomenological research design to gain in-depth insight into the perceived effects of traditional assessments compared to the use of digital badging. Phenomenology understands how the actions of the implementation of a new pedagogy can improve future education (Giorgi, 2012). Grounded theory was considered for use of interpersonal interviews or focus groups but those methods do not glean an understanding of subjective situations like teacher perspective (Creswell, 2013). Phenomenology was the most appropriate choice to describe the efficacy of digital badges based on thick descriptions of experiential data provided by participants (Kemp, 2013).

Research studies require a foundation (the research design) to ensure research questions connect with conclusions (Yin, 2014). Phenomenological research is used to understand how humans encounter specific experiences (Creswell, 2013). According to Moustakas (1994), "the aim [of phenomenological research] is to determine what an experience means for the persons who have had the experience and are able to provide a comprehensive description of it" (p. 13). Quantitative research provides insight focused on what is absolute, relying heavily on numerically measured data while qualitative research captures human experience, actions, stories, and relationships (Glesne, 2011). The phenomenological research was used to understand a new practice predicated on thick descriptions of experiential data provided by participants beyond preconceived ideas (Kemp, 2013; Smith, Jarman, & Osborn, 1999).

Phenomenology helped the researcher understand participant perspectives of subjective experiences (Smith et al., 1999). The perceptions of teachers with at least two years' experience using digital badges were explored; therefore, a case study was not an appropriate method for this study (Yin, 2014). The study did not use narrative methods; the teachers in the study were interviewed to describe their current experiences for commonality (Yin, 2014). The research derived direct experiences versus stories or unique events (Creswell, 2013). Ethnography was also considered, but eliminated since it required specific data on cultural or social groupings with direct observation (Creswell, 2013). The purpose of this investigation was to understand the lived experiences of teachers who utilize digital badges in the classroom. Therefore, ethnography was ruled out for this study (Creswell & Miller, 2000).

Digital badges are a new educational pedagogy for elementary students that require phenomenology to break the surface on understanding prominent issues around micro-credentials (Creswell, 2013). Through the constructivist lens the researcher understood daily interactions

60

and practical experiences with digital badges (Creswell, 2013). Data originated from daily classroom encounters and teacher interpretation of experiences; these occurrences were effectively understood through a qualitative, phenomenological design (Creswell, 2007).

As stated in the literature review, this study is important to the 21st century changes that digital natives face with evolving learning modes (Keengwe & Georgina, 2013). The literature review emphasized the need for qualitative research to understand specific aspects of learning related to badging (Preusse-Burr, 2011; Schwarz, 2016; Wardrip, 2014). This research study connects to the community of scholars and institutions who are attempting to understand micro-credentials during changing technological times. The changes in our digital era call for tools that meet the needs of digital natives in a technologically driven culture (Prensky, 2012). The current infrastructure of U.S. school systems lacks rigor to meet the needs of learners today (U.S. Department of Education, 2017a). Therefore, this research may contribute important information for the education of students in primary classrooms across the United States.

Research Population and Sampling Method

Research population. The target population for this study included one school district in a Northeast state of the United States. A pseudonym was utilized for the school district to assure anonymity. The Northeastern school district was selected after the researcher conducted a search for schools using digital badging in early elementary grades. Prior to beginning the methodology search, the researcher conducted a nationwide assessment to determine participating schools, contacted authors cited in the literature review, and sought out school districts internationally. The search uncovered two school districts that are currently implementing digital badges in elementary schools in the United States. One of the districts was located in the Rocky Mountain region but is implementing badges as project-based learning. Therefore, the Rocky Mountain

school district was eliminated for the purpose of this study. The other district in the Northeast region implements badges that align state standardized skills in reading and math. Therefore, the researcher purposefully chose the Northeastern school district for the study based on the district implementation of badge use.

Once a school district that fit this research model was met, the researcher contacted administrators by phone to explore the possibility of using their site for this study. Phone conversations led to administrator willingness to participate. After the phone conversation and a site visit, the researcher received a written letter for permission to pursue research. Once IRB approval (see Appendix A) was granted the researcher sent an invitation to participate to all eleven participant candidates in the district via email (see Appendix B). When the agreement to participate was met, the researcher sent a letter to participants and administration indicating the research process details and timeline (see Appendix C).

The acceptance to participate in research created an optimal sample pool. It is best when samples are able to provide closely aligned phenomenon of the subject being studied (Patton, 2015). The explored experiences of teachers who have implemented digital badges for a minimum of two years while also engaging in traditional assessment provided information richness to the study (Creswell, 2013). Teachers revealed their lived experiences working with digital natives to apply a technologically relevant assessment tool for reading acquisition.

Digital natives are a population with unique needs related to reading skill acquisition (Prensky, 2012). Technology advancements have changed how students learn in the 21st century, calling for new tools to assess student learning. Based on a constructivist learning model, the use of digital badges was evaluated via the perceptions of teachers and principals who experienced kindergarten student reading attainment. Reading attainment is a precursor of future

educational performance (U.S. Department of Education, 2017b). Moreover, learning to read

early on is a foundation of an improved quality of life (U.S. Department of Education, 2017a).

  Research site. The research site for this study included three schools from one district

located in the Northeast region of the United States where digital badging was introduced as an

assessment tool. Specifically, seven general education elementary teachers and three principals

from two K-5 and one K-2 elementary schools comprised the sample for this study. The study

was located in seven general education elementary classrooms across three schools in a state in

the Northeast region of the United States. Two of the schools were K–5 and one of the schools

was K–2. The population sample location was a suburban school district outside of a large

metropolitan area. The sample included seven general classroom kindergarten teachers and three

principals from schools within the district who participated in digital badging (see Appendix D).

The student population included approximately 35% free and reduced lunch students. The

school was comprised of 94% Caucasian students, 2.9% African American, and 2% mixed race,

while less than 1% of students were Hispanic, Asian, or Native American (Students [research site

name redacted], 2018). The student state reading proficiency is 65% (Students [research site

name redacted], 2018).

  Digital badging is a new teaching tool in primary schools. Due to the newness of this

pedagogical tool, the researcher relied on purposeful sampling of participants. The emerging

uniqueness of digital badges limited the sample to one school district. Patton (2015) examined

information-rich studies as those that cover the heart of the research questions being explored. In

this situation, the researcher needed to identify the initial information on digital badges,

generating a direct need for purposeful sampling without the use of numerical data (Patton,

2015). Creswell (2013) encouraged researchers to include a minimum of five to 25 participants

with direct experience of the phenomenon being researched. The sample cohort of seven educators and three administrators met Creswell's recommendation.

All seven kindergarten teachers in the district began experiencing badging at the same time. The teachers have experience with non-badging systems and digital badging. Teacher perceptions of the current digital badging assessments compared to that of previous assessment frameworks was a prerequisite of this study. Teacher perceptions of the impact of digital badging frameworks versus traditional grading were obtained via semistructured, open-ended interviews, artifacts, and cognitive representations. Teachers in the sample group were provided an informed consent document (see Appendix E) which explained that their efforts to participate in the research were voluntary and they could opt out at any given time. Each teacher was appointed a pseudonym to protect their identity. Request for permission to participate and secure anonymity was provided to the educators by a permission form sent via email (see Appendix E). Once permission was obtained, the researcher sent an email to teachers explaining the next steps (see Appendix C).

Instrumentation

Semistructured interviews. The main data collection method in phenomenology involves open-ended conversation through transcribed interviews (Creswell, 2013; Giorgi, 1985; Glesne, 2011). This study included semistructured interviews conducted either using an online collaboration tool. Participants received a consent form a week prior to the interview stating that the conversation will be recorded and were asked for consent to do so (see Appendix E). All recordings were deleted once they are transcribed; each transcript was assigned a pseudonym.

Semistructured interviews were selected based on the sample size of seven teachers and three principals to allow the themes and thoughts of teachers to emerge about a new practice

(Alvarez & Urla, 2002; Drever, 1995). Qualitative researchers must be meticulous about how they plan and execute interviews so that the true nature of a message can be understood from those interviewed (van Manen, 1990). To probe the experience, one-on-one semistructured interviews will be conducted (van Manen, 1997). Each interview lasted approximately 45 minutes. The individual interviews were open-ended responses, stories, and points of view (Giorgi, 1985, 1997).

The researcher developed an interview guide using six general questions and three supporting questions (see Appendix F). The development of questions was based on recommendations of qualitative theorists. Questions were crafted to capture descriptive information and use contextualization for interview structure (Seidman, 2006). Contextualization seeks the real-life experiences which provide meaning and understanding of a situation (Buchbinder, 2011). Therefore, questions were created to develop thick descriptions of the ways digital badges function (Creswell, 2013). Question order was considered for ease of flow. Moustakas (1994) suggested two frames of questions: What have you experienced in terms of the phenomenon? What observations have affected your perceptions of the phenomenon? Other open-ended questions were asked, but these two, especially, were used to hone in on textural and structural description of the experiences forming universal textural descriptions (Moustakas, 1994). The remaining questions were crafted using concise short wording of key phrases to gain respondents' opinions and avoid biases (Bernard, 2000).

The researcher developed a series of interview questions designed to elicit the perceptions of teachers related to digital badge efficacy in primary school classrooms. The interview questions were field tested, then reviewed for clarity of language, positive or negative connotations, and question order based on the results of the field testing (Moustakas, 1994). The

researcher obtained approval to conduct the study from the Concordia University Institutional Research Board; upon approval, the researcher collected and reviewed the consent forms (see Appendix E).

Cognitive representation. The second form of data collection that was attempted to identify the digital badge process was creating cognitive representations (Anderson & Spencer, 2002). Teachers were asked to draw a picture of what a person observing might see if they were in a classroom where digital badging was used (see Appendix G). Drawings have been used since the 1920s as a probing technique in qualitative studies with humans of all ages to expand on the experiences the researcher is attempting to understand (Mitchell, Theron, Stuart, Smith, & Campbell, 2011). Using phenomenological analysis to understand drawings could have created a visible representation of constructs difficult to explain (Mitchell et al., 2011). The ability to use drawings speaks to an issue in clearer ways than words (Weber, 2008). Therefore, beyond completing interviews alone the teacher attempted to show the perceptions of the teacher statements. As Weber (2008) observed, "Images can be used to capture the ineffable….some things just need to be shown, not merely stated. Artistic images can help us access those elusive hard-to-put-into-words aspects of knowledge that might otherwise remain hidden or ignored" (p. 44). The ability to combine cognitive representations vocalization of lived experiences assisted with triangulation to validate the thoughts from the three sources that were collected in the study.

Artifacts. Artifacts (see Appendix H) such as physical badges were used to assess badge development and student progression for the meaning of how teachers perceive this facet of the process (Silverman, 2001). By using artifacts that teachers created, the researcher was able to "take advantage of naturally occurring data" (Silverman, 2001, p. 21). The collection of letters to parents, teacher-created lessons, and the actual physical and digital creation of badges or

progress charts opened up an understanding of teacher perceptions the journey towards digital badge adoption.

Data Collection

The data collection process was designed to gain an understanding of how digital badges function to accommodate student learning in the classroom. The researcher sent an introductory e-mail two weeks prior inviting participants to interview via Zoom an online virtual meeting tool (see Appendix B). The researcher then sent the interview guide (see Appendix F) to participants willing to interview a week before collaborating to reflect on the questions that were asked during the interview. After completing the interview, teachers were sent a graphic organizer called a cognitive representation form (see Appendix G). The researcher explained during the interview that two columns were provided in which to draw a picture, one of digital badging experiences with student facial features (the left column), and one of traditional assessments with student facial features (on the right column). Additionally, the participants were encouraged to add a short caption at the bottom of both pictures. The purpose of this activity was to gain a visual snapshot of what digital badging might look like in the classroom to the teacher. The researcher gathered artifacts (see Appendix H) at the time of the interview. Artifacts were coded against interview transcripts for themes and to triangulate the data.

Identification of Attributes

The most dominant attributes of this study involved changing needs of digital natives in the 21st century. There is a need for adaptable mechanisms that personalize learning for digital natives (Keengwe & Georgina, 2013). Digital tools may not solve all learning issues but they can reduce barriers to learning (U.S. Department of Education, 2017a). Digital natives may use

tools that resonate with ways they learn to read while addressing the unique needs of being immersed in a digital culture.

The next attribute is the need for student-centered learning using formative assessment to drive instruction. The teacher can serve as a facilitator to the learning process, recognizing the importance of background knowledge, cultural setting, and understanding learner needs by use of digital badges (Jovanovic & Devedzic, 2015). The digital badge encompasses the student-centered learning theory by encouraging student choice, personalized learning, learner-directedness, while activating prior knowledge as the center of the learning experience (Schwarz, 2016).

Finally, reading is a critical aspect of a child's education and future success in the 21st century (Ronimus et al., 2014). Today's readers are born into a culture of fast paced decoding; digital tools create a natural form of learning (Prensky, 2012). Reading requires many sequential reading patterns that are personal to the learner and should be captured (Ball & Blachman, 1991). A digital badge may help with the skill gap and frustrations that some young readers face by addressing gaps in the learning process or advancing students who have mastered skills. The digital badge functions to locate accomplished and future skills.

Data Analysis Procedures

Data confidentiality was transparently laid out prior to data collection. Participants were informed and asked for agreement (see Appendix E) to be recorded, interpret interview transcripts, and evaluate artifacts. Confidentiality was described to participants prior to starting the data collection. For identification purposes, participants were described using pseudonym names.

Interviews were audio recorded to transcribe information exactly as stated. The interviews were transcribed using NVivo and Zoom software to uncover data exactly as it was spoken. During and after the data was transcribed, member checking for accuracy occurred. Member checking was completed by participant review of transcriptions for accuracy of the principal investigator, issues and flaws in the data were corrected (Buchbinder, 2011). After the data was transcribed and member checked, thematic analysis took place. Thematic analysis sought themes related to research questions and attended to meaningful patterns across interviews (Braun & Clarke, 2006). The thematic patterns were discovered through six phases: familiarization of interviews, generating initial pattern codes, seeking themes with codes, reviewing patterned codes, uncovering themes for codes and naming final themes (Braun & Clarke, 2006). Information important to the transcribed data was recorded: data collection date/time, involved participants with pseudonyms, and initial thoughts from sessions (Widodo, 2014).

During the first coding session familiarization thematic codes were derived from text by highlighting important words and statements from each participant's transcribed interview. Important words and statements were built on initial questions from transcribed interviews and key statements or phenomenon were highlighted (Creswell, 2013). While reading the transcribed work, the researcher emically reflected and bracketed researcher thinking for judgement or bias. Moustakas (1994) recommended the transcendental phenomenology approach by bracketing thoughts, horizontalization, meaning clustering, and utilizing both textural and structural description. Transcendence was completed by means of reaching epoche to remove researcher bias. van Manen (2014) described this process as self-awareness or reflexivity in which the

researcher takes care and concern to acknowledge presuppositions within the framework of research.

Limitations and Delimitations of the Research Design

As with any study, there are limitations and delimitations (Creswell, 2013). The study was limited by one region implementing the new practice. Studying a small number of participants who completed the same experience purposefully limited the scope of the investigation. The intentional selection represented one demographic group and region. Therefore, the representation of limited geographic regions and demographics could pose a challenge to generalizability. The Northeastern school district was the only location from which to pull the sample due to the sparse number of schools implementing the emerging trend of digital badges.

Another limitation of the study included the researcher as the primary instrument. The researcher neither manipulates the data nor determines the themes or variables within qualitative research (Patton, 2015). Therefore, researcher bias is a limitation of any study when the researcher is the main instrument. A thorough investigation of existing paradigms and perspectives was accomplished through researcher awareness and reflection (Giorgi, 2012). To lessen possible presuppositions the researcher used bracketing to frame biases, beliefs, and assumptions about the phenomenon (Creswell & Miller, 2000).

There were also delimitations in this study. The study was confined to kindergarten teachers. The selection of limiting the research population to teachers of students in kindergarten was deliberate in order to maintain the scope in developmental reading common to this age group. The perception of teachers of new readers is important to understanding a new form of implementation with formative assessment. The sample size included all teachers and

overseeing principals in the district implementing badges for reading in an elementary school environment.

Validation

The researcher crosschecked all data collection to seek strong data saturation. This was done by engaging in multiple close and attentive listening sessions to replay audio recordings for patterned thematic lists. The patterned themes created from interviews were compared to the themes derived from artifacts. Consistent comparison between the artifacts, and interviews firmed up and triangulated the themes (Boyatzis, 1998). Creswell (2013) recommended a minimum of two methods to secure validity; this study attempted three methods. After manually seeking themes, the researcher used an iterative process in which the transcriptions, cognitive representations, and artifacts were revised to cross check the manual work.

Credibility. Every step was taken to create trustworthiness and protect the participants. The researcher protected personal identity by scanning cognitive representations, artifacts, and interviews for identifying factors. The researcher worked diligently to maintain respondent confidentiality, reducing fear of known representation, and to allow for rich, detailed descriptions (Creswell, 2013). The study complied with confidentiality tactics that restricted readers from being able to identify the exact district, school, or state from the participant or site description. Moreover, names of participants maintained confidentiality by assigning pseudonyms. Those individuals interviewed were informed of the privacy practices involved in the data collection through an informed consent form (see Appendix E); obtaining Concordia University's informed consent assisted with opening up rich, detailed accounts of the experience under investigation.

A sequence of steps occurred to develop fidelity. The audio recording was the first step in developing credibility with interviews to transcribe the interview data exactly as stated. Buchbinder (2011) recommended audio versions and the transcribed interview be sent to participants to review. The participants were given the opportunity to confirm or disapprove the transcribed information. After information was complete, all names, schools, and districts associated with the participants were deleted from iCloud. A second way the researcher reached credibility was through member-checking by asking an unbiased research colleague to check for appropriate transcription of the interviews (Creswell & Miller, 2000; Widodo, 2014). Further, the researcher attempted to unravel verbal interview for triangulation of vocal statements (Creswell & Miller, 2000). Last, artifacts were used to cross-check the interviews further determining themes.

Dependability. In order to show that data were consistent and dependable, the researcher returned to the interviews, artifacts, and cognitive representations four times to check for data saturation (Patton, 1980). While continuously returning to the data, the researcher bracketed any points of frame in which reflection impacting bias may have occurred. Bracketing was a way to check the lens of the researcher and to evaluate how the constructivist theory imposed on the research results (Creswell & Miller, 2000). After reflexivity occurred, the researcher sought an external audit for any concerns around the methodological processes (Creswell & Miller, 2000).

Expected Findings

In foresight of participant responses, it was expected the teachers would share their true perspectives on a new form of assessment. It was believed that the interview questions provided feedback on how digital badges functioned to improve or change the learning processes of

kindergarten students. It was predicted that teachers would show how they approach a new learning technology and how students respond to the new approach. The literature review revealed insight on how digital badges create a strong visual learning path by scaffolding and acknowledging skills of students. Due to the literature review showing great transparency in learning, it was expected that the information on digital badges would be positive. It was expected that the results would confirm those aspects of the learning experience.

Ethical Issues

Ethical issues can occur at any time during a study (Creswell, 2013). Therefore, key actions were taken to safeguard trust and protection of participants. All potential ethical issues were reviewed by the researcher. Research procedures were conducted after the Concordia University Institutional Research Board approves the study (see Appendix A). The Concordia IRB reviewed the research for any potential concerns.

Conflict of interest assessment. The researcher had no previous relationships or connections to the district personnel prior to this study other than a site visit to understand the academic landscape. The researcher upheld ethical standards to avoid any conflicts of interest. The researcher explained that her job was to serve as a research instrument in the process of gathering the study's information (Creswell, 2013). The participants were sent an electronic informed consent form one week before the interview explaining their voluntary participation and that they could opt out of the study at any time (see Appendix E).

Researcher's position. It was the responsibility of the researcher to understand personal biases and take action (Yin, 2014). For this reason, the researcher regulated the research by seeking external audits, software implementation to cross-check themes, and completed the bracketing of thoughts. The external audit checked credibility while creating an assessment of

possible errors (Rice & Ezzy, 2000). The researcher maintained regular reflexivity notes to develop an awareness of presuppositions (van Manen, 1990).

As a self-identifying primary educator, the researcher was aware of the bias held over the study. With over a decade of teaching experience, preconceived pedagogical practice and theory may have affected the hope of the outcome for data from the study. Seidman (2006) noted that there are times when a researcher's experiences parallel those of the participants. Being conscious of experiences was important to the subjective thoughts and positions toward the study.

Ethical issues in the study. The primary concern around ethical issues in this study was protecting the anonymity of the participants. Strict guidelines were taken to promote confidentiality. The researcher took every possible step to adhere to minimal risks of participants. Seidman (2006) explained that it is critical to follow a strict interview protocol. Interview data was disguised by the use of pseudonyms and avoided any identification that could be referenced back to the school community. Artifacts were scanned carefully for emblems, symbolism, or wording that could identify the district or teacher. A second consideration was the protection of the audio-recorded sessions from the interviews. Bogdan and Biklen (2007) emphasized taking caution and care with recordings to be certain voices and information are not revealed to anyone. For this reason, audio recordings were password protected and deleted after the study was complete. The transcription service, NVivo, adhered to strict privacy guidelines that allowed for encryption of passwords. Furthermore, all names and locations associated with the study were left out. Data will completely be cleared from the hard drive, backups, and storage three years after the study per Concordia University guidelines.

Benefits of the study. This study may be beneficial to the stakeholders involved in the research. The study may be used for grants toward further funding of digital tools. This study will likely inform stakeholders of the new pedagogy. The information gleaned may be helpful in guiding instruction and communicating ideas to outsiders. The study may serve as research-based evidence to present to the school board and families.

Summary

This phenomenological study examined how teachers view the use of a new pedagogical tool called digital badges. The changes in the digital age have drastically transformed how students want to learn and how they respond to lessons. Interviews were the main form of data collection that guided perceptions of teachers in this study. The use of artifacts assisted in determining in what ways, digital badges created student-centered learning in reading. Participants compared experiences of traditional assessment tools to the digital badge. Data was diligently analyzed for themes by using the guiding practices of qualitative research theorists (Bogdan & Biklen, 2007; Creswell, 2013; Seidman, 2006; Silverman, 2001). Widodo (2014) emphasized transcribing data exactly as stated with pseudonym names and developing initial thoughts from recorded sessions. Data collection was unbundled by building understanding from the research questions, seeking prominent themes uncovering how participants experienced the phenomenon (Creswell, 2013).

Chapter 4: Data Analysis and Results

Introduction

This phenomenological study was conducted to explore the experiential perceptions of kindergarten teachers using digital badges to improve student-centered learning by comparing experiences of traditional assessment tools to the digital badge. It is important to note the digital badge had a physical, hard paper component that mimicked a digital badge which contributed to the intrinsically motivating results of badging. Seven self-contained, general education kindergarten classrooms participated in the alternative form of student assessment using digital badges. The purpose of the study was to identify tools that 21st century learners could use to increase reading success (Keengwe & Georgina, 2013). Digital tools such as badging are seen as a priority when meeting student needs (U.S. Department of Education, 2017a). While the literature review showed that badging in upper grades and higher education creates meaningful, intrinsically motivating experiences for students, there was no research to date on digital badging in kindergarten (Stetson-Tiligadas, 2016; Wardrip, 2014). Therefore, the research was implemented to attend to the knowledge gap with response to young learners to open badges. This study was guided by the following questions:

> **RQ1:** What are the digital badge experiences of the kindergarten teachers at three elementary schools in a state located in the Northeast region of the United States?
>
> **RQ2:** How do kindergarten teachers describe digital badge impact on the student's ability to gain reading skills in kindergarten?
>
> **RQ3:** How do kindergarten teachers describe traditional grading methods as compared to badging assessments?

This study applied phenomenology to understand a new educational pedagogy for elementary students through semistructured interviews and artifacts to uncover prominent aspects of micro-credentials (Creswell, 2013). The researcher explored daily interactions and practical experiences with digital badges through the constructivist lens (Creswell, 2013). Data were derived from unique teacher interpretations of badging observations and artifacts using a qualitative, phenomenological design (Creswell, 2007). There were 187 cumulative key interview statements attached to the research questions.

The administrators of each building were also interviewed to gain an understanding of their perspective on the birth, maintenance, and impact of digital badging. The teachers described the experience from the dual perspectives of both an instructor implementing a new pedagogy and their perceptions of student responses. A qualitative phenomenological study understands the dynamic aspects of distinctive pedagogies (Creswell, 2013).

Member checking occurred to cross-check for precision of initial themes and generalizations. This involved checking accuracy of transcriptions both during and at the conclusion of the interviews. Creswell (1998) explained that member checking can be done during, after, or at both junctures of the interview process to improve credibility. In this study, member checking most often occurred consistently throughout the interview.

Data analysis started with primary review of transcripts from individual teachers for initial impressions (Braun & Clarke, 2006). Afterwards, member checking occurred where necessary (Creswell & Miller, 2000). After the data were member checked, the investigator obtained key themes by passing through six stages: familiarization of data, generating broad pattern codes, seeking granular themes within the broad codes, reviewing each participant's patterns against other teachers, and finally naming the final themes while attaching specific

artifacts and statements to those themes (Braun & Clarke, 2006). Results from the data analysis

were developed into four main themes:

- Theme 1: The Origin of Digital Badging

- Theme 2: Digital Badges as a Portrait of Meaningful Learning

- Theme 3: Repainting the Portrait: Traditional assessment as opposed to badging

- Theme 4: Challenges associated with Digital Badging

The seven sub-themes supporting the final themes included: digital badging as

intrinsically engaging, digital badges favored over traditional grading, badging as impactful on

instructional design, badging creates strong human connections, digital badging facilitates

equitable/opportunity-based learning, digital badging develops skill mastery and challenges

involved with digital badging including software and continuation to upcoming grade levels.
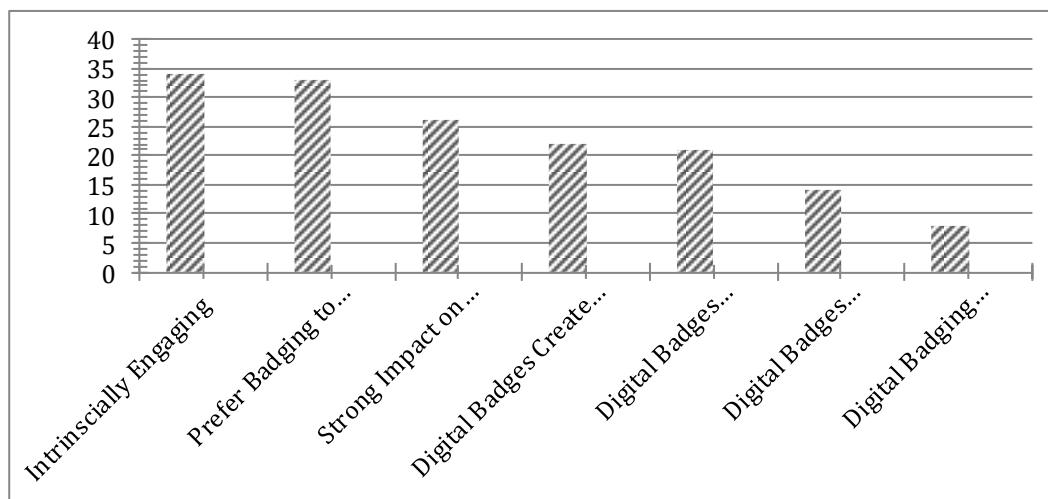
The joint overall statement occurrence results are charted in Figure 2.

Figure 2. Results of Collective Interview Statements (*n* = 187)

The researcher of this study has been in the field of elementary education for over a

decade. She implemented badging in her classroom while collecting prerequiste data. She had no

relationship to the participants prior to the study. The study was conducted on a voluntary basis at the three schools. The investigtor's interest in this study stemmed from many years of reflections, reading, and personal research.

Chapter 4 includes a description of the sample population for this study. The chapter continues with an analysis of the data and research results including themes derived from experiences. The chapter concludes with evidence of validity, trustworthiness, transferability, dependability, and confirmability

Description of the Sample

This study took place in a public, suburban school district in the Northeastern United States. The researcher provided administrators and participants with an in depth description of the study, consent form, an IRB approval letter, and permission to conduct research (Appendices A, B, C, K). All three principals offered permission to contact teachers at their respective schools. The researcher requested contact information of all teaching staff with a minimum of two years' experience engaging in digital badging. Teachers in the study were also required to have a minimum of two years' involvement using traditional pedagogy. After requesting contact information, the principals offered e-mail addresses and phone numbers to recruit teachers in the study. Eleven teacher names and contacts were provided. Of the 11 teachers, eight teachers served at kindergarten level. Two supporting teachers and a previous kindergarten teacher who transferred grade levels were also recruited. Six participants who responded were current kindergarten, general education teachers. One of the participants transferred grade levels, but used digital badging for two years in kindergarten while also using traditional assessments.

The principals in each school were interviewed to gain background information. The three principals were invited to participate and provided with IRB consent forms, invitations, and

background of the study (Appendices C, E, and K). All principals were involved through teacher observation with the grass root efforts that began in 2015 to start the digital badging program for at least three years.

After receiving participant information, the researcher sent an e-mail invitation to participate in the study (see Appendix B). Teachers anticipating participation in the study were sent: the purpose of the study, an IRB approved consent form, time commitment statement, and background of the study (see Appendices B, E). A purposeful sampling method was implemented to perform data collection based on the lived experiences of teachers engaging in digital badging (Giorgi, 2012). Creswell (2007) recognized the need for purposeful sampling when gaining in-depth understanding of a specific, unique, or emerging phenomenon as was the case for digital badging.

A total of 11 teachers' names were provided by administration. All 11 teachers were recruited to participate in the study. One of the teachers transferred to different grade level but had experience that met the criteria of this study. Therefore, the transfer to varied grade levels did not affect the results of the study. Two of the teachers recruited were specialists of kindergartners and did not respond to the invitation to participate. The number that emerged from the teacher recruitment population did not impact the results of this study. A total of 72% of the 11 recruited responded, and seven followed through with the completion of the study. One person showed interest in participating, but later chose to opt out due to time constraints. Another participant implemented digital badging for two years at the kindergarten level but had moved to teach third grade the next year.

A total of 10 out of 14 educators comprised the study. Seven were classroom teachers and three were principals. The seven educators were all female, two were from non-White

ethnic backgrounds and five identified as Caucasian (see Appendix D). Teacher one had five years of experience in kindergarten, and was an instructional assistant prior to teaching. She used digital badges for two years and served on the language arts and technology committee at her school. Teacher two taught for 19 years and spent six years in kindergarten. She also implemented digital badges for two years. Teacher three had 14 years of experience teaching. She had an additional four years of experience in alternative assessment and two years teaching with digital badges. She taught for six years at the kindergarten level, and used digital badges for a full two years. Teacher five had 22 years of experience in education with several years of experience in high school beyond her three years in kindergarten. She taught middle school for three years and instructed fourth graders. She had piloted digital badges at the middle and high school level before implementing digital badges in kindergarten. She is passionate about student autonomy and felt the digital badge was a tool to capture student ownership at all grade levels. Teacher six taught for five years in kindergarten and implemented digital badges for two years. She taught for 21 years; 13 of those were in kindergarten. Teacher seven obtained her doctorate in educational practice in 2017. She had over a decade of experience in kindergarten.

The three principals of the schools were interviewed as well; they are identified as P1, P2, P3. Principal one is a male with over 15 years of experience and is a current doctoral candidate in educational leadership, he has spent over a decade in the current district he serves. Principal two is a female with over 20 years of experience in education. Principal three was a doctoral candidate in the area of innovative change and studied badges for her dissertation; she has extensive experience with over 20 years as both a middle and elementary school administrator. The principals consisted of one male and two female Caucasians (see Appendix D).

Research Methodology and Analysis

Digital badges are an electronic tool to assess academic growth. The goal of this study was to acquire information from kindergarten teachers to decipher their perceptions of their student's reading growth and engagement with this emergent tool. Teachers were required to reflect on the perceived impact a digital badge had on their students. Phenomenology is a form of research that digs into the thick aspects of new tools (Creswell, 2003).

The data collection instruments for this study consisted of semistructured interviews (see Appendix F), artifacts (see Appendix H), and cognitive representations (see Appendix G). The semistructured interviews consisted of nine questions: two opening questions, six interview questions, and one closing question (see Appendix F). Each teacher participant identified throughout the study as a numerical one to seven selected by the participant themselves, which was the only identifier of the study to mask teacher identification. The interviews were conducted in July 2018.

Pilot interviews. Prior to data collection and IRB submission, the researcher piloted interview questions to establish-appropriately framed questions to gain optimal richness from responses. The participants in the pilot were two individuals who implemented digital badges in upper grades from two schools in the western and eastern portions of the United States. The participants also had extensive experience with phenomenology and were able to offer feedback on question-quality. The pilot participants were not a part of this study or the study school district. The pilot interviews allowed for fine-tuning of the interview questions for optimal potential. After piloting the interview it was found that some of the questions were too narrow. The researcher added a final question to allow the participant free range in response. The final

question was "If you had a magic wand what would you change?" The addition of this open-ended question allowed for introspection into the challenges with digital badging.

Bracketing. The researcher is passionate about differentiating learning, creating student-centered assessments while honing in on the needs of digital natives to intrinsically motivate young readers. The researcher remained as neutral as possible by bracketing her thoughts and presuppostions. As a result of previous experiences, the researcher journaled meticulously and assessed key findings to see how her presuppositions impacted data analysis. Bracketing investigator assumptions addresses the participants' experience over the researcher's experience (Giorgi, 2012). The time spent reflecting allowed for researcher bias to surface. After bracketing, it was found that many highlighted key ideas were overtly based on researcher belief of importance. The researcher then re-assessed the work and coded manually with a software program to crosscheck each statement to check occurrence of key words to secure commonalities of participant conclusions. Bracketing forced the researcher to go back and review member checking comments to be sure all messages were received as intended by participants.

Phenomenology. The purpose of the qualitative phenomenological study was to understand teacher perceptions of digital badges in kindergarten. The data analysis procedure followed the recommendations of Braun and Clarke (2006), Creswell (2013), Giorgi (2012), Moustakas (1994), van Manen (1990, 1997, 2014) and Widodo (2014). Thematic analysis occurred for all seven teacher interview transcriptions and three principal transcripts which followed six phases: familiarization, creating initial pattern codes (open coding), pursuing themes within open codes, reviewing patterned codes, detecting themes (axial coding), and stating final themes emphasized by Braun and Clarke (2006).

Data derivation. This phenomenological study was conducted to analyze data derived from deep thoughts, perspectives, and significance of an emerging pedagogical tool (Creswell, 2013). The data analysis helped the researcher to understand instruction, assessment, and teachers' approaches to student-centered practices using a badge. Moustakas' (1994) emphasis on data collection and analysis was applied to explore teacher perceptions using a new form of assessment by probing through interview questions and triangulation of artifacts. This method consisted of the collection and analysis of seven one-on-one, in-depth semistructured interviews with teachers and three semistrucutured interviews with principals (see Appendix F) with kindergarten teachers and the offering of authentic artifacts (see Appendix H). The researcher attempted to gain cognitive representations from the participants but did not receive any. Lewis (2015) explained that creating an image or drawing response can be time consuming and rigorous. The participants felt the activity was too vague to complete and had a difficult time imagining how to wrap up their ideas into one picture. It is believed due to time expectations and level of comfort creating a visual experience that cognitive representation was not successful.

Member checking. Member checking occurred with the seven teachers and three individual principals; transcripts were analyzed and checked during the participant's study and at the conclusion of the audio recording. Creswell (2013) encouraged researchers to complete member checking throughout data collection to regulate the accuracy of discernments and perceptions of participants in qualitative research. For this study, research questions were cross-checked with the recorded data. Buchbinder (2011) emphasized this process for accuracy and thoroughness toward reliable results. Member checking supported the findings the researcher discovered.

84

Data analysis procedures. The interviews were audio recorded and transcribed exactly as stated using Zoom transcription. Participants signed and agreed to audio recordings through a signed consent form (see Appendix E). The interviews were immediately transcribed and scanned for initial themes. Braun and Clarke (2006) insisted on immediate familiarization of transcripts. In the researcher's case, each transcript went through the first of six stages within an hour after the interviews and collection of artifacts were received. The data went through six phases: familiarization, generating initial codes, seeking themes within the codes, reviewing codes, uncovering themes and final naming final selective themes (Braun & Clarke, 2006). The six-phase method is highly effective for varied pedagogies in learning and educational settings (Braun & Clarke, 2006). Information important to the transcripts was recorded: date, time, participants, and initial thought reflection of sessions and will be kept for the required three years after the study in an encrypted, software protected folder (Widodo, 2014). The seven teacher participants are described as T1, T2, T3, T4, T5, T6 and T7. The principals are identified as P1, P2 and P3. The labeling of T1-7 and P 1-3 is maintained throughout documentation for anonymity.

Summary of the Findings: Six Phases of Analysis

Phase one: Familiarization of data. During the first session the researcher read and re-read interviews and artifacts to gain initial thoughts, critical statements, and consider key words (Creswell, 2013). This allowed for indulging in a comprehensive impression of teacher perceptions of digital badges (Braun & Clarke, 2006). The initial interview extraction was bracketed as interviews were analyzed (Moustakas, 1994). Bracketing allowed for awareness and researcher perception to address presuppositions (van Manen, 2014). It was found that the researcher unintentionally sought specific key words. After acknowledging prerequisite

thinking, a numerical software program scanned the transcripts for the actual occurrence of words to create accurate derivation for generating emergent codes to apply to the second phase of analysis.

After bracketing presumptions and addressing initial thoughts, notes were drafted on reactions. The original familiarization notes showed that teachers did feel digital badges were important because badges offer mastery-based learning, motivation, and engagement, clear goals, create strong relationships, validate skills, and are a way to individualize learning. One of the initial surprising results was the impact digital badges had on relationships. The familiarization notes showed that teachers connected and collaborated more often than with traditional assessments; likewise, families and parents were partnering frequently with teachers. Students and families worked more productively together and teacher to student relationships improved due to the vast and thorough knowledge digital badges provided for the child's whole learning process. The original notes showed that students felt greater self-efficacy and encountered many progressions of learning at their particular academic level.

Phase two: Generating initial codes. The initial coded categories were organized in a systematic and meaningful way (Nowell, Norris, White, & Moules, 2017). The coding was organized by dividing the statements into smaller categories of similar meaning. The method was determined based on using the research questions to capture and guide significant statements (Braun & Clarke, 2006). Creswell (2013) recommended gaining a general impression by generating thoughts and meaningful words. During the implementation of phase two the emergence of eight key words occurred. The words guided the interpretation of categories in phase three. The words were extracted after the statements were reviewed based on context, recurring statements, and relationship to the research questions. In most cases, statements were

similar for all seven teachers and three principals interviewed. The words that re-occurred provided information on ways participants: described a digital badge, defined digital badging, perceived student and family impact, as well as implementation of use before, during, and after assessment.

The frequency of repetitive, meaningful words was recorded numerically both manually and through software analysis. The key words that developed the initial themes from teacher transcripts included: *love, excitement, visual, concrete, mastery and engagement*. These six initial key words were evaluated based on context of interpretation of meaning. To understand the perceptional value of key words, the researcher worked to understand the context surrounding the words (Creswell, 2013). The teachers provided explicit statements surrounding the key words that were extracted. This contextual understanding of the words was recorded. The words were understood by breaking down meanings based on statements surrounding key words. The breakdown of each word meaning served as a catalyst for the third phase when open coding.

Love. The word love was a key word that occurred most often in all seven teacher statements. Love was used over 24 times within the transcribed data. Love is an obscure word with varied meaning. Love holds a vast range of significance, states of preference, and profound fondness ("Love," 2018). Liefshitz (2015) explained the use of love for educational pedagogy is used to describe stories of celebration or deep feeling. Love creates intense description when words are difficult to appoint to a pleasing experience (Liefshitz, 2015). In this study, many teachers used love to portray a story of merriment, validation, celebration, excitement, and meaningful learning experiences that occurred for both them as instructors and for their students.

87

The succeeding testimonials used the word love in a manner that described clear, concrete, visual goal markers. The educators loved that students and families could affirm success built on the strong graphic a badge holds. The perceptions of the teachers were that their students needed to see the success and progress they achieved; the digital badge met this need. T1 stated, "We love [badges], we absolutely love them. The kids can see badges every day in class and can understand what they have accomplished." Similarly, T2 reinforced this view, "badges are more objective and tangible for parents and students; they love that." T5 described, "The kids see the badges and they want to work harder, they see the success and it is motivating." T4 said, "I love the program the kids get really excited about earning the badges, and it excites the parents too because they can see the skills the child has mastered; everyone feels the success." Teacher statements show that the badge provides visual representation of student growth and is motivating due to the icon provided.

Many of the statements that followed the use of love were followed by words that were in a category of meaningful learning such as, self-driven, engaged, celebration, connectedness, rewarding, individualized, ownership, and improved confidence. T6, elaborated, "the kids love the [digital badge] it is more individualized." T7 explained, "The kids love it, they just love it. They feel celebrated and that is exciting to them." P3 similarly explained, "teachers love it; they like seeing the kids enjoy school more and celebrate." T1 shared, "they love them; they love that they can see them every day and they feel that accomplishment." T4 similarly explained, "I love the program; the kids get really excited about earning the badges and I think the parents like to see the skills as well." T2 said, "saying 'you did this' with a badge and they love that." The statements are surrounded by ideas of loving that the children have validation in their skills with the use of badges.

Excitement. The following statements when used with excitement are followed by words of enthusiasm; it can be inferred that the seven teachers used the word excitement to describe badging as stimulating and motivating. T2 stated, "They [kids] love it, they get super excited." T4 aligned with T2, "I love the program the kids get really excited about earning the badges, and it excites the parents, too, because they can see the skills the child has mastered; everyone feels the success." T1 exclaimed, "they get super excited; they know they did an awesome job when they get a badge." T3 aligned, "the kids are super excited about it. They are really proud of themselves." Students in the study are believed to be excited based on the mastery and motivation they gain from digital badges.

Visual representation. Visual representation of a digital badge served to be powerful to the learners in this study; all seven teacher participants noted visual as a key word. Digital badges are considered visually representative because they provide transparent icons that reflect attainment and goals (Loughlin et al., 2016). The teachers described badging as creating strong visual representation. Teachers in the study described the positive impact a digital badge had on visual representation and verification of skills in the study.

The following sentences allow further understanding of the context around visual representation. T7 showed, "the student gets the badge and it is an instant visual reinforcement." T1 explained, "they get a hard badge and they see them every day in class, it is visual, it seems to connect with the visual learners." T5 shared, "it is enlightening when you see the kids get really excited about being able to see their learning." The artifacts provided validation that the badges are visual for students (see Appendix H). The visual representation in these cases determined what students were achieving and that established a motivating and pleasing experience for the students (Berlanga, van Rosmalen, Boshuizen, & Sloep, 2012).

89

Visually, the digital badge supported parent understanding of skills. T1 said, "The parents can see that they earned a badge; they know what their child learned." T2 described, "It's a really good visual for the parents." T7 said, "the badges are instant reinforcement for parents and students; there is an immediate visual to motivate." The visual aspect was precise at explaining why digital badging a motivating tool was and served to be reinforcing for families and pupils.

Concrete. The seven teachers all described digital badges as transparent or used a like term. The reflection of students' knowledge was clearly understood. T6 explained, "the digital badge is concise in creating communication that tells exactly what the kindergartener knows." T4 stated, "we used to look at a one, two, and three on report cards. Three is you have mastered it but the two range was very difficult with understanding how a student performed to parents or even teachers. We didn't know what a two meant on a report card." T4, "the digital badge is very clear." T3 similarly shared, "the students would get a badge as opposed to a number that gave them a tangible, concrete piece of skill accomplishment." T3 further stated, "The students have a tangible piece of evidence of their knowledge." The physical badge samples show skill identification as described (see Appendix I). The teachers in the study often used the word concrete or a synonym of it to describe the clear data reflected to families, teachers themselves and the students.

Mastery. The term mastery was used by all 10 teacher and principal participants. T2 stated, "it is absolute mastery, I know that the kids know those things that were assessed." T6 shared, "the validity [with digital badges] comes from mastering that skill. P1 described, "badges are cumulative, they create mastery and our nationally normed test proved this. P2

shared, "we have seen improved scores and grades based on the mastery children must have."

Mastery was used to describe improved student achievement.

  Engagement. Five of the participants used the exact word engagement to describe the

process of digital badges. T7 said, "the parents help the kids more at home, they're more

engaged with the learning process." T2 illuminated, "badges help inform where you need to go

skill wise and it helps me individualize and for the parents to know what they are doing." T6

shared, "many students are more engaged in being able to earn the next badge." T3 specified,

"students are significantly more engaged in being able to earn the next badge; this was not

commonplace before." Engagement was used to describe the improved engagement of both

parents and students.

  Individualize. In five out of seven interviews, teachers used the exact word

'individualize' to describe badging. T6 shared, "you are able to individualize; kids make

advances in their own individualized learning and it serves the learner." The advancement

badges explained by teachers were also provided in the artifacts (see Appendix I). T4 stated,

"we can individualize by creating remedial badges." T1 supported, "you can individualize by

ramping up the badges for advanced learners". Each statement uses the word engagement to

specifically demonstrate in what ways digital badges personalized the learning experience for

children.

  Phase three: Creation of initial pattern codes (open coding). The initial pattern codes

were linked to the key words from Phase one: *love, excitement, visual, concrete, mastery, and*

engagement. After finding initial key words open coding took place. This process involved

segmenting sentences, creating categories and labeling those coded categories with terms

(Creswell, 2003). This created more intricacy than the previous stage of selecting key words.

The new categories that occurred by dissecting sentences occurred. Words were clustered with

similar meaning (Table 1).

Table 1

Open Coding Results

	Code	Number of times code occurred in teacher statements:
C1:	Digital badges are positively perceived	23
C2:	Visual indicator	7
C3:	Report cards were too vague	7
C4:	Badging is concrete	11
C5:	Strong human connections	10
C6:	Growth minded/progress based	7
C7:	Badges take effort	6
C8:	Provides opportunity/equitable experiences	20
C9:	Prefer digital badge over report card	7
C10:	Motivation for parents, teacher and students	6
C11:	Informs instruction	31
C12:	Individualizes	23
C13:	Poor software	5
C14:	Valid tool	7
C15:	Rewarding	6
C16:	Self-efficacy	2
C17:	Self-driven/ownership in learning	13
C18:	Meaningful	4
C19:	Engagement	7
C20:	Mastery/iterative	15
C21:	Needs to continue to upcoming grades	4

The 21 broad open codes originated from the 187 statements (Figure 2). The discovery

of the open codes served to create a basis for the sub-themes in the final four overarching themes

in the concluding phase. Codes should feed into phase four and five to finalize overall themes

(Creswell, 2003). Clustering lists and groups from coded themes of similar meaning occurred

with each sentence in every transcript. The breakdown of organizing and sorting statements

created essential meaning conveyed by participants (Creswell, 2003). The codes recognized

digital badging as: creating positive experiences, tangible/visual assessment, improved

relationships, communicative tool, device for equitable experiences, creating opportunity, motivating, informative, engaging, individualized, valid, celebratory, rewarding, preference to digital badge versus standard ways, required effort to implement, and poor software interference with ease of use.

        Phase four: Pursuing themes within open codes. In step four, the researcher combined similar category codes to form broader themes (Braun & Clarke, 2006). The 21 open codes fed into phase four to narrow into the seven key overarching areas by corroborating broad themes into narrower meanings generating final themes (Figure 3). Key themes developed from reviewing the transcripts and identifying commonalities in words and phrases from participant responses to the research and interview questions. There were 187 significant statements evaluated. These statements were broken into category and charted based on occurrence (Figure 2). By breaking the statements into numerically driven sections the themes emerged. This set the stage for phase five, preparing to finalize themes (Figure 4). Similar open codes in nature were united to develop the seven key themes (Figure 3). Top themes were based on the importance and numerical occurrence-with testimonials that were dominant among all participants when extracting the key sub-themes. The data were re-coded four times to ensure definite codes. The extracted statements in this study were significant in understanding the central phenomenon digital badging. The seven themes included: digital badging as intrinsically engaging, digital badges favored over traditional grading, badges impact on instructional design, badging building strong human connections, facilitation of equitable/opportunity-based learning, digital badging equating to skill mastery and challenges involved with digital badging. The immediate findings provided a textural (what teachers experienced) and structural (how teachers experienced it) representation of participant views (van Manen, 2014).

Phase 4: Pursing Themes within Codes

Theme 1:
Digital badges were seen as Intrinisically Engaging

C2: Visual indicator
C15: Internally rewarding
C16: Greater self-efficacy
C17: Self-driven/Ownership of learning
C18: Meaningful to student
C19: Engagement

Theme 2:
Digital Badges Preferred over Report Cards

C1: Positively received
C3: Reports cards were too vague
C4: Badges are concrete
C9: Prefer digital badges over report cards
C14: Digital badges are a valid tool

Theme 3:
Strong Impact on Instructional Practice

C10: Motivating to parents and teachers to work harder with students
C11: Formative instruction

Theme 4:
Digital Badges Create Strong Human Connections

C5: Strong parent to student connection; strong teacher to student connection; strong teacher to teacher connection

Theme 5:
Digital Badges Create Equitable Learning

C6: Growth minded/Progress based
C8: Provides opportunity/equity
C12: Individualization

Theme 6:
Digital Badges Develop Skill Mastery

C20: Mastery/Iterative process

Theme 7:
Challenges Associated with Digital Badges

C7: Badges take time and effort
C13: Current programs for digital badges are poor
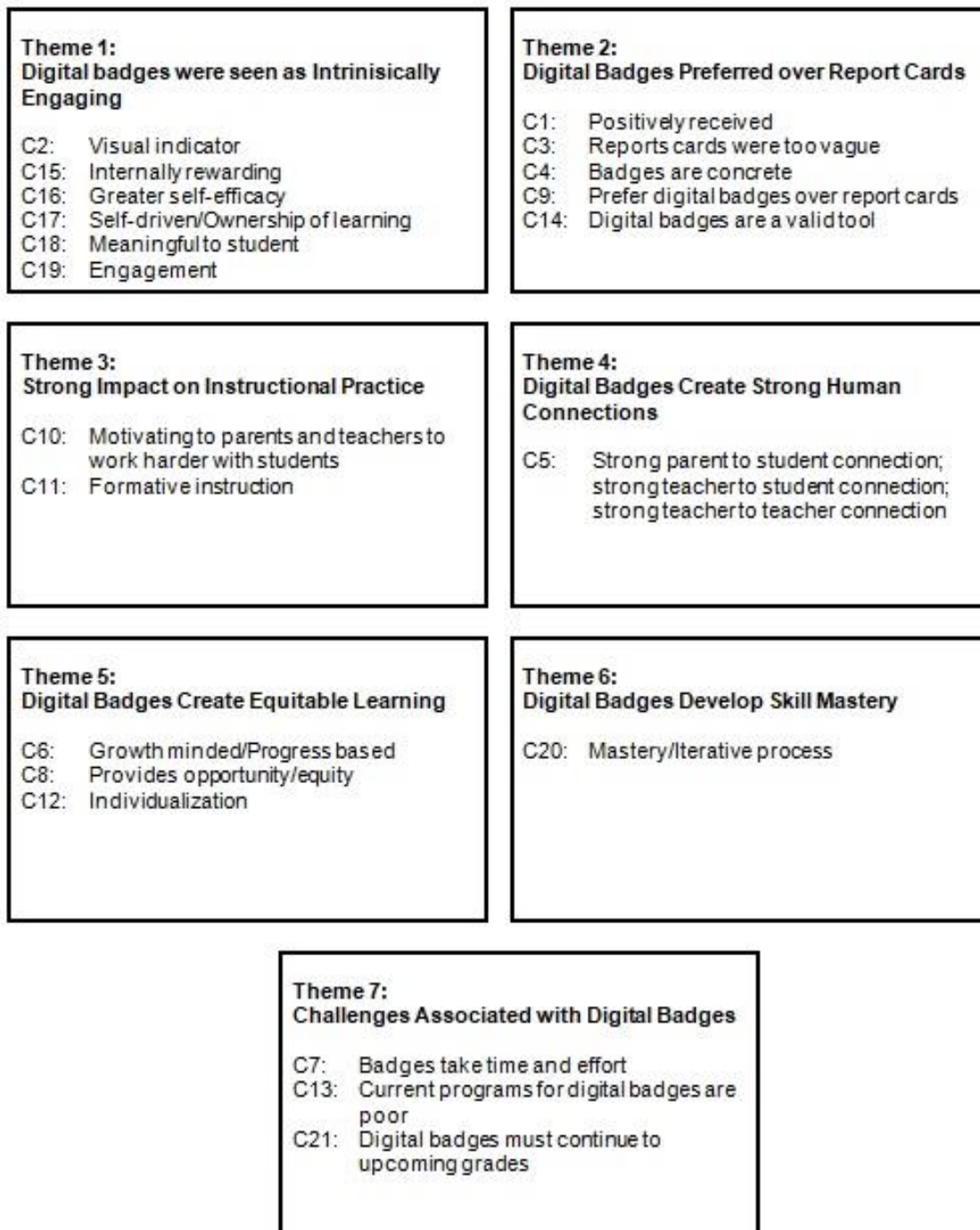C21: Digital badges must continue to upcoming grades

Figure 3. Phase Four: Pursuing Themes within Codes

Phase five: Reviewing patterned codes. In this stage the researcher took the seven themes which were created in step four to narrow into smaller themes yet. The researcher trimmed the themes by combining those of similar nature (Braun & Clarke, 2006). Combinations or singular categories were broken into four final themes. The first theme that emerged was: Origin of Badging. The theme: Origin of Badging arose based on teacher and principal discussion of issues with previous grading systems. The three themes of the seven from step four: intrinsically engaging, equitable learning, and strong relationships were combined to create a second category: Digital Badging as a Portrait of Meaningful Learning. The third category, Digital Badges versus Report Cards, included two of the seven themes: skill mastery and strong impact on instructional practice. The fourth theme, Challenges, was a sub-theme from phase four. It was concluded that digital badging originated based on particular needs and stakeholder support. The second theme, Digital badging as a Portrait of Meaningful Learning, was created by combining the open codes: intrinsically engaging, equitable/opportunity based learning, and strong human connection. The third theme, Traditional Assessment as Opposed to Digital Badging, was formed from the codes in step four: digital badges were favored over traditional grading and skill mastery. The final theme, Challenges with Digital Badging, was formed from codes: challenges with software and continuation of digital badging to future grade levels.

Phase six: Detecting final themes (axial coding). The final step captured the essence of digital badging by naming key themes (Creswell, 2013). The large overall themes were: origination of digital badging in the Northeastern School District, digital badging as a portrait of meaningful learning, traditional assessment as opposed to digital badging, and challenges with digital badging (Figure 4). The open codes served as guiding supports to the main overarching

95

themes. Each key word that steered the open codes was used within the statements in the final section.
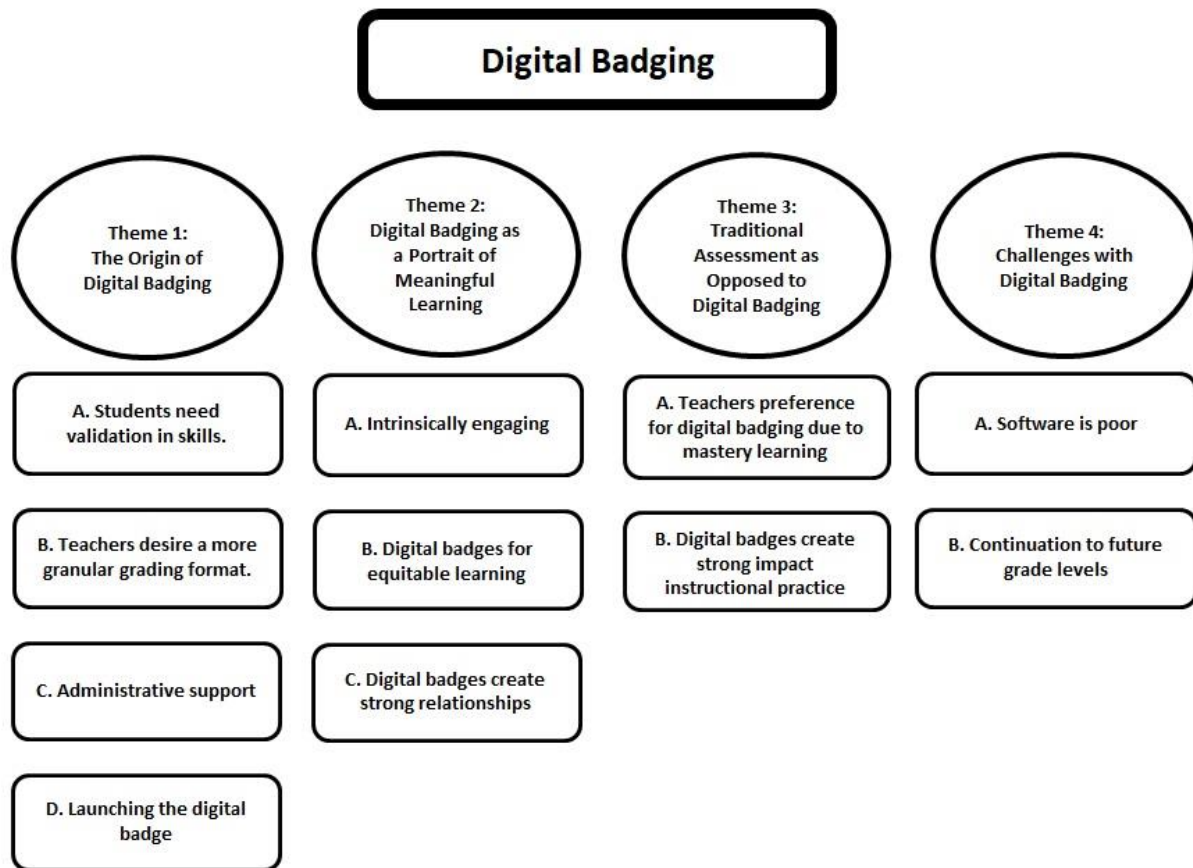
Figure 4. Final Themes

Presentation of Data and Results

Four key themes emerged as the final result of analysis: the origin of badging, digital badging as a portrait of meaningful learning, traditional assessment as opposed to digital badges, and challenges associated with digital badges. Moustakas's (1994) data analysis method was used to discover how teachers perceive digital badges in kindergarten classrooms of both experienced and observed digital badge use. Each individual interview transcript endured all six phases of the coding process as suggested by (Braun & Clarke, 2006; Creswell, 2013); a

summary of the findings materialized providing textural and structural descriptions of the participants' rich experiences.

Theme 1: The origin of badging.

Validation in grades sought and found. The kindergarten teachers and principals alike had concerns about the message sent to students and families in a typical grade on report cards. The principals and teachers in this study were reacting to concerns over vague, negative messages sent to diligent students. P3 explained concerns with traditional grading as "when teachers tell a child you received a one, two, three, or an A, B, C, D, F; children frequently digest that as 'I am a one or F'". P3 explained that assigning a standard grade can be harmful because the grades tend to label children rather than offer opportunity to grow. Report card information can create fear and uncertainty which does not motivate students (Kohn, 1993). There are problems with the meanings of those marks and how students understand what they are capable of achieving because of reported letter grades (Marzano, 2006). Anderman and Murdock (2007) explained that traditional grading can create the fear of failure rather than the desire to grow. In contrast, digital badges offer experiences of growth and depth (Keengwe & Georgina, 2013). T3 explained that "they're [students] connecting with badges. They are aware of what it is to earn a skill; they can clearly see the credit they are given for their work, and they are motivated to achieve goals." T4 said, "students are responding really well to digital badges, much better than the old report cards." T3 shared, "badging is 100% a more valid reflection of student skills than the report cards." The teachers in this study collectively agreed in over 14 statements that digital badges reflect the true learning of the students.

Maehr and Midgley (1996) explained assessment must encompass tangible progressions or educators risk impeding intrinsic motivation that could otherwise occur. T3 supported this

97

statement, "the digital badge offers clear protocol that a student, teacher, and parent can understand. It allows for validation of achievement." T5 similarly stated, "as a teacher you can remediate and fix the issues rather than appointing a low grade." T5 provided an outline for the badging process to show badges and their ability for students to take nonlinear routes within the badging pacing guide (see Appendix I). T7 further explained, "It [badges] were instant reinforcement, it has more meaning to it when they have mastered that skill." Students are able to move forward when using digital badges and continue to grow; this is validating to the students. T2, T3, and T6 explained that report cards impede progress because after a grade was appointed there was often no follow-up with skill gaps. Implementation of digital badges created validation, recognition, and growth of skills that had not occurred with previous forms of assessment.

Participants in this study felt the previous grading system of assigning ones, twos, or threes was ambiguous. Part of the concern with vagueness revolved a lack of skill guidance from parents and teachers because the grading system did not locate specific holes in learning. P1 and T3 explained that a parent did not really know what a two meant. The two did not convey to families, students, or teachers what skills were missing or how to advance learning. P1, P3, T1, T2, T3, T4, and T6 explained that the previous grading format of report cards was unclear. T7 and P2 similarly explained that the traditional grading format offered little information on what skills the child could or could not achieve. Teachers T2, T3, T5, and T6 supported Wardrip (2014) by explaining the digital badge was transparent and allowed for a foundational skill base by targeting specific skills to validate learning. T7 elaborated, "the sight words built upon one another; once the student gained a badge, they would return to the skills in upcoming badges to build on the foundation" (see Appendix I). Gibson et al. (2015) further

supported the digital badge by examining the recognition of skills beyond standard grading the badge can offer. P1 explained, "it [report cards] do not mean a great deal to a student or parent when we appoint a numerical number or letter to a child as a grade." T1 showed, "the badging is very cut and dry; you know they learned that skill." Thus, the origin of the digital badge emerged as a result of a clear need to validate student learning.

   Teachers desire a more granular grading format. As stated above, the badging program emerged from teachers' desire for a change in grading. The teachers in this study explained a desire for transformation in grading process for years because previous grading models did not reflect what students were actually achieving and they struggled with communicating this achievement (T3, T5, T6). The teacher participants were in search of a new form of assessment that guided learning. In 2015 the administrators introduced the digital badge idea to staff after discussions around report cards (P1, P2). Following conversations, the digital badge surfaced as a tool the kindergarten teachers might like to try. "The teachers came to us [administrators] and explained they wanted a change in the current report cards" (P1). Ten participants felt the previous traditional grading system was too vague to communicate to parents, students, and teachers (P1, P2, P3, T1, T2, T3, T4, T5, T6, T7). Families sought more transparent feedback about progress (T1, T3, T5, T7). T1 explained that families wanted to know, "what they could do to help their child and the badging process is very 'cut and dry;' families know the exact skills to work on." T3 shared, "there was a way for the students to connect knowledge they had learned to new ideas." The teachers in this study felt digital badges had a greater impact on student learning than the previous grading system.

   The participants were clear that the grading processes did not communicate ample information to families. The traditional report card used prior to digital badge implementation

was a numerical value of: one, two, or three, one representing status below grade level; two implied a student was on grade level, and 3 conveyed achieving above grade level (P1, P2, P3, T1, T3, T5). Both the teachers and principals gave details that a two on the report card did not hold much significance or indication of what the students achieved or needed to accomplish (P1, P2, P3, T1, T2, T3, T4, T6, T7). The previous grading format created a lack in communication between parents and teachers. There was also a lack in communication to the child in what they could accomplish (T1, T3). Both principals and teachers justified the need for digital badges based on a need to confirm learning.

The teacher participants felt they needed adequate knowledge to direct the progression of learning (T1, T3, T4, T5). Parents often misinterpret achievement with traditional letter grade systems (Marzano, 2006). Teachers did not feel the grading was transparent to guide instruction or grasp skills attainment (T2, T3, T4). Therefore, the desire for an improved grading system was anticipated. T1, T2, T3, T4 and T6 explained that they were looking for a grading format that would help children learn. T1 shared, "[the digital badge] keeps track of progress and I am sure every child has earned at least one badge; so no matter what the student is growing." T2 united in this idea, "The [digital badge] gives me something to make sure I am doing extra work; it ensures I am focusing on the skills students are struggling with." T3 echoed T2's statement, "digital badging versus standard summative grading makes the teacher aware of the exact skill needs." T6 stated, "I definitely knew what skills my kids were able to do." Teachers T4, T5, and T7 supported this by explaining they wanted a format of assessment that informed instruction. T5 said, "I was able to remediate and fix learning issues. You can pinpoint that, and you know what is needed." T7 stated, "the digital badge tells us what we want them to know throughout the year, and where they are in the process." T4 lined up with T5, "when kids are not

getting the badge, I throw in extra activities to help them reach the badge." T1 stated, "with

badging, there is the recognition of an exact skill and it is transparent to the child." The teachers

and students were aware of the skill gaps and gains each child had by using the digital badge.

The information on report cards often tells little about the student or their learning needs

(Graham, 2015). Issues surfaced about report cards were voiced by the participants of this study.

P3said, "report cards do not seem to create deep thinking." P1 shared, "The standard report card

does not give us a lot of information." T5 stated, "report cards do not offer the philosophy that

all kids can learn." Report cards created deficient learning so that became a catalyst for the

emerging change in assessment.

Moreover, the administrators felt the philosophy of the school was hindered by the use of

traditional report cards (P1, P3). "We are in an atmosphere where we want to do things different

to re-make learning right for students" (P3). The superintendent of the school district was in

strong support of innovative movements (P2). "He was a visionary of innovative methods" (P3).

The superintendent had knowledge of digital badges which developed the initial movement to

pursue digital badging. Moreover, one of the principals completed extensive research on digital

badges in her doctoral work and felt "it was a way to get at the concern kindergarten teachers had

about grading" (P3). Principal P3 felt that digital badging addressed the need to improve student

learning. After many conversations between principals and teachers, a pilot to use badges began

in the fall of 2016. Thus, the advent of digital badging began for the Northeastern school district.

Administrators support growth and improved trajectory of learning. The

superintendent and principals connected about the results of their high school's pilot completed

in using digital badges and found badging to be successful per their National Western Evaluation

Association (NWEA) reports (P1). The principals reported that based on NWEA reports which

show a child's academic growth, digital badges improved their organizations growth by more than 15% (P1, P2). Sheninger (2015) demonstrated that badges provide clear and concise measures of student knowledge that assist with student growth. The results of the high school digital badge report revealed students' increased skill knowledge, engagement and improved learning gaps by using digital badges (P2, P3). Therefore, the conversation to support teacher and student changing needs occurred around the use of micro-credentials versus traditional grading methods (P1) and the rollout and need of participant badging processes.

Launching the digital badge. The school had a very small budget to work with, but this did not hinder the implementation of the badges (P2, T3). Teachers began by laying out the skills they hoped to see kindergarten students achieve (P1; see Appendix I). T1 explained, "once the physical badges were created we put them on hooks to compliment the digital badge so the kids could see them every day in class." The educators aligned state standards to the badges (see Appendix I). The district found a previous student graduate from the district with graphic design experience to create the digital and physical component of the badge (see Appendix I). The superintendent connected with a software company to rollout the electronic data portion of the badge through a system and device application called: Fresh Grade (P1, P3). The system allows for immediate feedback when the teachers go in and check off the badges earned (T1, T3, T5). The messages from the application Fresh Grade are immediately sent to parents (T5).

Theme 2: Badging as a portrait of meaningful learning.

Intrinsically engaging. Teacher participants were asked to explain what they observed with digital badges. Many of the statements led to an area of both intrinsic motivation and student engagement. Intrinsic motivation is a need to accomplish and move forward with tasks for no other reason than one's personal will (Guthrie & Wigfield, 2000). Engagement is a way

to describe meaningful environments that consume a person's time (Marks, 2000). In this study students were interchangeably engaged due to intrinsic values. Participants provided engagement as a response followed by intrinsically motivating aspects. Participant T5 said, "students are in control of their learning and have choice." T5 explained, "digital badges help teach kids to move beyond learning what is just assigned toward taking a central role in their learning process." T3 declared, "the kids really start to care because they see their success and had control over that." T3 further explained, "the digital badge helps kids motivate to learn beyond what is assigned." T5 echoed this sentiment, "digital badges teach more than just memorization, the kids have the responsibility to create their goals and go after them." The aspects of learning beyond what was expected, creating personal goals, and partaking in the learning process describe how badging promotes self-directed learning.

In this study intrinsic motivation was described by the participants as student desire to progress and self-select benchmarks. Teachers in this study showed that children were engaged by their relationship with moving forward and understanding goals related to gaining badges. T1 explained, "the students want to work harder because they want to personally earn their next badge." T2 stated, "the kids are driven to work harder to earn their badge." T3 elaborated, "the students see their success, they want to continue to reach further levels of success." T5 explained, "the students are going to their parents and telling them they want to learn the next task for the badge." In this case students desired progression and received validation in that process. The participants in the study explained digital badges were validating to children and as a result, created greater intrinsic motivation.

The digital badge showed aspects of equity. Equitable learning is described as providing opportunities to master skills at a given learning level (Park et al., 2015). T5 clarified with

digital badges there is a continuous opportunity to earn the badge; it allows students the chance to earn the skills versus saying the assessment is over. T7 explained there is always something that can be earned and proved in the child's learning so that the student never has hurt feelings like in traditional grading when low points or grades occur. T1 explained that digital badges provide openings for success where it would not otherwise happen. T3 clarified, "[the badges] are closing the equity gap; it feels like the badge is acknowledging what students are doing and the progress they're making versus just saying, okay you are [a report card grade] of one." The teachers in this study shared the belief that when students are given opportunity to show mastery they begin to fill skill gaps.

Badges are adaptable to what students need. When children are not yet ready for the grade level assessments a child may go after a badge at their level or area of interest (T1, T4, T6, T7). T5 explained, "digital badging is a matter of philosophy and understanding that a digital badge has the ability to create what each student needs." T2 shared, "the kids do not drop the skill until they earn it [badge]." T3's statement supported this idea, "by looking at a badge, it tells the story for the child and that they get 'it', they know what they know." The teachers in this study voiced that the digital badge created a philosophy change in grading which closed the equity gap for their classrooms.

Teacher to student connections. Teacher to student connections surfaced throughout the interviews. T7 described, "the badges tell us what we want them to know through the year." T7 also explained, "it motivates me to help the child because I can understand what [the child needs]." T6 shared, "we had looked for something for a long time that would be meaningful to the students and communicate their exact skills." T5 offered this idea, "the badges motivate me to help the children more, it is easier to connect and understand what needs to happen." To

further illustrate, T2 shared, "I knew that they could earn it, just from talking to them or listening to what they were doing. I understood them and their needs more than the tests could tell." A teacher's understanding of how children learn helps them connect to the student (Prensky, 2007). T6 stated, "Definitely the badges benefited a communication between you, parents, [other] teachers, and the kids." The teachers in this study showed a relationship link between digital badge use and improved student connectedness with their instructors.

Family to student connections. Teachers and principals in the study explained that badges helped families understand student skills and guided communication (P1, P2, T3, T4). Parents find increased value in badging because it communicates exact skills accomplished (P1, P2). T7 described, "[the badge] was instant reinforcement, a lot of motivation, and they were excited. The badge just had more meaning than sending home a vague report card to parents." T6 shared that "parents are more engaged and helping the kiddos to reach their goals." Further, the parents know exactly how to help their child; for example, if the child needs to write numbers to 20, parents know exactly how to help the learner (T7). T1 shared, "[parents are asking] what can I do to help my child and getting an answer with the badges." T4 & T5 shared that, the parents would ask children clarifying questions and the kids would ask for help. In this study, when the parents were informed of the exact skills the students received a better home to school connection with their families.

Teacher colleague collaboration. Teachers gathered and developed an outline plan for how they thought digital badges might work (P1, P2, P3). T3 explained, "it was a great communication platform for us to connect." T1 stated, "we [kindergarten team] created all of the skills together and laid out the foundation for the goals and timeline." T7 shared, "it just gives us more to connect on." The teachers explained they were able to openly share what their students

105

needed and collaborate as a team to consider ways to help the badging process (T1, T6, T7). T6 offered, "we [kindergarten teachers] needed to meet and determine which skills to ramp up or water down." The teachers communicated instructional planning in a much more detailed and concise way as a team with digital badging in place.

School to family connections. In this study it was revealed that relationships pertaining to family and school relationships were improved with the presence of the digital badge.T1 explained, "the parents can see right away exactly what they are accomplishing." T7 stated, "parents are more engaged and helping the kiddos to reach their goals." T5 stated, "I have had comments from parents, that they feel I really care about their [child's] learning, and the badges facilitate that." T3 showed, "parents are significantly more engaged in their children's learning process." Digital badges displayed informed decisions for parents at home when guiding their children.

Theme 3: Repainting the portrait: Traditional assessment as opposed to badging.

Teachers prefer badging to report cards because it forms mastery learning. The participant's statements showed that report cards did not create mastery learning. T3 and T5 stated, they never want to go back to the old way of grading. T1 explained, "I do not want to ever go back to report cards." T2 exclaimed, "badges are so much better than what we were doing." T-5 explained that students can show their learning more than they can with traditional tests with the previous assessments. Now the student can use a video to show learning or even be assessed on the playground, for example, if they are singing the ABCs. The badges do more than show rote knowledge; children are applying their learning (T5). T6 described a need for improved grading, "we had been looking for some way to grade students that was more

meaningful for a long time." The digital badge served to meet the alternative grading desires of this group.

Teacher in this study selected the digital badge over other assessments. The badges reinforces skills and create a solid learning foundation (P1, T6, T7). Principal participants P1 and P2 and teacher participants T3 and T5 explained that badging is iterative in which students must show retention of previous knowledge to move on to the next levels, creating strong mastery. T7 explained that badges adapt to the student's current level. T5 said skills must be completely mastered in order to earn a badge; when a student is not ready, the student continues to work toward mastery. T3 described the digital badge as creating "building blocks more than just memorizing, it is reaching mastery." T2 termed badging as "absolute mastery, you are constantly going back and reiterating those badges they have earned." T4 explained, "You have to master the skill in order to get the badge. So, they can't almost be there. It's once you learn it, then you can have the badge. In our old grading system students would get a 1, 2 or 3; we assumed a three meant mastery, but what did a 2 mean?" T7 said, "it was difficult to obtain mastery in the old system because even if students had not mastered the skill we would appoint a murky grade and move on that didn't make kids feel proud." The participants in this study believe mastery occurred due to the use of digital badging.

Strong impact on instructional practice. Teachers T5 and T7 stated the badges pinpointed the student needs and this helped with forming learning groups. T7 explained "we can create strategic groups, so they're getting with the exact information they need for that particular badge." T6 said, "we hone in on that particular skill they need to earn that badge." This thought was further solidified by T4 who said, "when they get near earning the badge, we will talk and discuss how close they are and what needs to happen to earn that badge." T2 said,

"we can really correlate the badge to what we are doing." T3 stated, "my small group instruction has really been changed entirely by badges." T6 offered, "we would just tie [the badges] into our day, it was more individualized." Every participant in this study had at least three examples of how digital badges impacted their instruction in a positive way.

        Theme 4: Challenges with digital badging.

        The teachers in the study had limited negative things to say about digital badges. However, when asked if they had a magic wand to change anything, what would they do, they responded by either stating they would like an improved software program or to see the continuation of badging occur in first grade and onto future grade levels (T1, T3, T4, T5, T6, T7). There was one comment from T2, "digital badges are work and effort, but no more than report cards and typical grading." The majority of issues arose from the newness of this assessment tool.

        Challenges with software. Five of the seven teachers in this study stated that the software application was difficult to use. The program used was called Fresh Grade. P2 explained, "the software company seemed to go out of their realm to create a badging program for us at an affordable price." T5 explained "[the application] could have been [troublesome] based on the newness of the program as well." T1 shared that the software program was hard to use. T4 expanded on this comment by sharing, "it was hard to keep track of the badges on the digital component." T3 elaborated, "the only thing I would change is how the application we put the badges on functions, if somehow magically it could upload student work." T3 further stated, "while using the digital platform we have to complete multiple clicks for each student, which takes a lot of time." T6 shared, "the software needs tweaking." T6 offered, "we need to be able to combine the badging easily with projects and not have to keep clicking for the kids to get the

badges." T7 explained that the application did not align as well with math standards as they would like. Overall, the main concern with digital badging was finding a software program that suited teachers' needs of seamlessly recording student work.

Challenges with continuation in future grade levels. Two of the seven teachers and all three principals explained challenges occurred with the progression of badging to the next grade level. T2 said, "I wish digital badges carried through to other grades." T5 stated, "we start badges and the kids get really excited and then there are no badges that continue to first grade." P2 shared, "it is a challenge to get 'buy in' from other grade levels as the standards increase." P3, stated, "I would like to see badging continue to the upper grades because we have seen success in kindergarten." This challenge shows the belief that the teacher and principals feel strongly enough about digital badges that they would like to see them in upcoming grade levels.

The rationale for concerns associated with continuation of badging to additional grades were described. P3 explained that badging must come from teacher desire. "Efforts to change a teaching strategy cannot come from above, the desire to change and further develop implementation must come from within" (P3). T7 aligned this thought, "a teacher must have the philosophy and belief that a badge contributes to learner needs." The teacher must know why they are using this type of formative assessment as opposed to other forms (P3, T7, T4, T5). A strong belief for change in assessment and guidance practices were present with the teachers in this study developing an ability to pilot the program.

Summary

The teachers in this study felt digital badges had a greater impact on student learning than the previous grading system. T3 summed up the digital badging experience, "the badge tells the story of the child." The results of the study showed the digital badge as increasing skill

knowledge, engagement, and improved learning gaps by creating opportunity in learning and through iterative process for mastery. The study also revealed that relationships were improved when digital badges were present. The teachers in this study collectively agreed in over 14 statements that digital badges reflected the students' true learning. The participants explained digital badges were validating to children and as a result created greater intrinsic motivation. The final results created four key themes: the origin of badging, digital badging as a portrait of meaningful learning, traditional assessment as opposed to digital badges and challenges associated with digital badges.

The digital badge experiences of the kindergarten teachers at three elementary will be summarized in Chapter 5. Overall digital badge impact on student skill and agency is defined. An overview of how the kindergarten teachers and principals described traditional grading methods compared to badging assessments is presented in a discussion of the results as they pertain to the literature review. Chapter 5 also includes the implications of the findings for theory and policy, limitations, and delimitations of the study, and recommendations for practice and research.

Chapter 5: Discussion and Conclusions

The purpose of this phenomenological study was to understand teachers' experience using the digital badge as a tool in the classroom. Substantial literature supports the background of this study and research methods. While digital badges have been studied in higher education, professional domains, and in limited lower educational settings, this study was conducted to understand badging through the lens of constructivism in an unstudied setting and subject area. The researcher interviewed seven teachers and three principals who also provided artifacts. The study was isolated to three elementary schools in a suburban school district in the Northeastern portion of the United States. The specific study site was kindergarten general education classrooms. The 10 participants agreed to a 30-45 minute interview in July 2018 and provided artifacts to support their experiences. Participants compared their badging practices to that of pre-digital assessments.

Throughout this study, the researcher weaved the elements of constructivist learning into the data analysis on how children acquire information, grow, and engage in student-centered aspects related to digital badging. This study is important to the community of scholars working to understand micro-credentials. The grade level, subject area, and qualitative study fill the gap in understanding this new pedagogical tool. The information gleaned has the potential to promote effective assessment and learning practices in elementary education and beyond classrooms.

Chapter 5 elaborates on the key data derived from the study. The researcher analyzed digital badge effects, observations, and achievement of digital badge implementation. This

chapter presents a summary of the results; discussion of findings relative to the literature review; limitations of the study; inferences toward implementation, theory, and policy change; recommendations for further research, and a significant conclusion.

Research Questions

> **RQ1:** What are the digital badge experiences of the kindergarten teachers at three elementary schools in a state located in the Northeast region of the United States?
>
> **RQ2:** How do kindergarten teachers describe digital badge impact on the student ability to gain reading skills in kindergarten?
>
> **RQ3:** In what ways do kindergarten teachers describe traditional grading methods compared to badging assessments?

Summary of the Results

Digital badge signage is a credential displaying a wide range of skills, accomplishments, and experiences with metadata attached to provide a holistic view of earner achievement (Alliance for Excellent Education, 2013; Mozilla Foundation et al., 2011). There is limited research on this credentialing system related to student achievement, motivation, and pedagogy. As evidenced by Abramovich (2016), Casilli and Hickey (2016), and Wardrip (2014), the digital badge may be used to increase student motivation, student autonomy, and achievement while facilitating long-term learning and showing precise skill achievement. Although the use of the digital badge is increasing and sporadically appears in educational curriculum, very little research toward the impact on young leaners has occurred (Grant, 2014; Joseph, 2012; Ray, 2013; Stetson-Tiligadas, 2016). Hickey and Otto (2016) showed the traditional assessment formats in our current educational ecosystems lack meeting the prerequisites of 21st century learners. Digital badges are an emergent tool that may be a solution toward meeting the needs of

our digital natives (Keengwe & Georgina, 2013). Therefore, this research is important to the community of educators and learners in our nation today.

Digital natives reside in every classroom across the globe; as a result, they need tools that connect with how they learn today (Prensky, 2012). Students in our classrooms are encountering learning like never before. The ability to access information quickly, in fragmented ways, and to engage in virtual gaming worlds has changed how children authentically engage (McGonigal, 2011). Education may respond to the needs of students by looking at current pedagogy and practice (Ravaioli, 2015). Digital badges may provide the link between how students are motivated to learn and successful reading achievement in the classroom.

The constructivist theory allowed for the extrication of the findings from the research questions. The researcher applied constructivism to understand the building of progressive knowledge (Vygotsky, 1978). Piaget (1983) showed that learning is based on progressions that are unique to each child's developmental stage. Hannafin (2010) examined student-centered constructivism as creating student choice, voice, and influence toward their education. The researcher used the selected theories as the basis for coding and categorizing statements and artifacts gathered in the study. The seminal works of Vygotsky (1978) and Piaget support today's understanding of the digital badge as a tool supportive of student-centered learning. Piaget explained that learning must personally adapt to students' skill base and conceptual thinking. The results from this study indicate that learning via the digital badge adjusted to individual student needs. Hannafin (2010) allowed for the importance of student autonomy; it was found that digital badges created efficacy in the learning process.

The comparison and examination of questions were based on student-centered learning when students are at the center of the learning process (Hannafin, 2010). In this study the digital

badge was used to harness the importance of previous knowledge, cultural setting, and understanding learners as individuals (Kraft, 1994). Student-centered learning focuses on the student and uses formative assessment to drive instruction (Stull et al., 2011). The digital badge was a form of feedback that guided instruction.

The theories guided the derivation of the research questions. The researcher reviewed student-centered learning and child development connected to digital native reading. To understand how young students learn there must be an understanding of digital natives, early reading tools, and reading concerns (Prensky, 2012). The constructivist theory is at the heart of how digital natives learn in unique ways. Constructivism is an appropriate theory based on the body of knowledge surrounding how students learn in technological times.

This descriptive phenomenological study was designed to understand perceptions of kindergarten teachers' observations about how digital badges might impact student-centered learning in kindergarten reading. The goal was to develop greater insight on how digital badges impact student learning based on teachers' description of badge use in their classrooms. The researcher sought to understand in what ways teachers observe the use of digital badges in the classroom to promote student learning. The research created clarity on how badges function based on the use of semistructured interviews, artifacts, and the attempt of cognitive picture representations to determine, through the constructivist lens, if digital badges motivated students in reading attainment.

The results of this study revealed digital badges offer improved student experience in validating skills, creating authentic learning, providing equitable opportunities, facilitating growth, and creating depth in learning sequences. Four main themes emerged with 11 sub-themes to support each overall topic. The four main themes derived from this study include: the

origin of badging, digital badging as a portrait of meaningful learning, repainting the portrait: traditional assessment as opposed to badging, and challenges associated with digital badges. The origin of badging was supported by: the digital badge as a tool to validate skill attainment, birthed from teacher desire for improved assessment, shared vision, and digital badge introduction for improved change. The digital badge as a portrait of meaningful learning resulted in: the digital badge as intrinsically engaging, creating equity in learning, and providing a tool for strong relationships. Traditional assessment as opposed to the digital badge was expressed as: creating concise feedback to inform stakeholders, inform instruction, while synchronously individualizing learning. Lastly, challenges associated with digital badging included: the digital badge needs improved software, and a desire toward continuation to future grade levels.

Discussion of the Results

 The origin of badging. Theme one arose from participants sharing an opposition with previous report card information. Participants reported feeling uncertainty and decline in motivation with traditional grading whereas the badging process was believed in theory to develop strong validation and a reflection of true student learning. Administrators expressed agreement alongside the teachers and a desire for change. Sheninger (2015) and Wardrip (2014) provided support to leaders that delivered clear and concise research background of badge use toward student knowledge. After piloting digital badges at the upper level, principals reported based on Northwest Education Association reports, teacher discussion, parent discussion, and classroom observation that a child's academic growth was related to digital badges. Northwest Education Association scores improved their organization's growth by more than 15% (P1, P2). The results of the data served as a springboard toward connecting to teacher concerns.

Report card information was noted as a cause of fear and uncertainty that contributed to developing reluctant learners (Kohn, 1993). Participants 3, 4, and 6 shared that their students would grow in math or reading, yet received a mark on report cards that did not reflect their progress. The previous report card did not validate what students were achieving (T3, T6). The report cards did not offer a lot of information on how parents could help their children (P1, P3).

The kindergarten teachers and principals alike had concerns about the message conveyed by a typical grade on report cards sent to students and families (T1, T3, T6, P1, P2, P3). T7 explained that assigning a standard grade can be harmful because the grades tend to label children rather than offer an opportunity to grow. Further, the dislike in grading led toward a chain of events toward a more comprehensive form of learning. Digital badges were found to be thorough, concrete, and offered clear feedback to direct and validate learning (T1, T2, T3, T4, T5, T6, T7, P1, P2, P3). The principals and teachers in this study explained concern around the messages report cards sent diligent students (Tierney, Simon, & Charland, 2011). P3 described apprehensions with traditional grading as "when teachers tell a child, 'you received a one, two, three, or an A, B, C, D, F, children frequently digest that as 'I am a one or F.'" It becomes an issue of self-efficacy further affecting engagement, motivation, and progression when low marks label students (Marzano, 2006).

Teachers recounted that the previous system of report cards lacked the ability to show accurate student knowledge. This created a desire to connect more with families and students (T2, T4, T6). The unanticipated results included the facilitation of improved connections and relationships fostered by the digital badge (T1, T2, T3, T4, T5, T6, T7, P1, P3). Students were asking their families to help them on specific skills in order to earn the badge (T2, T3). The

digital badge informed teachers and parents of the exact student needs, which developed the deeper connection described.

Since the previous grading was inadequate, teacher participants searched for a new form of assessment that guided learning. The badging program emerged from teachers' desire for a change in grading. The teachers in this study explained a longstanding desire for transformation in the grading process because previous grading models did not reflect what students were actually achieving and teachers struggled to communicate student achievement through traditional grades (T3, T5, T6). Guskey (2004) explained that the information given to students and parents in the past does not help the learner because it fails to show progress or skills. In 2015, the administrators in this school introduced the digital badge idea to staff after discussions around report cards (P1, P2). After implementation of badging, the teachers perceived digital badges to meet student needs; they maintained the digital badge practice indefinitely at this school.

Digital badges as a portrait of meaningful learning. Many of the statements led to an area of both intrinsic motivation and student engagement. Teacher participants were asked to explain what they observed with digital badges. In this study, students were intensely engaged due to essential values (T3, T6). T3 explained, "the kids really start to care because they see their success and had control over that." Participants explained that students were self-selecting goals, creating meaning from their assessments, and approaching their parents about the goals.

In this study, students were interchangeably engaged due to intrinsic values. The participants were enlightened by how digital badges validated children and positively affected their inner drive. T5 elaborated, "the digital badge helps kids learn beyond what is just assigned." Engagement was described in context with the word love due to skill recognition and a desire to

personally grow and immerse oneself in the badging efforts. Berlanga et al. (2012) found that clear visual representation helps students ascertain omitted skills while recognizing accomplished goals. Students gain self-acknowledgement from digital badges and become deeply engaged in the awarding of the badge (Ahn et al., 2014). The badging developed learning for the children's own interest, creating personal goals.

Another aspect of meaningful learning was the improved connections created between students, family, and the school. School to family connections increased due to detailed information provided to parents. Kindergarteners voiced a desire for guidance at home from parents (T1, T3). T6 shared, "parents are more engaged and helping the kiddos to reach their goals." T1 aligned with this statement: parents and students are questioning each other on what they can do to reach their goals.

Teachers and students were connected at a deeper level because teachers were aware of the exact skill knowledge of each student and how to guide children on their individual needs (T1, T2, T3, T4, T5, T6, T7). T2 explained, "I knew that they could earn it [badge], just from talking to them or listening to what they were doing. I understood them and their needs more than the tests could tell." Teachers were able to guide instruction to the exact needs of the child with the transparency of the badge in place.

Teacher to teacher continuity appeared to improve. The kindergarten team connected by mapping out important skills and developing badges as a group (P1, P3, T3, T5). Teachers and classroom instruction were cohesive. The teachers across classrooms created a link between home and school because of the consistent communication the badges sent to families (T6, T7).

Meaningful learning occurred with the digital badge by providing equitable learning. Students were able to go after the skills they needed and maintained the opportunity to earn skills

over time. T5 said, "students are in control of their learning and have choice." T5 explained, "digital badges help teach kids to move beyond learning what is just assigned toward taking a central role in their learning process." T3 declared, "the kids really start to care because they see their success and have control over that." T3 further detailed, "the digital badge helps kids' motivation to learn beyond what is assigned." T5 echoed, "digital badges teach more than just memorization; the kids have the responsibility to create their goals and go after them." The aspects of learning beyond what was expected, creating personal goals, and partaking in the learning process described how badging developed meaningful learning.

Teachers prefer badging to report cards. Digital badging creates personalized and competency based learning from iterative and individual expectations of mastery (Mozilla Foundation et al., 2011). Every participant in this study portrayed ways the digital badge positively impacted their instruction. As described throughout the study, prior grading formats lacked the appropriate guidance to help all students progress in skill attainment (T1, T2, T3, T4, T5, T6, T7, P1, P3).

T6 said, "we hone in on a particular skill [students] need to earn that badge." This thought was further solidified by T4 who said, "when they get the badge, we will talk and discuss how close they are and what needs to happen to earn that badge." T2 said, "we can really correlate the badge to what we are doing." T3 stated, "my small group instruction has really changed entirely by badges," T6 offered, "we would just tie [the badges] into our day, it was more individualized." Every participant in this study had at least three examples of how digital badges impacted their students' ability to master skills and inform instruction in positive ways.

Challenges associated with digital badging. The teachers in the study experienced little adverse effects of digital badge use. Many participants explained that badges take work, but no more than previous grading (T1, T3, T7). Since digital badges are in their infancy, challenges with software were a common annoyance (T2, T4, T5, T6, T7). Application was the largest concern around digital badging software. Another concern was the integration of digital badges in first grade and grade levels to come (T2, T4).

Participants felt the badges would be easier to use if the electronic component was user friendly. T3 stated, "while using the digital platform we have to complete multiple clicks for each student, which takes a lot of time." T6 shared, "the software needs tweaking." T6 offered, "We need to be able to combine the badging easily with projects and not have to keep clicking for the kids to get the badges." T7 explained that the application did not align as well with math standards as they would like.

The continuation of badges to upcoming grades did not occur. T2 said, "I wish digital badges carried through to other grades." T5 stated, "We start badges and the kids get really excited and then there are no badges that continue to first grade." P2 shared, "it is a challenge to get 'buy in' from other grade levels as the standards increase." P3 stated, "I would like to see badging continue to the upper grades because we have seen success in kindergarten." There is a promising future for digital badges in this district if badging can be carried forward to more grade levels and teachers are provided improved technology support.

Discussion of the Results in Relation to the Literature

This study was situated in constructivist theory, also described as student-centered learning. Vygotsky's (1978) zone of proximal development and Piaget's (1969) cognitive development theory explain constructivism in learning as acquired through progressions of

development, cultural impact, scaffolding experiences, and growth progressions. These aspects affect how young children develop healthy cognitive functioning. The constructivist theory is at the heart of how digital natives learn in unique ways.

The participants understood their students as digital natives. P3 explained that students are used to 'leveling up' and seek this out in the classroom. T5 elaborated that students are immersed in a culture of technology and want similarities in the classroom. Without change in pedagogy a continual decline of achievement is likely to occur with students today (Tapscott, 2009).

The opposing view on the need to move away from standardized grades raises apprehension over unreliable assessments that a digital badge could create. Any single measure of learning can be inaccurate; most researchers recommend multiple formats to assess student learning (Guskey, 2004). Therefore, research shows that dependence on any one tool such as a digital badge of assessment can be variable (Berlanga et al., 2012).

Report cards may create problematic issues: grades can decrease intrinsic motivation and interest and create a preference toward finishing easier, accomplishable tasks while also reducing the quality of higher level thinking (Kohn, 2017). In contrast, digital badges are a form of intrinsic motivation because they supply the ability to create student ownership and autonomous learning (Ryan & Deci, 2000). In this study the teachers showed that the digital badge served to create self-agency and self-directed learning (T3, T4, T6).

The origin of badging. The organization of previous assessments fell short of serving the students' needs (T1, T2, T3, T4, T5, T6). The principals had continual concern over the type of messages standardized based grading had on a child's self-efficacy (P1, P3). Report cards contain possible troubling messages by allowing for misleading messages to hardworking

students who receive low marks (Tierney et al., 2011). Report cards often lack the ability to individualize learning (Tierney et al., 2011). Osher (2016) showed grading can undermine learning. Learning is about gaining competency and creating deeper learning by means of student autonomy (Osher, 2016). Participants in the study described students as leading their learning path when obtaining digital badges, developing solid self-efficacy and feelings of adequacy in their learning goals. The teachers and principals felt that report cards were molded for a certain type of child or learner (T5, T6, P1, P2). In contrast, digital badge was described as individualizing learning (T1, T2, T3, T4, T5, T7, P3).

Digital badges might be an effective way for an educator to recognize the skills and strengths of students versus standardized report cards or formal assessments. Micro-credentials are a way to show progress in non-linear ways (Wardrip, 2014). Digital badging is a tool that shows progressions of learning. The digital badge had the ability to create greater self-driven strategies honing in on growth (Ahn et al., 2014; Yang et al., 2016). Ahn et al. (2014) examined the encouragement the badges provide students related to self-efficacy, finding that digital badges offer inspiration and attainable goals along the way resulting in higher self-esteem (Ahn et al., 2014).

The constructivist method that outlined this study states that as long as schema and progressions of learning are in place, internal motivation will be abundant for student growth (Piaget, 1954). Students were found to have gains in reading. When readers are given the opportunity to master reading skills early on they are likely to have strong progress (Park et al., 2015). The digital badge in this study captured the demonstration of skills built upon each other to show competency. The mastery of specific skills within digital badging allows an opening to conquer goals rather than creating negative messages (Ahn et al., 2014).

The study revealed that the badging process created granular information about achievement for all stakeholders. Digital badges generate clear, thorough data on academic accomplishment (Mozilla Foundation et al., 2011). Guskey (2004) clarified that teachers in the 21st century articulate a need for ways to show student capabilities and progressions. Micro-credentials provide comprehensive records of achievement contained by the badge to support student needs (Educause, 2012). Teachers had more information about their students than before; the detailed data attached to badges accomplished their desire to understand the child's learning landscape in deeper ways (T1, T2, T3, T4, T5, T6).

Badging as a portrait of meaningful learning. This study revealed that meaningful learning was created based on student choice, appropriate leveling, and by creation of progression of skill attainment. Piaget (1983) examined deep engagement as a key aspect of intrinsic motivation. Motivation includes self-sought goals, scaffolding of learning experiences, learner ownership, and continual growth (Ryan & Deci, 2000). The digital badge in this study proved to have the indicators of intrinsic motivation. As cited in the literature review, Hannafin (2010) emphasized the need for student-centered experiences to create internal motivation which includes a child's influence on their educational selections and development of regulation in their learning. McGonigal (2011) explained that intrinsic motivation for the digital native includes ways in which students have options to level up. Vygotsky (1978) asserted that children are driven to move onward when they find the accurate level of challenge and can individually make logic of their objectives. Often, struggling students obtain affirmation by using digital badges for skill growth (Ahn et al., 2014). The badge conveys to each student their access to mastery through varied pathways allowing opportunity for individual growth (Yang et al., 2016). Digital badges create opportunity, address specific skill needs, and accommodate the learner

123

(Abramovich, 2016; Ahn et al., 2014; Chou et al., 2012). Children need the opportunity to attempt a task in order to close equity gaps (Bertrand & Marsh, 2015).

The constructivist view explains this concept further in that a person's ability to construct knowledge must be adaptable and at the individual's learning level (Vygotsky, 1978). Teachers in the study explained that students were able to individualize their learning by selecting the badges that met their skill base versus standard report cards (T1, T2, T3, T4, T5, T6, T7). Traditional assessment does not make room for individualized grading nor does it create self-selection of skills (Norton, 2016). In the literature review, the digital badge was exhibited as a reliable form of skill validation because it is progressive and meets children where they are (Ahn et al., 2014; Yang et al., 2016).

The digital badge in this study brought forth an unexpected revelation in that it provided strong relationships. The digital badge creates an alliance among earners, issuers, and consumers (Alliance for Excellent Education, 2013). The work of micro-credentials is to create representations of a student's true learning (Educause, 2012). The digital badge can bridge cultures by connecting fragmented progressions to understand the learner as a whole (Preusse-Burr, 2011). The literature review did show that teachers become competent at collaborating with students to create goals when badges are present (Preusse-Burr, 2011).

The results of this study demonstrated that relationships improved by teacher to student interaction, family to student engagement, family to teacher communication, and teacher to teacher connection. Bulfin and Koutsogiannis (2012) explained that students deeply crave connection to teachers and their culture, specifically in digital times. The digital badge is an instrument that can aid networks, particularly in understanding the way kids function and want to level up (Martens, 2014).

The study showed that parent to child engagement improved (T1, T4, T7). Parents have an overwhelming experience misunderstanding precisely what their children are achieving in school based on studies involving feedback from report cards (Grant, 2014). The digital badge is valued by families and students alike for the transparency it offers (Sheninger, 2015). Christenson and Sheridan (2001) asserted that family to school connections are critical to the supportive needs of each child's mental, social, and academic health. Moreover, there is a great value in connecting badges to environments outside of school like in the home (Ifenthaler et al., 2016).

The study also showed that teachers mapped out skills collaboratively during the initial badging process (P1, P3, T2). Teacher collaboration can enhance the culture of a school (Hallowell, 2011). It is important that colleagues connect as this creates a positive effect for students (Hallowell, 2011). The teachers found that they worked diligently together to scope out a plan for the badges.

Repainting the portrait: Traditional assessment as opposed to badging. Teachers prefer badging to report cards because it forms mastery learning while being relatable to the needs of digital natives (P1, T2, T4, T5, T6, T7). Vygotsky emphasized constructivism as a person's ability to relate knowledge to their life creating meaning (Vygotsky, 1978). Badges provide connected measurements of real-life learning to self-fulfilling goals (Abramovich, 2016). In this study, students felt their knowledge was validated, their progress was visual, and they could apply the progressions of learning to future understanding in a digitally dominating time (T1, T2, T3, T4, T5, T6, T7). Digital natives come across the use of technology in how they function every day; digital badges are relatable to today's learners (Cox, 2012). The literature review demonstrated customary learning tools as no longer suitably preparing students with the

125

skill base needed in prospective workplaces (Grant, 2014; Olneck, 2014). Digital badges might

develop a link between students' intrinsic motivation and improve their skill base in our

technological world (Keengwe & Georgina, 2013).

Challenges with badging. Teachers in this study shared challenges associated with

software and continuation of badging to future grades. The freshness of digital badging may

have impacted the difficulty teachers encountered with the software (T3, T5). "The new

software was difficult to use, we have to click each child's name versus a batch of students at

one time" (T7). It would have been helpful if the badges could be directly delivered to parent

inboxes (T3, T4). Joseph (2012) explained that new technology often creates barriers in the

smoothness of application. Teachers in this study showed that the newness in technology

became cumbersome when entering badge data (T1, T2, T4, T6).

Teachers and principals voiced a concern over the absence of badges in the next grade

level. Badging connected to the kindergarten curriculum meshed well with how the students

learned (T6, T7). Ray (2013) explained that there is little research in lower grade levels due to

the challenge of content immersion in young learners. Shannon (2016) shared concern over

assessing emergent tools with standardized grades. Teachers are often accustomed to traditional

ways of instructing, which can create challenge to implementation (Prensky, 2012). The

philosophy of change and desire to do so must be in place (T3). The obstacle of immersing

badging in future grades was believed to be because of the variation in grade level standards and

perhaps, personal teachers' ideal vision of assessment (P1, P3).

Assumptions, Limitations and Delimitations

Assumptions. Assumptions are an inherent portion of research (Creswell, 2013). This

study sought to understand the voices and reflections of principals and teachers in relation to

badging. The notion that participants were honest and forthcoming in relation to interview questions was acquired. While guiding the interviews, and examining responses, there was an assumption that the researcher would persevere neutrality. To maintain credibility, the researcher put aside presuppositions of pedagogy and struggling readers (Moustakas, 1994). Another limitation of the study included the researcher as the primary instrument. The researcher neither operates the information nor controls the themes within qualitative research (Patton, 2015). According to Creswell (2013), reliability can be interfered by personal impact or beliefs. To reduce potential bias the researcher used bracketing to frame biases, beliefs, or assumptions about the phenomenon (Widodo, 2014). Member checking occurred to cross-check accuracy of statements. All feasible measures were implemented to ensure fidelity.

Limitations. As is the case with all studies, there are limitations (Creswell, 2013). This study was limited to kindergarten teachers and three principals who implemented digital badges for a minimum of two years while also having the experience of traditional assessment. This district and grade level are pioneers of digital badges, limiting the sample solely to this population. The researcher attempted to draw from other school districts, but there were no other districts to date participating in this assessment framework district-wide. Creating the small sample size restricted to one region. Consequently, the demonstration of limited geographic regions and demographics could provide a challenge to generalizability. Nevertheless, the conclusions may be conveyed toward practice because they provide awareness on perceptions of digital badge use.

Delimitations. The study was narrowed to kindergarten teachers. The selection of controlling the research population to teachers of students in kindergarten was thoughtful in order to preserve the participation of progressive reading common to this developmental phase.

This created a limitation by including an expectation of those familiar with novel readers while understanding the significance of an innovative tool for formative assessment. Moreover, this study looked particularly closely at students in the digital age as opposed to other contributing factors.

Implication of the Results for Theory, Policy, and Practice

The United States school systems are in a period of vividly changing technological advancement (Prensky, 2012). Education has never before needed to respond to the need with digital tools so widely as today (U.S. Department of Education, 2017a). Technologies relevant to the demands of the 21st century are a pertinent need for classrooms. With increased anticipation of changing needs of the digital native it is necessary to seek tools to address the concerns.

Implications for theory. The findings of this study glean insight into the practices of digital badging as student-centered. The constructivist framework states that learning happens from tools that create internal motivation such as the digital badge results of this study (Ryan & Deci, 2000). A need exists for learner-based experiences to create intrinsic drive that includes learners being a part of the assessment process (Hannafin, 2010). The digital native experiences intrinsic motivation when allowed the opportunity to grow (McGonigal, 2011). The zone of proximal development (Vygotsky, 1978) aligns with the study in that children feel encouraged to move onward when they find the appropriate level of rigor. Teachers reported that students felt validation when badges were present. The badge conveyed meaning to each student by allowing the opportunity to attempt a task until attainment. Vygotsky ascertained student learning is influenced by environmental demands (Amineh & Asl, 2015).

Implications for policy change. A need exists for teacher change in assessment while allowing for efficacy in engagement (National Center for Education Statistics, 2018). The

"Read Well by Grade 3" initiative requires that students acquire foundational reading skills. To accomplish reading goals, policy makers must consider technologically advanced options to move students forward. The administrative expectation is that students will be provided with tools that enhance instruction to appropriately move students along to becoming proficient readers (Minnesota Department of Education, 2017). The comprehensive support that digital badges can offer aligns with these expectations. The findings in this study demonstrate that digital badges were a strong visual for personal attainment, allowed customizing of goals to specific student needs, and developed student ownership in learning. Digital badges are a mechanism for creating adapted learning; the badge helps students achieve early foundational skills which are critical to student expansion, while intrinsically motivating a permanent knowledge process (Joseph, 2012). Internal motivation is increased when a child is involved in the progression of learning (Csikszentmihalyi, 1978). Every teacher in this study explained that their students were more involved in learning and understood the position of their connection to each badge.

Implications toward educational change. The results of this study have numerous implications for the educational domain. The implementation of the digital badge is a tool that has little research, documentation, or understanding related to young learner response (Abramovich, 2016; Hatzipanagos & Code, 2016; Wardrip, 2014). The results of this study show a perceived positive shift from traditional assessment. Educators may experiment with the badging process to address intrinsic motivation, equity, improved relationships, academic growth, student ownership, and engagement to the learning process.

Although the research questions examined did not focus on relationships, it was fascinating to note that the results showed improved connections with teacher to colleagues,

teacher to student, child to family and student to educator. In other words, participants in the study perceived greater value in digital badges because of their effect to communicate, connect, and build relationships with others. The digital badge was believed to improve communication and connectedness.

Implications at the individual level. At the individual level the digital badge involves implementation impact. This may inform educators and provide further support to teaching staff from this population. The results allow for ideas that provide an effective way to recognize the skills and strengths of students versus standardized report cards or formal assessments. The research offers a possible solution to students feeling distraught over the reading process.

Another implication at the individual level addresses the necessary pedagogy for education in the 21st century. There are few studies that address the learning needs of digital natives. As explained by Keengwe and Georgina (2013), there is a challenge with understanding how to address learning needs of students in classrooms today. Students desire tools that function like the networking they encounter on a daily basis (Preusse-Burr, 2011). Digital badges address the need for tools in technologically changing times. This study saturates the need for a change in assessment in classrooms.

Third, teachers who seek ways to engage and motivate their students might use this tool. Digital badges may create a way to enhance student learning in a motivating way (Gibson et al., 2015) The findings revealed the badging process developed many aspects of meaningful learning. Teachers may relate this new assessment tool to gain engagement, intrinsic motivation and development of personalization.

The digital badge can be designed to inform instruction and customize small groups, providing customized differentiated learning. Over 30 statements in this study described various

ways teachers used digital badges to guide instruction and individualize learning for students. The digital badge served to make meaning of student skill attainment and can be directly applicable to teacher instruction, skill review, or advancing toward skill development. The digital badge is designed to create individual learner desires (Keengwe & Georgina, 2013).

Adopters or issuers of badges must be aware of the time commitment associated with rolling out a new assessment framework with immature software programs. There is also a need to pilot digital badges in classrooms before the expectation to implement across a grade level occurs. The teachers in this study voiced they were unable to accomplish ease of use with the digital badge. This could create some barriers to the initial implementation of digital badges.

Implications at the organizational level. The organizational domain may fill student achievement gaps. Digital badges are a system of mastery and iterative process. In nearly 20 statements, teachers noted that the repetitive process of digital badging included deep mastery for their class. The repetition of skills required from each learning progression, create an expectation of mastery and help fill skill gaps many districts face. At this level, the results of this study provide nuances toward improved primary reading practices across the state, region and beyond. The ability to connect with learners in the digital age might be helpful to districts when academic deficit concerns.

There is an association with a need to modify software to create simple processes in order to implement badging. Six of the eight teachers in this study explained that ease with program use might indicate greater implementation. Even with software concerns the elementary educators felt that the digital badge was a more efficient way of assessing.

Implications at the societal level. At the societal level, the results of the study have positive implications for social change. Illiteracy is a major concern for society functionality

(Hernandez, 2011). The U.S. has always had struggling readers, but there is a lack of research on the use of digital tools to address the needs of struggling readers in the digital age. This study is one way to address the skill gap students face in reading achievement (Keengwe & Georina, 2013).

Society is changing and, therefore, a need exists for integration of technology (Shannon, 2015). This study showed that by direct use of digital badges reading achievement in kindergarteners was perceived to improve. As children engaged in the badging process the skill expectation was met. Creating a foundation in reading can improve learning in later life (Martens, 2014). The digital badge enabled a foundation of reading growth and progress.

Considered in full, these qualitative results imply that digital badges implemented by kindergarten teachers were perceived to impact children's ability to grow and gain reading skills positively. Although this study focused on kindergarten age students, the indications of how the digital badges facilitate progress, develop mastery, enhance engagement, and create unified learning can be applied to all school age learning groups. Previous research on digital badges suggested that this tool may guide learning progressions, success in efficacy of learning, and can develop mastery (Casilli & Hickey, 2016; Wardrip, 2014). Thus, the researcher attempted to understand beyond, or support what has been discovered at other learning ranges. The results of this study were intentionally detailed in order to expand the setting, population, and outcomes to other grade levels (van Manen, 2014). Therefore the implication to improve learning and practice across grade levels may be appropriate.

Recommendations for Further Research

There are numerous recommendations for further research based on the findings of this study. This research looked at the perceptions of seven teachers and three principals. According

to Creswell (2013), optimal sample size can include up to 25 participants. It is recommended that larger sample pools be investigated.

Currently, the digital badge is a potential instructional tool in assessment and guidance learning that may provide insight into how to help children achieve. Additional research is recommended on the use of digital badges in a variety of ways. There are many impending possibilities for additional research to follow. The badges in this study were isolated to kindergarten; it would be beneficial to complete qualitative or quantitative research on other grade levels at the elementary education level. A follow up quantitative study to confirm these results is highly suggested.

Other studies could explore further whether badges impact human connection and relationships. In this study, relationships between families to teacher to student, school, parents to children and teacher to teacher were believed to have raised rapport. There were no studies discovered that examined the impact of digital badges on relationships. Therefore, a study focused on relationships would elicit practical and insightful knowledge of the benefits of digital badging.

Future research could focus on the impact of emerging software in relation to badge opportunities. Previous studies showed concern around the systems attached to digital badging. In effect, it is advised additional research review software and the impact of reluctance to implement badges due to this factor.

Moreover, the study found that the continuation to future grade levels lacked. There is need to identify why certain grade levels are more apt to use digital badges than others. A phenomenological study is recommended to understand in what way non-badging classrooms perceive digital badges.

Further, it is recommended that teacher philosophy and motivation in relation to the immersion of digital badges be studied. The badging process to upcoming grades did not occur with participants in this study. It is suggested that individual teachers be studied to understand reluctance to badging.

It may be beneficial to develop a longitudinal study in which the digital badges are tracked over time to understand their impact over extended periods. The participants in this study shared experiences of how kindergarteners reacted in present time. It would be helpful to maintain data around impact in learning as children progress to future grades.

Moreover, it is important to understand how students react once the digital badge is removed from a setting. The participants in this study engaged in details around how children reacted to the digital badge when it was present. A follow up study on the impact of absence after use of digital badges should be considered.

Additionally, it would be helpful to have comparative analysis information from similar classrooms paralleling results. This study looked exclusively at classrooms implementing badges. It is advisable to compare a non-badging classroom to a classroom using badges. It may also be helpful to compare two different schools with similar settings and demographics to determine the variations between traditional and badging assessments.

Conclusion

This qualitative, phenomenological study was conducted to analyze digital badge effects, observations, and achievement of badge implementation from the direct experiences of teachers and principals in one Northeast region suburban school district. Chapter 5 particularized on the key data derived from the study. Seven teachers and three principals participated in semistructured interviews and provided artifacts. The grade level, subject area, and qualitative

study fill the gap in understanding this new pedagogical tool. This study also fills the gap in understanding how children learn in the digital age in response to varied assessment tools.

Digital badges are a promising tool that may be a resolution toward mending the needs of our digital natives while embracing intrinsic motivation, engagement, connections, skill mastery, and growth. The digital badge experiences of the kindergarten teachers at three elementary schools in a state located in the Northeast region of the United States served to indicate strong success of implementation and student attainment.

This study revealed four main themes. Digital badges originated from a need for change. Digital badges created meaningful learning. Digital badges repainted the portrait: traditional assessment as opposed to badging. They were preferred over traditional assessments. Teachers and principals encountered challenges associated with the new pedagogy such as continuation to future grade levels and software concerns.

The digital badge emerged from teacher concern over assessment in combination with administrative support. Teachers voiced a need for more detailed grades and validation in skills. The kindergarten team collaborated and mapped out a progress plan appropriate for implementation of badges while meeting grade level standards. The emergence of the badge was believed to lighten the concerns of previous grade issues.

Digital badges were considered to be meaningful for their ability to intrinsically engage and lessen the achievement gap through the creation of individualizing in respect to relationships and strong engagement mechanisms. Personalized learning was recognized in this study. T5 summed this up as, "the badge tells the story of the child." Statements of individualized experiences were identified throughout the study. T3, said, "students see their success and have control of it." "Students take control of their learning and begin to care about their progress and

visualize goals" (T7). In over 30 statements it was articulated the ways in which digital badges created student-centered experiences. The digital badge was highly regarded by teachers in that it developed empowerment for their students.

The digital badge varied from traditional assessments in positive ways. Teachers preferred the mastery children gained from obtaining a badge. T4 explained, "you have to master the skill in order to get that badge. So I know, they can't almost be there. It's once you learn it, then you can have the badge." Strong mastery in learning set the badge apart from previous modes of assessment.

Participants explained that the iterative process developed a solid foundation for early readers. Teachers were able to offer a more detailed picture of the children's progress based on the metadata attached to each badge to inform instruction. T3 showed, "my small group instruction really changed entirely." While T1 aligned, "absolutely badging informs my lessons." The process developed strong impact on instructional design.

Finally, teachers showed concern over continuation to future grades. T2 shared, "the badge is something that I want to be more than just fun in kindergarten. When they are going to first grade and they have to go back to a report card that they don't understand." The participants explained that the model of digital badging was promising and held hope that their students could gain badges in first grade and moving forward.

The software was awkward and needed adjustments to save time and energy. T3 shared, "the system is complicated." T4 explained, "it's kind of hard to keep track of the digital component. I wish there was a way to narrow down the organizing." The teachers equally were seeking a platform that was user friendly.

The findings of this study provide insight into the world of digital badging in elementary schools. The digital badge is a tool that has little research or understanding with young learners (Abramovich, 2016). As a result, this study articulated how kindergarteners were observed with this tool and described in rich detail their encounters with it. The study presented an understanding of the lived experiences of those involved with badging as a way to increase intrinsic motivation, develop equitable experiences, improve school relationships, and create academic growth, student autonomy, and engagement.

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Appendix A: IRB Approval

DATE: June 27, 2018

TO: Amy Cooper, Ed.D
FROM: Concordia University - Portland IRB (CU IRB)

PROJECT TITLE: [1217455-2] How do kindergarten teachers perceive digital badges for
                                  reading attainment in a general education setting?
REFERENCE #:   EDD-20180423-Kluth-Cooper
SUBMISSION TYPE: Revision

ACTION: APPROVED
APPROVAL DATE: June 27, 2018
EXPIRATION DATE: June 13, 2019
REVIEW TYPE: Expedited Review

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

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

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

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

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

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

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of June 13, 2019.

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

Appendix B: Introductory E-mail to Participants

in the Northeastern School District

Hello Kindergarten Team,

Within in the next week you will be receiving an email from Concordia University-Portland, OR labeled-doctoral student: Amy Cooper. The email will confirm my contact with you for the doctoral study on the topic of teacher perceptions of digital badges. This is an initial invitation to participate in the study. You may opt out at any time. Your name and all identifying factors will remain anonymous and be password protected.

If you have any questions, please contact me.

Sincerely,

Amy Cooper

Phone number [redacted][email redacted]

Appendix C: Confirmation to Participate Agenda

Dear Participants,

Thank you for your willingness to be a part of this research study on digital badges. We will meet on X date via Zoom, an online collaboration tool. We will create a pseudonym together prior to the interview to avoid identification. All of the information you provide will be completely anonymous. The location of your school or district will not be identified; rather, the region will be referred to as the Northeast region of the United States. You may opt out of the study any time you wish.

Sincerely,

Amy Cooper

Appendix D: Demographic Information

Participant Demographic Information

Participant	Current Grade	Ethnicity Caucasian(C); Other/ Varied Ethnicity (O)	Years of Experience with Digital Badges in Kindergarten	Total Years in Education
T1	K	C	3	5
T2	K	O	3	6
T3	K	O	3	19
T4	K	C	3	14
T5	4	C	3	22
T6	K	C	2	5
T7	K	C	2	13
P1	K–5	C	3	20
P2	K–5	C	3	17
P3	K–5	C	3	22

Appendix E: Informed Consent Form

CONSENT FORM

Research Study Title: A Phenomenological Study: Teacher Perceptions of Digital Badges
in Kindergarten Reading Practices.
Principal Investigator: Amy Cooper
Research Institution: Concordia- Portland, OR
Faculty Advisor: Dr. David Kluth

Purpose and what you will be doing:
The purpose of this interview is to understand how digital badges work in your classroom. We expect approximately 8 volunteers. No one will be paid to be in the study. We will begin enrollment in June, 2018 and end enrollment in July, 2018. To be in the study, you will answer some open-ended questions about badging in your classroom. The study interview will take approximately 30-45 minutes. At the end of the interview you will be offered an email to send any artifacts such as worksheets, badge samples or letters explaining the badging system. Participants will also be given an opportunity to draw a picture of the badging program in their classroom. The entire process should not take more than an hour.

Risks:
There are no risks to participating in this study other than providing your information. However, we will protect your information. I will record interviews. The recording will be transcribed by me, the principal investigator, and the recording will be deleted when the transcription is completed. Any data you provide will be coded so people who are not the investigator cannot link your information to you. Any name or identifying information you give will be kept securely via electronic encryption on my password protected software and computer locked inside the cabinet in my office. The recording will be deleted as soon as possible; all other study documents will be kept secure for 3 years and then be destroyed.

Any personal information you provide will be coded so it cannot be linked to you. Any name or identifying information you give will be kept securely via electronic encryption. When we or any of our investigators look at the data, none of the data will have your name or identifying information. Your information will be kept private at all times and not visible for anyone to view other than myself, the principal investigator.

Benefits:
Information provided may help increase funding or grants within your district. The research may gain support of parents and administrators.
You could benefit from this by identifying learning outcomes and understanding practices that can impact your classroom.

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

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

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

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

_____   _____
Participant Name   Date

_____   _____
Participant Signature   Date

_____Amy Cooper_____   _____7/16/18___
Investigator Name   Date

_____   _____
Investigator Signature   Date

Investigator: Amy Cooper email: amycooper.ed.d@gmail.com
c/o: Professor Dr. David Kluth
Concordia University – Portland
2811 NE Holman Street
Portland, Oregon 97221

163

Appendix F: Interview Guide

Thank you for talking with me today. Please know your name will not be associated with this interview. Let's choose a pseudonym together. All transcribed data will be deleted after it is analyzed. There is no wrong or right way to answer the questions.

Opening Questions:

How many years have you been teaching?

How many years have you used digital badges?

Interview Questions:

1. What experiences have you observed with digital badges?

2. What observations have affected how you view digital badges?

3. What happens before, during, and after the use of a digital badge process?

4. What makes this evaluation tool a valid or invalid measure for students?

5. Explain how your teaching has or has not changed as a result of the digital badging process. Give specific examples.

6. How do the students feel about digital badges?

Closing:

If you had a magic wand what would you do with your current badging processes?

Also, here is a paper with two columns on it. One column requests that you create a picture to your best ability with perhaps student facial expressions engaged in a badging experience; on the other side provide a drawing of a traditional assessment with students' facial expressions. Again, this does not need to be a work of perfect art; rather, use the drawing in any way to show how you have observed traditional and digital badging assessments. There is room for a caption on each side. Please remember not to include any identifying information

Additionally, please provide any hard copy examples of the badges, letters to parents describing the badges, or any other paperwork that explains digital badges.

Closing Statement:

Please remember your responses are confidential and will not be reported as a response tied to your name.

You will receive an email of the transcript within the next week or so of your interview for you to approve.

Thank you for your participation.

Appendix G: Cognitive Representation Form

Cognitive Representation:

Please avoid any identifiable information.

Draw a 'snapshot' of what digital badges look like on the front side & on the back sketch

traditional assessments (If you were to take a quick photo what would you see?).

You may use captions.

Digital Badge

Artifact 1: Pacing Guide

Kindergarten Badge Progress

Name:

✔ = Badge has been earned.

Math						
Count to 10	Count to 20	Count to 31	Count to 50	Print 1-10	Print 1-20	Print 1-31
Print 1-50	Identify to 10	Identify to 25	Identify to 50	Identify to 100	Recite to 10	Recite to 25
Recite to 50	Recite to 100	Identify 2D shapes 1	Identify 2D shapes 2	Identify 2-D and 3-D	Add to 10	Subtract within 10

Reading						
Recite ABCs	Uppercase	Lowercase	Prints ABCs	Identify rhymes	Produce rhymes	Write a sentence
Read sentences	Name parts of book	Author/ Illustrator	Decode/blend words	Sight words 1	Sight words 2	Sight words 3
Sight words 4	Sight words 5	Letter sounds 1	Letter sounds 2	Letter sounds 3	Letter sounds 4	Letter sounds 5
Story retell						

Practical Skills						
First name	First/last name	Use scissors properly	Color within lines	Grip pencil properly		

Advanced						
Hard/soft consonants	Digraphs	Long/short vowels	Writes 2+ sentences	Recite to 150	Print to 100	Count to 100
Add to 20	Subtract within 20					

Artifact 2: Kindergarten Badges

REVISION: KINDERGARTEN BADGES

Identifies Rhyming Words	Identifies rhyming words	-assess using thumbs up, thumbs down –give sets of rhyming words (with all the different vowel sounds)	-put "Identifies Rhyming Words" in center (make smaller) and add pictures of two things that rhyme (example: box and fox)
Producing Rhyming Words	Producing rhyming words	*teacher says a set of words (with different vowel sounds) –child says a rhyming word for each	-put "Producing Rhyming Words" in the center (make smaller) and change the picture of speech bubble at the top (where the small pencils are) -add a picture of a large speech bubble in the center with two rhyming pictures (example: cat and hat)
Writes Complete Sentences	Writes complete sentence	-not dictated Use picture with word bank worksheets. Checklist: Capitalize the first word in a sentence and the pronoun I. Recognize and use end punctuation. Spell simple words phonetically. Includes spacing. *modify with a dictated sentence or a simple picture without word bank for struggling learners – teacher discretion	-add pictures of a period, exclamation mark, and question mark around the words

Artifact 3: Advanced Badge Example

REVISION: KINDERGARTEN BADGES

ADVANCED SKILLS: YELLOW Badges

Badge	Badge Name	Assessment Notes	Corrected Badge Picture
Hard and Soft Consonant Sounds C g X	Hard and Soft Consonant Sounds	Ask for first sound and second sound for the letters: c, g, x	Leave as is
th sh ch Digraphs wh ph	Digraphs	th, sh, ch, wh, ph -teacher discretion: either give sound and ask child for the digraph OR show digraph and ask child to say the sound	Leave as is
Long and Short Vowel Sounds	Long and Short Vowels Sounds	-show child the letter; ask for first and second sound	-change picture – eliminate all of the letters with the short and long vowel marks -put A, E, I, O, U around the words
Writes More Than One Complete Sentence	Writes more than one complete sentence	-not dictated Use picture with word bank worksheets. Checklist: Capitalize the first word in a sentence and the pronoun I. Recognize and use end punctuation. Spell simple words phonetically. Includes spacing. *modify with a dictated	Leave as is

Appendix I: Statement of Original Work

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

Statement of academic integrity.

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

Explanations:

What does "fraudulent" mean?

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

What is "unauthorized" assistance?

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

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

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- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (Continued)

I attest that:

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

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

Digital Signature:
Amy Cooper

Name (Typed):
Amy Cooper

Date:
11-7-18