5-14-2021

Creating Digital Content for the Individual Learner: A Personalized Approach to Online Learning

Genna Sengstacke McCurley

ACCEPTANCE

This dissertation, CREATING DIGITAL CONTENT FOR THE INDIVIDUAL LEARNER: A PERSONALIZED APPROACH TO ONLINE LEARNING, by GENNA SENGSTACKE MCCURLEY, was prepared under the direction of the candidate's Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Education, in the College of Education and Human Development, Georgia State University.

The Dissertation Advisory Committee and the student's Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty.

_____
Nicholas J. Sauers, Ph.D.
Committee Chair

_____
Sheryl Cowart Moss, Ph.D.
Committee Member

_____
Greg Middleton, Ph.D.
Committee Member

_____
Date

_____
Jennifer Esposito, Ph.D.
Chairperson, Department of Educational Policy Studies

_____
Paul A. Alberto, Ph.D.
Dean
College of Education and Human Development

AUTHOR'S STATEMENT

By presenting this dissertation as a partial fulfillment of the requirements for the advanced degree from Georgia State University, I agree that the library of Georgia State University shall make it available for inspection and circulation in accordance with its regulations governing materials of this type. I agree that permission to quote, to copy from, or to publish this dissertation may be granted by the professor under whose direction it was written, by the College of Education and Human Development's Director of Graduate Studies, or by me. Such quoting, copying, or publishing must be solely for scholarly purposes and will not involve potential financial gain. It is understood that any copying from or publication of this dissertation which involves potential financial gain will not be allowed without my written permission.

_____

Genna Sengstacke McCurley

NOTICE TO BORROWERS

All dissertations deposited in the Georgia State University library must be used in accordance with the stipulations prescribed by the author in the preceding statement. The author of this dissertation is:

Genna Sengstacke McCurley
Department of Educational Policy Studies
College of Education and Human Development
Georgia State University

The director of this dissertation is:

Nicholas J. Sauers, Ph.D.
Department of Educational Policy Studies
College of Education and Human Development
Georgia State University
Atlanta, GA 30303

CURRICULUM VITAE

Genna Sengstacke McCurley

ADDRESS: 30 Pryor Street SW
Atlanta, Georgia 30303

EDUCATION:

Ed.D.	2021	Georgia State University Educational Policy Studies
Specialist Degree	2016	Georgia State University Educational Leadership
Masters Degree	2012	Georgia State University Mathematics Education
Bachelors Degree	2008	University of Georgia Mathematics Education

PROFESSIONAL EXPERIENCE:

2014-Present	Assistant Principal Gwinnett County Public Schools
2008-2014	Teacher, Math Intervention Specialist Gwinnett County Public Schools

PROFESSIONAL SOCIETIES AND ORGANIZATIONS:

2020-Present	Georgia Association of Educational Leaders
2018-Present	International Society for Technology in Education
2006-2014	Georgia Council of Teachers of Mathematics

CREATING DIGITAL CONTENT FOR THE INDIVIDUAL LEARNER: A PERSONALIZED APPROACH TO ONLINE LEARNING

by

Genna Sengstacke McCurley

Under the Direction of Nicholas J. Sauers, Ph.D.

ABSTRACT

Online learning programs are becoming more and more popular; however, they are challenged with creating digital content catered to individual students' needs and interests (Ziphorah, 2014). The concept of personalized learning is not new but advancements in educational technology have increased the potential for online learning programs to implement personalized learning courses to meet the needs of individual learners. A review of the literature reveals that teachers can use technology to customize the learning experience for each student (Collins and Halverson, 2010), yet the school principal holds the power to execute new school-wide initiatives to embrace personalized learning through online courses (McLeod, Bathon, and Richardson, 2011). The purpose of this study was to examine the process of redeveloping digital content with personalized learning pathways with a focus on the role of the school principal. This study was guided by the following research questions: (1) what are the instructional leadership decisions and actions of an online school principal to launch the creation and development of

personalized digital content? (2) what are the course developers' perceptions of the impact of leadership behaviors on designing and implementing personalized digital content?

This qualitative case study was conducted in one district-led online school in a large urban school district in the Southeast region of the United States. Data were collected through interviews, observations, and a review of documents. Participants included the principal, an assistant principal, three technology coordinators, and three teacher/course developers. Data were organized into three pre-determined categories based on Hallinger and Murphy's (1985) instructional leadership framework - defining the school's mission, managing the instructional program, and promoting a positive school learning climate. Three key themes emerged from the data – (1) aligning the initiative with the school's goals, (2) providing necessary resources, and (3) empowering teachers and students. These three themes highlight the potential impact of online school principals on creating digital content with a personalized learning approach. Findings from this study contribute to the research on online learning, personalized learning, and instructional leadership.

INDEX WORDS: Digital content, Instructional leadership, Online learning, Online school, Personalized learning, Virtual school

CREATING DIGITAL CONTENT FOR THE INDIVIDUAL LEARNER: A PERSONALIZED APPROACH TO ONLINE LEARNING

by

GENNA SENGSTACKE MCCURLEY

A Dissertation

Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Education

in

Educational Leadership

in

Educational Policy Studies

in

the College of Education and Human Development

Georgia State University

Atlanta, GA

2021

DEDICATION

Words cannot express my gratitude for the unconditional love, support, and encouragement I have received from my family, friends, and colleagues. There are far too many individuals to name but you know who you are. But most of all, thank you to my husband and my parents. I dedicate this work to you and all fellow future educators!

ACKNOWLEDGEMNTS

First, I would like to thank my committee members for helping me through this process. Dr. Sauers, thank you for your ongoing support as an instructor, committee chair, and mentor. You have helped through every step of the way and never let me down. Next, thank you to Dr. Moss who has been a part of my journey long before starting this doctoral program. Your passion and enthusiasm for teaching and learning inspired me to continue my education. And, thank you to Dr. Middleton for your time and feedback.

I would also like to acknowledge my fellow members of Cohort VII. We have spent the last three years helping each other through each semester, each class, and each assignment to reach this point. Thank you for your friendship and ongoing encouragement!

Lastly, I would like to extend a heartfelt thank you to my colleagues at the "best online school in the nation", as well as the participants in my study who so willingly opened up to me with honesty and transparency. I hope that this work will make you proud!

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1

ONLINE LEARNING IN THE K12 ENVIRONMENT

Advancements in technology have impacted the evolution of education by offering new and innovative tools for enhancing the learning environment. Technology is becoming more accessible, creating more opportunities for educators to form alternative means for delivering effective teaching (Ziphorah, 2014). Many states and school districts have established online programs or virtual schools to offer students flexible options for receiving quality instruction through web-based learning management systems. While there is some research surrounding the implementation and effectiveness of online learning in K-12 schools, there is little research related to the principal's role in the development of online course content.

Statement of the Problem

The accessibility to online learning programs through the internet provides students with alternative options for course enrollment, especially for those students who are unable or choose not to take traditional face-to-face courses in the brick and mortar schools (Picciano & Seaman, 2009). Students have additional course choices and may benefit from the advantages of online courses. Online learning offers flexibility in scheduling with unlimited access to content and instruction.

However, inconsistent or low student achievement results could indicate that online learning does not meet the unique needs of all students. An examination of online courses reveals that standard courses follow a linear model where the same content is delivered in the same order from start to finish. This one-size-fits all model does not meet the needs of individual learners. The typical online curriculum does not offer differentiation based on individual student learning needs; personalized learning has the potential to help all students succeed. One way to meet the

needs of individual learners in online courses is to redesign the content using components of personalized learning. Personalized learning means to tailor learning to students' strengths, needs, interests, and experiences.

Although there is limited research on the effects of personalized online learning, some researchers suggest that personalized learning has the potential to increase student engagement and improve student achievement (Pane, Steiner, Baird, & Hamilton, 2015; Patrick et al., 2013; Bill & Melinda Gates Foundation, 2014). Teachers can use technology to customize student learning by incorporating individual interests and addressing specific challenges students may encounter by offering additional supports and tailored learning exercises (Collins and Halverson, 2010).

Personalized learning in the online setting is a relatively new phenomenon, and there is little, if any, research supporting the design of online course content with personalized learning. Existing online courses containing digital content and assessments can be redeveloped with personalized learning components to adapt to students' progress in the course (Bill & Melinda Gates Foundation, 2014). Course developers can use content restrictions and program mapping to use assessment data to navigate students through personalized learning pathways based on performance. Although using learning management systems as a means of personalization is useful, teachers still play a vital role as the analytical engine to monitor student progress and offer additional supports and interventions to achieve successful completion of the course (Staker & Horn, 2012). Furthermore, the research into the role of the principal and his or her impact on the development of online curriculum using personalized learning is limited.

Purpose of the Study

The purpose of this study is to understand the role of the principal in the creation and development of online course content using a personalized learning approach. Specifically, this study will examine the instructional leadership behaviors that promote and influence the creation of quality digital content. The results of this study will contribute to the research in the area of online learning and personalized learning for K-12 schools. The findings will inform district and school leaders on the principal's role in the online course development process.

Guiding Questions

The goal of this study is to explore the instructional leadership practices that are needed to initiate and support the development of personalized digital content. In so doing, this study is guided by the following research questions:

1. What are the instructional leadership decisions and actions of an online school principal to launch the creation and development of personalized digital content?
2. What are the course developers' perceptions of the impact of leadership behaviors on designing and implementing personalized digital content?

Review

Enrollment in online learning continues to increase with the development of new and innovative technology for education. In 2013, one report estimated that over half of American students were using technology for learning outside of school (National Center for Education Statistics, 2013). Many states and school districts have established online programs or virtual schools to offer students flexible options for receiving quality instruction. While there is some research surrounding the implementation and effectiveness of online learning in the K-12 setting,

there is little research related to principal's role in the development of online course content using a personalized learning approach.

This literature review will begin by examining the definition of online learning, the various models of implementation, research supporting the benefits and challenges of online learning, and resources for the implementation and evaluation of online learning. The next section will review the role of the online instructor and the design of online course content. The following section will focus on current research surrounding personalized learning. The final section will discuss the role of the principal and the theoretical framework for this study. This section will specifically address research related to instructional leadership.

Online Learning

Student-centered, collaboration, community, unboundedness, exploration, shared knowledge, and multisensory experience are just a few terms that could be used to describe online learning (Kearsly, 2000). The term online learning can be defined as a form of distance education whose primary defining characteristic is the separation of the teacher from the learner (Keegan, 1996). Watson, Winograd, and Kalmon (2004) defined online learning simply as "education in which instruction and content are delivered primarily via the Internet" (p. 95).

Paulsen (2002) provided a more elaborate description of online learning which is characterized by: the separation of teachers and learners, the structure and support of an educational organization, the use of a computer network to access digital content, and the ability to communicate through a learning management system so that students are able to communicate with each other, as well as teachers and staff. Furthermore, Ascough (2002) described online education with the following features: (a) it provides an individualized learning experience for different learners that is far different than that of a typical classroom setting, (b) communication

is through a computer rather than face-to-face, (c) participation through online activities are different, (d) the social dynamic among peers is changed, and (e) discrimination and prejudice is diminished. For the purpose of this study, online learning is simply defined as virtual courses where all content is accessible through the internet.

Models of online learning.

Several labels are used to identify K-12 online learning programs such as virtual schools, online schools, and cyber schools. Clark (2001) defined a virtual school as "an educational organization that offers K-12 courses through Internet- or Web-based methods" (p. 1). Virtual schools deliver all content, instruction, and communication through the internet, typically asynchronously with students at home and teachers working from a remote location (Molnar et al., 2017). In addition to the variety of online learning programs, there is also a variety of implementation models for online courses. Students have the option to enroll in virtual schools as full-time students, or they may choose to take up to five courses as a supplemental option.

Online learning includes a wide range of educational resources, activities, and tools that are delivered via the Internet (Watson et al., 2014). Bates and Poole (2003) described online learning as a continuum based on the level of technology integration. Programs can be classified by the following: (a) no online learning, i.e. no use of computers and/or the internet for teaching and learning, (b) the use of some online content for instructional resources, i.e. providing direct instruction through a course web site or learning management system, (c) laptop programs, i.e. students are provided laptops in class and use them as part of a face-to-face class, (d) hybrid learning, i.e. face-to-face classroom instruction is reduced but not eliminated, with more time devoted to online learning, (e) fully asynchronous online learning, i.e. students receive all instruction through digital content with no real-time interaction with teachers (Bates and Poole,

2003). Allen and Seaman (2006) narrowed it down to just three categories: i) online – most or all of the content is delivered online, ii) blended/hybrid – both online and face-to-face delivery, and iii) web-facilitated – use of web-based technology. This study will focus on asynchronous online courses with fully developed digital content.

Benefits of online learning.

Online learning opportunities can meet the specific needs of individual students while reducing scheduling conflicts for students in brick and mortar schools. Students may elect to participate in online learning for a variety of reasons. Donlevy (2003) asserted that online learning programs might help schools expand their course offerings at less cost and can help students gain important technology skills to improve their college and career readiness. Online learning programs may offer courses not otherwise available at the school such as block courses, trailer or off-semester courses, and AP courses. Students are no longer limited to the traditional course sequence, and they can accelerate their learning with access to advanced courses.

Online learning options also allow students who previously failed a course the opportunity to take it again. Clements, Pazzaglia, and Zweig (2015) found that one of the primary reasons for offering online courses to high school students has been the need to recover credits in order to meet graduation requirements. Students who are not successful in the traditional education setting may choose to enroll in online courses as an alternative approach to learning. Heppen et al. (2012) concluded that "as schools across the nation struggle to keep students on track and re-engage students who are off track, online learning has emerged as a promising and increasingly popular strategy" (p. 1).

Collins and Halverson (2010) explained the importance of how technology can personalize student learning experiences by addressing the specific interests and difficulties

students may encounter. Students with medical or behavior issues may find online learning as an appropriate alternative to attending the brick and mortar school. Students with disabilities who qualify for classroom accommodations may find online learning options as an effective setting. There are some accommodations that are naturally built into online courses such as small or individual grouping and flexible or extended time.

Many researchers recognize the flexibility that online learning offers as a great benefit for students who enroll in online courses (Petrides, 2002; Schrum, 2002). Online courses provide flexible learning opportunities for students without limitations to time and space. Online learning allows students the ability to learn at their own pace, choose different locations to do their work, and select a flexible time to complete assignments (Sorenson, 2012). This level of flexibility is ideal for students who are engaged in a time-consuming pursuit outside of school, such as sports or competitive arts. With this flexibility, students have the option to engage in online learning at school or at home. Convenience is another advantage reported in online learning research (Poole, 2002). Students essentially have 24/7 access to digital content so long as they have access to a device with an internet connection.

Challenges of online learning.

Although online learning programs are designed for all students, some aspects of these courses may not be suitable for all learners. Sorenson (2012) explains that the flexibility of online learning is not ideal for students who require face-to-face interaction, communicate poorly online, lack discipline and time management, and lack a minimum level of technology skills. In the online setting, the responsibility for learning relies on the student with the teacher acting as a facilitator (Kennewell et al., 2008). Garrison et al. (2004) also acknowledged that online learners must take more responsibility for their learning, adjust to a new learning environment, adjust to

new communication methods, learn how to participate and engage virtually, apply ideas or concepts, and stimulate their curiosity to be successful in an online class.

Many factors may influence a student's online learning experience. Song, Singleton, Hill, and Koh (2004) conducted a study on students' perceptions of useful and challenging components in online learning and found concerns with difficulty understanding learning objectives, lack of community, and technical issues during their online learning experiences. Some other factors of online learning identified by other researchers are learner characteristics (Howland & Moore, 2002) and the design of the learning environment (Song et al., 2004).

Resources for online learning.

There have been various tools developed over time to assist schools and teachers with the implementation of online and blended learning programs. Technology is constantly improving and, therefore, the standards for teaching in an online or blended format will continue to conform to new technologies. The National Education Association (NEA) created the Guide to Teaching Online Courses to assist school administrators and policymakers with selecting, hiring, training, and supporting teachers in the online environment. In 2006, the Southern Regional Education Board (SREB) published the Standards for Quality Online Teaching to assist district and school leaders to develop and evaluate online learning programs. This document provides a description of each standard and sample teacher indicators. Using the prior work from NEA and SREB, the International Association for K-12 Online Learning (iNACOL) created the National Standards for Quality Online Courses which are based on best practices with a goal to "provide a working framework of the characteristics of emerging blended learning and a multi-stage process of defining high-quality blended learning in the future" (iNACOL, 2011, p. 8). The standards include specific components on content, instructional design, student assessment, technology,

and course evaluation and support (iNACOL, 2011). This document is designed to be used as a rubric to assist school leaders with the evaluation of online elements of blended learning courses (iNACOL, 2011).

The Role of the Online Instructor.

It is important to understand the shift in the teacher's role by taking into account the online components of this teaching style to prepare teachers for the online learning environment. There are obvious differences between teaching online as opposed to teaching face-to-face. Knowlton (2000) argued that instructors no longer amount to a lecturer, a presenter, or a dictator; instead, they serve students in the role of a coach, a counselor, a mentor, and a learning facilitator.

There are many studies that have examined the role of the instructor in an online setting. Cho and Cho (2014) acknowledged that online instructors' promotion for student interaction within the course framework had a positive influence on students' behavioral and emotional engagement. Hsieh (2010) interviewed online instructors and examined various components such as interactive activities, evaluation criteria, and self-expectations in the online learning environment. Similarly, Liu, Bonk, Magjuka, Lee, and Su (2005) conducted interviews with 28 faculty members and reviewed four main scopes of the online instructor's role: pedagogical, managerial, social, and technical. These studies suggest that in order to provide effective and engaging instruction in the online and blended environment, the teacher's role must shift pedagogically, socially, and technologically.

Furthermore, Lim and Lee (2008) suggest that teachers in a computer-based learning environment should develop technical, managerial, and facilitative skills. Wilson, Ludwig-Hardman, Thornam, and Dunlap (2004) identified five tasks that online instructors should

perform: (1) provide a learning-oriented infrastructure that comprises syllabi, calendars, communication tools, and instruction resources; (2) model various strategies for effective participation, collaboration, and learning; (3) monitor and assess students' learning and providing them feedback, remediation, and grades; (4) troubleshoot and resolve instructional, interpersonal, and technical problems; and (5) create a learning community characterized by an atmosphere of trust and reciprocal concern.

Kim and Bonk (2006) argued that the most important skills for online or blended teachers are moderating or facilitating learning and developing or planning for high-quality online instruction. On the other hand, Liu et al. (2005) emphasized the online instructors' pedagogical roles, including designing the online course structure and content, promoting social interactions and discussions, and providing prompt feedback. However, it is clear that online and blended learning teachers carry out a wide array of roles to various degrees.

Online and blended learning environments tend to incorporate some form of online or virtual discussion to promote student interactions. This element will require the teacher to facilitate these class discussions in a new format properly. Mazzolini and Maddison (2007) conducted a study to evaluate the instructor’s role in online discussion boards and their impact on student engagement. They considered aspects such as the instructor’s participation rates, the timing of their postings, and the nature of these postings. The results conclude that the instructor’s efforts to post on the discussion boards could influence students' discussions and participation in the discussions. Cho and Cho (2014) completed a study involving 158 college students and found that the instructor’s role as a facilitator for student interactions had a direct impact on creating a positive online learning environment.

There have been additional studies that explore how the instructor's characteristics, beliefs, attitudes, and behaviors can influence online courses. Liaw, Huang, and Chen (2007) used questionnaires to gather data from 30 instructors and 168 college students and found that the instructors had very positive attitudes toward online learning, specifically in regards to self-efficacy, enjoyment, and usefulness. In a similar study, Arbaugh (2010) found that the instructor's behavior is an important factor in the improvement of student achievement. They identified teaching presence and direct behaviors as the primary factors for students' perceived learning and satisfaction with the online learning experience. Ultimately, Arbaugh (2010) concluded that online instructors should dedicate their attention to student engagement throughout the duration of the course, which would require them to create the course content ahead of time or use previously created content.

Some research studies have examined the use of the Internet in the educational setting. Claudia, Steil, and Todesco (2004) found that the proper implementation of Internet tools and resources could engage and motivate students in the learning process. Yet, some studies have shown that teachers do not have the time, proper training, or support to use Internet tools to enhance the learning experience effectively. Mahdizadeh, Biemans, and Mulder (2008) found that teachers primarily used online tools for course news, announcements, and presentation of course content through PowerPoint. Although this study did not represent advanced online instruction, it highlights a common theme that teachers in traditional settings tend to use basic technology and online tools even though there are more innovative tools available to enhance the learning experience. It is essential to understand the instructor's role in the online learning environment and remove any barriers such as lack of training and support to prepare teachers to be effective in the online and blended learning environment.

Instructional Design.

The development and design of online courses is crucial for the effectiveness of the program. Anderson, Rourke, Garrison, and Archer (2001) emphasized that instructors who are involved with the development of online courses prior to the course beginning will gain a clear understanding of the process, structure, evaluation, and interaction components of the courses. Similar to traditional classes, online instructors should establish clear guidelines for student participation and should provide students with information about course expectations and procedures (Bailey & Card, 2009). Furthermore, to effectively integrate technology tools and resources into a course, online and blended teachers should provide students with the appropriate information and access to course materials, websites, and supplemental materials at the beginning of the course (Bailey & Card, 2009). By taking proactive steps to prepare and equip students with the necessary resources for online or blended courses, students will be able to take on more responsibility for their own learning, become more acquainted with course materials, engage in deeper collaboration in the learning process, and thus partake in a positive online learning experience (Heuer & King, 2004).

In a study using a sample of 1067 students across 32 different colleges, Shea, Li, and Pickett (2006) found that students reported having a greater experience within an online learning community when the instructor developed a course with an effective instructional design and organization. Part of the online instructor's role and responsibility is coordinating learning activities and developing the overall course structure. Online teachers can improve the quality of the course and facilitate a positive learning experience for students by providing clearly structured content and explicitly stating course expectations within an appropriate timeframe (Liu et al., 2005).

Online Discussions.

In the online setting, class discussions take on a new form. Rovai (2007) identified online discussion boards as the primary method to facilitate classroom discourse within an online learning environment. Hara, Bonk, and Anjeli (2000) suggested that online discussions can provide a digital record of student interactions, questions and answers, comparisons and debates over content, and feedback from the instructor. The idea of having a sort of written log of classroom discussions can promote meaningful processing of information with no limitations to time and place.

Other research shows that online discussions encourage students to reflect on their own learning (MacKnight, 2000), improve their critical-thinking skills (Jeong, 2003), and strengthen their metacognitive skills (McDuffie & Slavit, 2003). However, these results are depending on the role of the instructor. Online and blended learning instructors should seek and implement effective strategies for facilitating online discussions with the purpose to promote student motivation and encourage student engagement in meaningful online discussions (Rovai, 2007). Teachers who take an active role in facilitating online discussions are assessing student comments, giving specific feedback, sharing opinions with students, guiding and redirecting the conversation, asking questions of students, encouraging students to consider new ideas, keeping students on topic, engaging students who are withdrawn, and periodically praising students for their contributions to the discussion (Arbaugh, 2010).

Arbaugh (2001) added that online instructors can attract students' attention during online discussions by incorporating personal examples, providing supplemental audio and video clips, and even inserting the occasional emoticon to add humor and flair. One of the biggest challenges of teaching in an online or blended learning environment is reducing the distance between the

teachers and the students; however, there many tactics and behaviors that instructors can use when interacting with students in a virtual setting to overcome this obstacle.

Promoting Interaction.

In the online learning environment, instructors must be aware and intentional with creating opportunities for social interactions and developing relationships with students in this virtual reality. Bailey and Card (2009) encourage online teachers to express their passion for teaching, empathy for students, and their desire to help students be successful through open communication and initiating contact. Unfortunately, Yuan and Kim (2014) discovered having a lack of interaction between teachers and students could lead to students' feelings of isolation, and even more, it may contribute to the dropout rates for online and blended learning programs. Online instructors can avoid these issues by creating and facilitating an online community of learners built on trust, openness, and the desire to learn.

Using Rovai's (2007) Classroom Community Index, Shea et al. (2006) investigated students' levels of connectedness in online classes. They found that online instructors should acknowledge and reinforce students' contributions to class discussion and, thus, students will feel confident in their knowledge and feel a stronger sense of community. Kang and Imt (2013) suggested that instructors can predict learners' outcomes and satisfaction in online learning environments through constant and consistent interactions. On the other hand, they also discovered that social interaction such as social intimacy could negatively impact students' perceived learning achievements and overall satisfaction of the course.

Technology.

Another element of the successful and effective implementation of online and blended learning is associated to appropriate use of technology (Bailey & Card, 2009). Over time,

teachers have made efforts to integrate technology into the teaching and learning process (Roby, Ashe, Singh, & Clark, 2013). For instance, some researchers found that simply using blogs for online student collaboration and reflection to be an effective form of technology integration (Martindale & Wiley, 2005).

However, a problem arises when instructors lack confidence and training with the available technological tools that are being developed for the educational setting (Condie & Livingston, 2007). Teachers may be reluctant to learn to use information and communication technology for teaching if they are not aware of the benefits and potential impact on the teaching and learning experience. This evidence of reluctance and unwillingness from the instructors raises concerns about their previous experiences and exposure, or lack thereof, to educational technologies (Condie & Livingston, 2007). Brill and Galloway (2007) suggested that school and district leaders should provide instructors with research and evidence demonstrating the impact that educational technologies can have on the learning experience. This will not only inform them of the possibilities, but also foster optimistic attitudes and feelings to make them more willing and comfortable with trying new approaches to teaching with technology. In fact, Berge (1995) suggested that online instructors need to have knowledge, skill, and comfort in using and applying technological tools to be effective in the online learning environment. Online instructors' technical roles require them to support students with technical tools and resources, addressing technical questions and concerns, diagnosing and resolving technical issues or problems, and providing students with time to learn and explore new technologies. It is evident that technology can enhance the learning experience and create opportunities for reflective and collaborative learning; however, it depends on the instructor to become comfortable and

proficient with technology and have the ability to instill that level of comfort and skill to their students (Liu et al., 2005).

Student Assessment.

In traditional classroom settings, assessments typically apply a standardized procedure to all students in a controlled setting within a specific time and location. On the other hand, course assessments in an online environment can utilize a completely different process than those in a traditional classroom environment (Azza, 2001). Bransford, Brown and Cocking (1999) suggest that online and blending learning that are student-centered should incorporate assessments and evaluations that are designed in a manner that emphasizes the student's thinking and processing of information.

There are challenges with online testing concerning academic honesty and identity security. Rovai (2007) presented an issue with students searching the internet for relevant materials, finding it, copying it, pasting it into a document, and then passing it off as their original work. Liu, Lo, and Wang (2013) confirmed this idea that the internet has created a pool of information that students can easily access and copy text. Plagiarism has become a severe problem for assessing and evaluating student learning in an authentic way.

Another concern with online testing is created by the flexibility of timing. Online instructors are not able to enforce and monitor students testing at the same time, which creates the opportunity and risk of students cheating with one another (Olt, 2002). If a specific timeframe is not enforced, then students who complete the test earlier than others can share the questions and answers to other students. Therefore, administering classroom assessments in an online environment can be quite challenging for teachers when students are not being assessed in a controlled environment.

Webb, Gibson, and Forkosh-Baruch (2013) recognized the need for different evaluation tools and assessment techniques to properly measure student learning in the online environment. While online learning environments enable to instructors to offer individualized instruction, technology advancements can also provide instructors with tools to create personalized measures to assess students' attainment of knowledge and skills (Yeh, 2010). Assessments are no longer limited to typical paper and pencil formats. Online instructors can use technology to develop creative forms of assessment such as e-portfolios, digital media presentations, and simulations (Clarke & Dede, 2010). Similarly, Rovai (2007) recommended that online instructors use various effective assessment strategies such as projects, weekly assignments, portfolios, peer evaluations, and self-assessments in combination with immediate feedback. Robles and Braathen (2002) even suggested that assessments in the online learning environment could be ongoing to allow students more time to develop new knowledge and demonstrate a deeper understanding of the concepts and their relationships. Thus, developing alternative and authentic forms of assessment to effectively evaluate student performance is an important responsibility for online teachers.

Student Achievement in Online Learning.

Related research shows inconsistent and sometimes contradictory results for the effectiveness of online learning. Many comparative studies examine student performance in online education against student performance in face-to-face classrooms. Some studies indicate higher student achievement (McLeod, Hughes, Brown, Choi, and Maeda, 2005), and some show lower student performance (Cavanaugh, 2001; Cavanaugh, Gillan, Kromrey, Hess, & Blomeyer, 2004), while others show no significant difference (Phipps & Merisotis, 1999; Russell, 1999). Furthermore, many of these studies struggle with controlling other variables that may affect student achievement.

Personalized Learning

Personalized Learning (PL) has become a popular term in education today and has been described with many definitions. Numerous descriptions include key concepts and ideas such as competency-based progression, standards-aligned, student needs, student interests, student ownership, socially embedded, formative assessments, and flexible learning environments. The Bill and Melinda Gates Foundation (2014) offers a Personalized Learning model with four major components: (a) learner profiles – including student strengths, weaknesses, interests, and goals; (b) personal learning paths – customizable learning opportunities targeting students' needs; (c) competency-based progression – continuous assessment of students' progress toward learning goals; and (d) flexible learning environment – access to content and resources without limits to time and space. For the purpose of this study, personalized learning is defined as "a technology-based instructional model designed to tailor instruction to student needs, strengths, and interests to promote mastery of skills and content" (Bingham et al., 2018, p.455).

The ultimate goal of a personalized approach to teaching is to allow students to be active participants in setting learning goals, navigating learning paths, and tracking their progress (Ray et al., 2017). Yet, personalized learning models create a shift in the typical teacher's role. Jenkins and Keefe (2002) suggest that personalized learning expands the teacher role to that of a "learning coach" (p.4). Additionally, digital content and formative assessments that can adapt to learners' progress appear to be key components of an effective PL model (Bill & Melinda Gates Foundation, 2014; Ray et al., 2017).

Despite the growing popularity surrounding the idea of personalized learning, there is limited empirical research on the implementation and effectiveness of school-wide PL models. Most of the current literature focuses on the characteristics of the various learning models (Ray

et al., 2017); yet, some research examines the impact on student achievement. Based on a study by the RAND Corporation (Pane et al., 2015), researchers found that results suggest that the effects of personalized learning on student achievement are "promising" (p. 8). On the other hand, related research reveals challenges, such as time and cost, associated with implementing PL models (Bingham, 2016). These components are unique to each school and district; however, it is important to address them in each context.

The Role of the Principal

The school principal is responsible for approving and supporting the implementation of new initiatives to improve teaching and learning. Many researchers agree that effective leadership is second only to teaching when considering factors that contribute to student learning and academic performance (Leithwood, 1994). School principals are expected to be instructional leaders, focusing both on the daily operations of schools and ensuring the academic success of students (Bryk et al., 2010).

School leadership is essential in every educational context; however, new learning environments such as online schools may require different skills and priorities when it comes to effective school leadership. There is little research surrounding the role of the online school principal (McLeod and Richardson, 2011) but some researchers suggest that online school principals may be required to do different tasks than those at traditional schools (Beck, LaFrance, and Richardson, 2014). Furthermore, online school leaders may face different challenges than those experienced in the brick-and-mortar schools.

In 2001, the International Society of Technology in Education (ISTE) launched the development of a series of standards called National Educational Technology Standards (NETS) (ISTE, 2002). The purpose of these standards were to provide a nationally agreed upon and

recognized list of standards for educators. ISTE began with the development of technology literacy standards for students called the National Educational Technology Standards for Students (NETS-S), as well as technology standards for teachers called the National Educational Technology Standards for Teachers (NETS-T). ISTE also developed technology standards for school leaders, known as National Educational Technology Standards for Administrators (NETS-A). These standards were developed by the Technology Standards for School Administrators (TSSA) collaborative, which included representatives from national leader organizations such as American Association of School Administrators (AASA), National Association of Elementary School Principals (NAESP), National Association of Secondary School Principals (NASSP), and National School Boards Association (NSBA).

The original NETS-A established in 2002 were organized in six categories: leadership and vision; learning and teaching; productivity and professional practice; support, management, and operations; assessment and evaluation; and social, legal, and ethical issues (ISTE, 2002). These standards have been updated twice since their initial inception to address the rapid changes in educational technology, instruction, and learning environments. The most recent version has been updated to address more current issues surrounding teaching and learning in this digital age. The 2018 ISTE Standards for Education Leaders are grouped by five subscales: equity and citizenship advocate; visionary planner; empowering leader; systems designer; and, connected learner (ISTE, 2018). For each of the five subscales, performance indicators are included to further describe each theme.

Instructional Leadership.

Many theories have been developed to explain educational leadership approaches and behavioral styles. Instructional leadership is one of the most commonly used theories in

educational research, as measured by the number of empirical studies (Hallinger, 2005). Unlike many other educational leadership models, instructional leadership focuses explicitly on the way in which the leadership practices exercised by school administrators and teachers produce improved educational outcomes (Leithwood & Jantzi, 1999; Southworth, 2002).

Many researchers have attempted to define instructional leadership and explain what an instructional leader does. Hallinger and Murphy (1985) summed it up as "anything and everything" to support teaching and learning. Leithwood (1994) described instructional leadership as any behavior, decision, or act that impacts classroom instruction. According to Krug (1992), instructional leadership involves "the strategic application of knowledge to solve content specific problems and to achieve the purposes of schooling through others" (p. 5). Hallinger (2005) suggests the principal is responsible for ensuring that the school has a clear mission centered on student achievement, managing and coordinating daily operations of the school to promote teaching and learning, and developing a school climate characterized by high expectations and continuous quality improvement.

McLeod, Bathon, and Richardson (2011) state that school administrators should initiate educational reform within their schools. As instructional leaders, principals can endorse and encourage changes in instructional models. Principals are accountable for initiating, developing, and facilitating positive attitudes toward change in schools. Hall (2010) suggested that change leadership plays a critical role in the implementation of new ideas through three approaches: initiators, managers, and responders. Organizational change is defined as the implementation of a new idea or behavior by an organization (Daft, 1982). Many researchers agree that leadership is an imperative factor in effective school change (Leithwood, 1994).

The principal must possess the necessary skills to implement change successfully. The principal's ability to establish a shared vision, model best practices, and embrace instructional technology is key to effective technology integration (Gosmire & Grady 2007). Kozloski (2006) explains that school leaders must understand that technology integration is not about the technology itself; it is about focusing on the impact technology has on the learning experience by allowing teachers to incorporate 21st century skills to meet the needs of students. Teachers often rely on the principal's input about technology use for teaching and learning (Dexter, 2008). Principals' perceptions and actions impact the implementation of technology and technology-based programs within the school. Leonard and Leonard (2006) concluded that "most of the literature on leadership and technology either explicitly or implicitly places the ultimate responsibility for the use of educational technology in the purview of the principal" (p. 215).

Fullan (2001) described the principal as "the gatekeeper of change" and acknowledged that principals play a critical role in the successful implementation of new initiatives. Securing the necessary resources for technology integration is the responsibility of the school principal. Principals must consider the allocation of funds to provide for innovative technologies, designated staff for supervision, and dedicated space for online learning. Educational technologies require financial commitment to maintaining subscriptions, extensive staff development for facilitators, and ongoing support for students and instructors (Gosmire & Grade, 2007). Schools leaders must commit to long-term strategic plans that support new programs through the change process. Recurring costs, staff support, and technology resources associated with the implementation of online learning initiatives should also be included in the plan (Gosmire & Grade, 2007).

Summary

With the increasingly rapid production of new technologies, change is inevitable for schools to be successful. Schools must change and evolve to meet the needs of students in the 21st century culture. The role of the principal has expanded to address the varying needs of schools. Offering students new opportunities for learning is one of these responsibilities. Schools can provide more engaging and individualized learning experiences through technology implementation. Leaders must embrace change leadership practices with the dimensions of instructional leadership to effectively manage and evaluate online instructional programs.

References

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conference context. *Journal of Asynchronous Learning Networks, 5*(2), 1-17.

Allen, I. E., & Seaman, J. (2006). *Making the grade: Online education in the United States 2006*. Retrieved June 11, 2019 from https://immagic.com/eLibrary/ARCHIVES/GENERAL/SLOANCUS/S061118A.pdf

Arbaugh, J. B. (2010). Sage, guide, both, or even more? An examination of instructor activity in online MBA courses. *Computers & Education, 55*(3), 1234-1244.

Archambault, L., Kennedy, K., Shelton, C., Dalal, M., McAllister, L., & Huyett, S. (2016). Incremental progress: Re-examining field experiences in K-12 online learning contexts in the United States. *Journal of Online Learning Research, 2*(3), 303-326.

Ascough, R. S. (2002). Designing for online distance education: Putting pedagogy before technology. *Teaching Theology and Religion, 5* (1), 17-29.

Azza, A. A. (2001). Learning from the Web: Are students ready or not? *Journal of Educational Technology & Society, 4*(4), 32-38.

Bailey, C. J., & Card, K. A. (2009). Effective pedagogical practices for online teaching: perception of experienced instructors. *Internet and Higher Education, 12*(3-4), 152-155.

Bates, A. W., & Poole, G. (2003). *Effective teaching with technology in higher education*. San Francisco, CA: Jossey-Bass.

Beck, D., LaFrance, J., & Richardson, J. W. (2014). *Voices of virtual school leaders: Challenges and advice.* Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

Berge, Z. L. (1995). Facilitating computer conferencing: recommendations from the field. *Educational Technology, 15*(1), 22-30.

Bill & Melinda Gates Foundation. (2014*). Early progress: Interim research on personalized learning.* Seattle, WA: RAND Corporation.

Bingham, A. J. (2016). Drowning digitally? How disequilibrium shapes practice in a blended learning charter school*. Teachers College Record, 118*(1), 1-30.

Bingham, A., Pane, J., Steiner, E., & Hamilton, L. (2018). Ahead of the curve: Implementation challenges in personalized learning school models. *Educational Policy 32*(3), 454-489.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811.

Brill, J. M., & Galloway, C. (2007). Perils and promises: University instructors' integration of technology in classroom-based practices. *British Journal of Educational Technology, 38*(1), 95-105.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999*). How people learn: Brain, mind, experience, and school*. National Academy Press.

Bryk, Anthony S., Penny Bender Sebring, Elaine Allensworth, John Q. Easton, and Stuart Luppescu (2010). Organizing Schools for Improvement: Lessons from Chicago. Chicago: University of Chicago Press.

Cavanaugh, C. (2009). *Getting students more learning: Distance education in support of expanded learning time in k-12 schools*. Retrieved from http://www.americanprogress.org/issues/2009/05/distance_learning.html

Cavanaugh, C. S. (2001). The effectiveness of interactive distance education technologies in K–12 learning: A meta-analysis. *International Journal of Educational Telecommunications, 7*(1), 73–88.

Cavanaugh, C. S., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (2004). *The effects of distance education on K–12 student outcomes: A meta-analysis*. Naperville, IL: Learning Point Associates.

Cho, M. H., & Cho, Y. J. (2014). Instructor scaffolding for interaction and students' academic engagement in online learning: mediating role of perceived online class goal structures. *Internet and Higher Education, 21*, 25-30.

Clarke, J., & Dede, C. (2010). Assessment, technology, and change. *Journal of Research in Teacher Education, 42*, 309-328.

Clark, T. (2001). *Virtual schools: Trends and issues - A study of virtual schools in the United States*. San Francisco, CA: Western Regional Educational Laboratories. Retrieved June 20, 2019 from http://www.wested.org/online_pubs/virtualschools.pdf.

Claudia, M., Steil, A., & Todesco, J. (2004). Factors influencing the adoption of the Internet as a teaching tool at foreign language schools. *Computers and Education, 42*(4), 353-374.

Clements, M., Pazzaglia, A. M., Zweig, J. (2015). Online course use in New York high schools: Results from a survey in the greater capital region. REL 2015-075. *Regional Educational Laboratory Northeast & Islands.* Retrieved June 13, 2019 from https://ies.ed.gov/ncee/edlabs/regions/northeast/pdf/REL_2015075.pdf.

Collins, A., & Halverson, R. (2010). The second educational revolution: rethinking education in the age of technology. *Journal of Computer Assisted Learning, 26*(1), 18–27. https://doi.org/10.1111/j.1365-2729.2009.00339.x

Condie, R., & Livingston, K. (2007). Blending online learning with traditional approaches: changing practices. *British Journal of Educational Technology, 38*(2), 337-348.

Daft, R. L. (1982). Bureaucratic versus nonbureaucratic structure and the process of innovation and change. *Research in the sociology of organizations, 1*, 129-166.

Darke P, Shanks G, Broadbent M. (1998). Successfully completing case study research: combining rigour, relevance and pragmatism. *Information Systems Journal. 8*(4), 273-289.

Dexter, S. (2008). Leadership for IT in schools. *International handbook of information technology in primary and secondary education, 20*, 541-554. doi: 10.1007/978-0-387-73315-9

Donlevy, J. (2003). Online learning in virtual high school. *International Journal of Instructional Media, 30* (2), 117-122.

Fullan, M. (2002). Principals as leaders in a culture of change. *Educational leadership,* May, 2002.

Garrison, B., Cleveland-Innes, M. & Fung, T. (2004). Student role adjustment in online communities of inquiry: Model and instrument validation. *Journal of Asynchronous Learning Network, 8*(2), 61-74.

Gosmire, D., & Grady, M. L. (2007). A bumpy road: Principal as technology leader. *Principal Leadership, 7*(6), 16-21.

Hall, G. E. (2010). Technology's Achilles heel: Achieving high-quality implementation. *Journal of Research on Technology in Education, 42*(3), 231–253.

Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools, 4*(3), 221–239. https://doi.org/10.1080/15700760500244793

Hallinger , P., Murphy, J. (1985). Assessing the instructional management behavior of principals. *The Elementary School Journal, 86*(2), 217–247.

Hara, N., Bonk, C. J., & Anjeli, C. (2000). Content analysis of online discussions in an applied educational psychology course. *Instructional Science, 28*, 115-152.

Heppen, J., Allensworth, E., Walters, K., Pareja, A., Kurki, A., Nomi, T., & Society for Research on Educational Effectiveness, (2012). Efficacy of online algebra I for credit recovery for at-risk ninth grade students: Evidence from year 1. *Society for Research on Educational Effectiveness*.

Heuer, B. P., & King, K. (2004). Leading the band: the role of the instructor in online learning for educators. *Journal of Interactive Learning Online, 3*(1).

Howland, J.L. & Moore, J.L. (2002). Student perceptions as distance learners in Internet-based courses. *Distance Education, 23*(2), 183-196.

Hsieh, P. H. (2010). Globally-perceived experiences of online instructors: a preliminary exploration. *Computers & Education, 54*, 27-36.

International Association for K-12 Online Learning (iNACOL). (2011). *National standards for quality online courses* (Version 2). Retrieved from http://www.inacol.org/wp-content/uploads/2015/02/national-standards-for-quality-online-courses-v2.pdf

International Society for Technology in Education. (2002). *ISTE national educational technology standards (NETS)*. Retrieved from http://cnets.iste.org/administrators/a_stands.html.

International Society for Technology in Education. (2018). *ISTE standards for education leaders*. Retrieved from http://cnets.iste.org/administrators/a_stands.html.

Jeong, A. (2003). Sequential analysis of group interaction and critical thinking in online threaded discussions. *The American Journal of Distance Education, 17*(1), 25-43.

Kang, T., & Imt, T. (2013). Factors of learner-instructor interaction which predict perceived learning outcomes in online learning environment. *Journal of Computer Assisted Learning, 29*, 292-301.

Kearsley, G. (2000). *Online education: Learning and teaching in cyberspace*. Belmont, CA: Wadsworth.

Keegan, D. (1996). *Foundations of distance education*. London: Routledge.

Kennedy, K., & Archambault, L. (2012). Offering Preservice Teachers Field Experiences in K-12 Online Learning. *Journal of Teacher Education, 63*(3), 185-200.

Kennewell, S., Tanner, H., Jones, S., & Beauchamp, G. (2008). Analyzing the use of interactive technology to implement interactive teaching. *Journal of Computer Assisted Learning, 24*(1), 61-73.

Kim, K.-J., & Bonk, C. J. (2006). The future of online teaching and learning in higher education: the survey says. *Educause Quarterly, 29*(4), 22-30.

Knowlton, D. S. (2000). A theoretical framework for the online classroom: a defense and delineation of a student-centered pedagogy. *New Directions for Teaching and Learning, 84*, 5-14.

Kozloski, K. C. (2006). *Principal leadership for technology integration: A study of principal technology leadership*, Unpublished doctoral dissertation, Drexel University.

Krug, S. (1992). Instructional leadership: A constructivist perspective. *Educational Administration Quarterly. 28*(3), 430-443.

Leithwood, K. (1994). Leadership for school restructuring. *Educational Administration Quarterly, 30*(4), 498-518.

Leithwood, K., & Jantzi, D. (1999). Transformational school leadership effects: A replication. *School Effectiveness and School Improvement 10*(4), 451-479.

Leonard, L., & Leonard, P. (2006). Leadership for technology integration: Computing the reality. *Alberta Journal of Educational Research, 52*(4). Retrieved from http://ajer.synergiesprairies.ca/ajer/index.php/ajer/article/view/576/561

Liaw, S. S., Huang, H. M., & Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers & Education, 49*(2), 1066-1080.

Lim, K., & Lee, D. Y. (2008). A comprehensive approach to the teacher's role in computer supported learning environments. In *Proceedings of the Society for Information Technology and Teacher Education International Conference*, Chesapeake, VA.

Liu, G. Z., Lo, H. Y., & Wang, H. C. (2013). Design and usability testing of a learning and plagiarism avoidance tutorial system for paraphrasing and citing in English: A case study. *Computers & Education, 69*, 1-14.

Liu, X., Bonk, C. J., Magjuka, R. J., Lee, S., & Su, B. (2005). Exploring four dimensions of online instructor roles: a program level case study. *Journal of Asynchronous Learning Networks, 9*(4), 29-48.

MacKnight, C. (2000). Teaching critical thinking through online discussions. *Educause Quarterly, 4*, 38-41.

Mahdizadeh, H., Biemans, H., & Mulder, M. (2008). Determining factors of the use of e-learning environments by university teachers. *Computers & Education, 51*(1), 142-154.

Martindale, T., & Wiley, D. A. (2005). Using weblogs in scholarship and teaching. *TechTrends, 49*(2), 55-61.

Mazzolini, M., & Maddison, S. (2007). When to jump in: the role of the instructor in online discussion forums. *Computers & Education, 49*(2), 193-213.

McDuffie, A. R., & Slavit, D. (2003). Utilizing online discussion to support reflection and challenge beliefs in elementary mathematics methods classrooms. *Contemporary Issues in Technology and Teacher Education, 2*(4), 447-465.

McLeod, S., Bathon, J. M., & Richardson, J. W. (2011). Studies of technology tool usage are not enough: A response to the articles in this special issue. *Journal of Research on Leadership Education, 6*(5), 288-297.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.

Molnar, A., Miron, G., Gulosino, C., Shank, C., Davidson, C., Barbour, M.K., Huerta, L., Shafter, S.R., Rice, J.K., & Nitkin, D. (2017). *Virtual Schools Report 2017*. Boulder, CO: National Education Policy Center. Retrieved June 18, 2019 from http://nepc.colorado.edu/publication/virtual-schoolsannual-2017.

National Center for Education Statistics. (2013). Elementary and secondary education. *Digest of Education Statistics*. Retrieved on June 11, 2019 from https://nces.ed.gov/programs/digest/d13/.

Olt, M. (2002). Ethics and distance education: strategies for minimizing academic dishonesty in online assessment. *Online Journal of Distance Learning Administration, 5*(3).

Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2015). *Continued Progress*. Rand Corporation. Retrieved from http://www.k12accountability.org/resources/Blended-and-AdaptiveLearning/RAND_Personalized_Learning_Evidence.pdf

Patrick, S., Kennedy, K., & Powell, A. (2013). *Mean what you say: Defining and integrating personalized, blended and competency education.* Vienna, VA: International Association for K-12 Online Learning. Retrieved from http://www.inacol.org/wp-content/uploads/2015/02/mean-whatyou-say.pdf

Patton, M. Q, (1990). *Qualitative evaluation and research methods*. Newbury Park, CA: Sage.

Paulsen, M. F. (2002). Online Education Systems in Scandinavian and Australian Universities: A Comparative Study. *The International Review of Research in Open and Distance Learning, 3* (2). Retrieved on June 14, 2019 from http://www.irrodl.org/index.php/irrodl/article/download/104/559/.

Petrides, L.A. (2002). Web-based technologies for distributed (or distance) learning: Creating learner-centered educational experiences in the higher education classroom. *International Journal of Instructional Media, 29*(1), 69-77.

Phipps, R. & Merisotis, J. (1999). *What's the difference? A review of contemporary research on the effectiveness of distance learning in higher education*. Washington, DC: The Institute for Higher Education Policy.

Picciano, A., & Seaman, J. (2007). *K-12 online learning*. Retrieved from http://www.babson.edu/Academics/Documents/babson-survey-research-group/k-12-online-learning.pdf

Poole, D.M. (2002). Student participation in a discussion-oriented online course: A case study. *Journal of Research on Computing in Education, 33*(2), 162-177.

Ray, R., Sacks, L., & Twyman, J. S. (2017). *Equity and personalized learning: A research review*. Retrieved from https://ccsso.org/resource-library/advancing-equity-through-personalized-learning-equity-and-personalized-learning

Rice, K., & Dawley, L. (2007). *Going virtual! The status of professional development for K–12 online teachers.* Retrieved from http://edtech.boisestate.edu/goingvirtual/going virtual1.pdf

Robles, M., & Braathen, S. (2002). Online assessment techniques. *The Delta Pi Epsilon Journal, 44*(1), 39-49.

Roby, T., Ashe, S., Singh, N., & Clark, C. (2013). Shaping the online experience: how administrators can influence student and instructor perceptions through policy and practice. *Internet and Higher Education, 17*, 29-37.

Rovai, A. P. (2007). Facilitating online discussions effectively. *Internet and Higher Education, 10*(1), 77-88.

Russell, T. L. (1999). *The no significant difference phenomenon*. NC: Office of Instructional Telecommunications, North Carolina State University.

Schrum, L. (2002). Oh, what wonders you will see: Distance education past, present, and future. *Learning and Leading with Technology, 30*(3), 6-9, 20-21.

Shea, P., Li, C. S., & Pickett, A. (2006). A study of teaching presence and student sense of learning community in fully online and web-enhanced college courses. *Internet and Higher Education, 9*(3), 175-190.

Song, L., Singleton, E.S., Hill, J.R. and Koh, M.H. (2004). Improving online learning: student perceptions of useful and challenging characteristics. *The Internet and Higher Education, 7*, 59-70.

Sorenson, C. (2012). Learning online at the K-12 level: A parent/guardian perspective. *International Journal of Instructional Media, 39*(4), 297–307.

Southworth, G. (2002). Instructional leadership in schools: reflections and empirical evidence. *School Leadership & Management, 22*(1), 73–92.

Staker, H., & Horn, M. B. (2012). *Classifying K–12 blended learning*. Retrieved from http://www.christenseninstitute.org/wp-content/uploads/2013/04/Classifying-K-12-blended-learning.pdf

U.S. Department of Education. (2004). Toward a new golden age in American education: How the Internet, the law and today's students are revolutionizing expectations. National Education Technology Plan 2004. Washington DC: Author.

Watson, J., Pape, L., Murin, A., Gemin, B., & Vashaw, L. (2014). *Keeping pace with K-12 digital learning*. Evergreen, CO: Evergreen Education Group. Retrieved June 12, 2019 from https://www.evergreenedgroup.com/keeping-pace-reports.

Watson, J. F., Winograd, K., & Kalmon, S. (2004). Keeping pace with K–12 online learning: A snapshot of state-level policy and practice Naperville, IL: North Central Regional Educational Laboratory at Learning Point Associates. Retrieved July 12, 2019 from http://www.ncrel.org/tech/pace/index.html

Webb, M., Gibson, D., & Forkosh-Baruch, A. (2013). Challenges for information technology supporting educational assessment. *Journal of Computer Assisted Learning, 29*(5), 270-279.

Wilson, B. C., Ludwig-Hardman, S., Thornam, C., & Dunlap, J. C. (2004). Bounded community: designing and facilitating learning communities in formal courses. *The International Review of Research in Open and Distance Learning, 5*(3).

Yeh, S. S. (2010). Understanding and addressing the achievement gap through individualized instruction and formative assessment. *Assessment in Education: Principles, Policy & Practice, 17*, 169-182.

Yin, R. K. (2009). *Case study research: Design and method* (4th ed.). Thousand Oaks, CA: Sage.

Yuan, J., & Kim, C. (2014). Guidelines for facilitating the development of learning communities in online courses. *Journal of Computer Assisted Learning, 30*(3), 220-232.

Ziphorah, R. M. (2014). Information and communication technology integration: Where to start, infrastructure or capacity building? *Procedia - Social and Behavioral Sciences, 116*, 3649–3658. https://doi.org/10.1016/j.sbspro.2014.01.818

CHAPTER 2

SCHOOL LEADERSHIP IN DEVELOPING PERSONALIZED DIGITAL CONTENT

Enrollment in online learning continues to increase in the K-12 environment with the ongoing development of online programs and virtual schools. Students now have alternative options for course enrollment through online learning programs. However, online courses are typically designed as a one-size-fits-all model with all content being delivered in the same way for all students. Related research shows inconsistent results when evaluating the effectiveness of online courses. Inconsistent student achievement results could indicate that the current model for online learning does not meet the unique needs of all students. One solution to this problem would be to redesign online course content to include personalized learning pathways to meet the needs of all learners. This study examined the process of developing digital content with a personalized learning approach and the role of the school principal as the instructional leader during this process. The purpose of this study was to gain a greater understanding of how one online school principal influences the creation and development of new online courses while incorporating aspects of personalized learning to improve student achievement.

Purpose of the Study

The purpose of this study was to understand how the principal's instructional leadership actions impact the creation and development of online course content using a personalized learning approach. As instructional leaders, school principals are responsible for approving and initiating the implementation of new initiatives to ensure the academic success of all students (Bryk et al., 2010). The results of this study identified key leadership behaviors that are necessary for the creation of quality digital content with personalized learning pathways. The results of this study contribute to the research in the area of online learning and personalized

learning for K-12 schools. The findings may inform district and school leaders on the principal's role in the online course development process.

Guiding Questions

This study explored the role of the principal in the development of online digital content with a personalized learning approach. The goal of this study was to identify the instructional leadership decisions and behaviors that are used by one online school principal to support the development of online course content using personalized learning pathways. The following questions guided this study:

1. What are the instructional leadership decisions and actions of an online school principal to launch the creation and development of personalized digital content?
2. What are the course developers' perceptions of the impact of leadership behaviors on designing and implementing personalized digital content?

Significance of the Study

Online learning has the potential to change our current educational program in elementary and secondary schools. Teachers are challenged with delivering quality instruction to meet the needs of all students while preparing them to pass high-stakes state assessments and keeping them on pace to graduate high school. Due to the high expectations for teachers to meet the needs of diverse learners, many schools are exploring new approaches to delivering instruction through the use of technology. Personalized learning pathways through online courses is one alternative to support the success of all students.

Previous research related to online learning has focused on the effectiveness of online learning, primarily in higher education. Overall, there is adequate research supporting the benefits of online learning for students, as discussed in the literature review. This study will

contribute to the existing literature on online learning and personalized learning. My goal was to explore concepts of instructional leadership that were used by one online school principal to support the creation and development of online course content using personalized learning pathways.

The results of this study can assist school and district leaders who seek to improve student achievement through the development of online learning and personalized learning. These results provide insight to other school leaders who may be considering online learning initiatives within other schools and school systems. As school leaders consider initiating online learning programs using personalized learning pathways, it is important for them to understand their role as instructional leaders to support such initiatives. It is essential for school leaders to understand their role before deciding to develop online learning programs using personalized learning pathways.

Theoretical Framework

The role of the principal is to initiate and approve the implementation of new initiatives to improve teaching and learning. McLeod, Bathon, and Richardson (2011) explained that educational reform must begin with school administrators who possess an instructional vision for digital literacy and citizenship for students. This study addressed this problem through the lens of instructional leadership. Several models of instructional leadership exist (Andrews & Soder, 1987; Bossert et al., 1982; Hallinger & Murphy, 1985; Leithwood, Begley & Cousins, 1990). According to a review by Hallinger and Heck (1996), the most frequently used model in related research at the time was one proposed by Hallinger and Murphy (1985). Hallinger and Murphy (1985) described three dimensions of instructional leadership: defining the school's mission, managing the instructional program, and promoting a positive school learning climate. Ten

functions are further defined under these three dimensions: framing school goals, communicating school goals, supervising and evaluating instruction, coordinating curriculum, monitoring students' progress, protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, enforcing academic standards, and providing incentives for students (Hallinger & Murphy, 1985).

Thus, to address the guiding questions above, this study was built on the theoretical framework of instructional leadership. Instructional leadership is an appropriate theoretical framework for this study because it highlights the role of the school principal in supporting new school initiatives and programs. Research on instructional leadership shows the importance of the components outlined by Hallinger and Murphy (1985). Many studies analyzed the direct and indirect impact of instructional leadership practices on student learning in the traditional learning environment (Leithwood, K., et al., 2004; Robinson, V. M., et al., 2008). However, little, if any, research investigates the instructional leadership behaviors when developing personalized digital content for online courses. This study seeks to fill this gap.

Methodology

This qualitative study sought to explore the principal's role in the development of online digital content in the K-12 setting and how the principal's decisions and actions impact the process of designing and implementing personalized learning in an online school setting. Qualitative studies provide an understanding of a situation or phenomenon based on lived experiences rather than determining cause and effect (Yin, 2009). The research occurred in a natural setting with the researcher serving as the primary instrument for data collection. Given that the purpose of this study was to understand the principal's role in creating digital content with personalized learning techniques, a qualitative approach was suitable for this study. The

following sections will describe the research design, sample, participant selection, data collection techniques, and data analysis process.

Research Design

This research study used a case study design. A qualitative case study examines themes and patterns of individual experiences revealed through their own stories and explanations (Merriam, 1998). Yin (2009) defined a case study as an empirical inquiry that explores a phenomenon within its real-world context. This study sought to understand the meaning that participants have developed over time based on their own experiences and to examine emerging patterns related to the phenomenon of study (Merriam, 1998). A case study design focuses on developing an in-depth description of a phenomenon (Yin, 2009). Therefore, given the research purpose of seeking principals' perceptions of online learning in the K-12 setting, a single case study approach best fits the needs of this research study. This study examined a single case involving one principal and the development of online courses within one online school. Using a descriptive case study approach allowed me to answer my research questions by revealing the aspects of instructional leadership that are vital for the development of digital content with personalized learning pathways.

A case study investigates the effectiveness of programs or organizational structures by addressing how and why things exist within a relevant context (Yin, 2009). A descriptive case study approach was used to answer the research questions by exploring the aspects of instructional leadership that are used in the development of digital content with personalized learning pathways at one online school. This approach provided insight into how and why people experience the world from their perspectives within a bounded case (Yin, 2016).

This study was interpreted using a social constructivism epistemology. Constructivists believe that truth is relative and dependent on an individual's perspective. Social constructivists create meaning through personal experiences and interactions with others (Crotty, 1998). This study relied on the participants' views of the situation and enabled them to tell their stories. By establishing a close collaboration with the participants, a thorough description of the phenomenon was developed based on how the participants described their views of reality as it relates to the issue at hand (Yin, 2009). For this study, the goal was to understand how principals use aspects of instructional leadership to lead others in the development of an online curriculum while incorporating components of personalized learning.

Data collection techniques for conducting qualitative research might include observations, interviews, focus groups, artifacts, and document analysis (Patton, 1990). This study involved interviews, observations, and document review. According to Patton (1990), "Studies that use only one method are more vulnerable to errors linked to that particular method than studies that use multiple methods in which different types of data provide cross-data validity checks" (p. 18). By collecting data through three methods, triangulation was established, which can lead to a better analysis of the phenomena being studied.

Sample

A comprehensive sampling was used for this study. This sampling technique involves the researcher selecting an entire group of people by an established set of criteria (Hays & Singh, 2012). This method is most appropriate for the purpose of this study given that case studies are meant to focus on a particular case to achieve the rich depth of data to fully understand the phenomenon (Lincoln and Guba, 1985). By using a comprehensive sampling technique, data was collected from all participants in a particular group to gain perspectives from all subjects. The

first step is to identify a site that meets specific criteria to answer the research questions. Based on the focus of this study, the following criteria were established for selecting an appropriate site location for this study:

- a full-time, district-led online school with teacher-developed courses
- a principal serving at least the third year in their current position
- an online school that is in the process of designing online curriculum using a personalized learning approach

There is a school in the Southeast region of the United States that meets all of these criteria. In order to support anonymity, the school site will be referred to as District Online School. The participants selected for this study included all District Online School employees who are actively involved with the development of personalized learning courses. It is important to note that I am currently employed at District Online School; however, I have not been directly involved with the course development for personalized learning. Several limitations and biases become present when conducting a study in the school where I am currently employed. These limitations and biases are addressed in the limitations section.

District Online School is a district-led online school since 2011 offering courses to students in grades 4-12. A key feature of District Online School is that their full-time teachers develop all digital content. District Online School serves as a naturalistic setting for this study because it is a full-time online school that is currently in the process of redeveloping its online courses with a personalized learning approach. However, many other factors make this an ideal location for this study. This online school serves about 10,000 students district-wide each year through the full-time, supplemental, and summer programs. The online school is a school of choice where any student residing within the county school district may choose to take one or all

classes online. The full-time enrollment option allows students to take all online courses through the online school. The supplemental program allows students to take up to five online courses, while maintaining enrollment in their zoned school within the county district. The District Online School has developed partnerships with many local high schools to provide a satellite location for students across the district to engage in online courses during the school day through online centers. Students also have the option to work independently off campus. Furthermore, the summer school program allows students both within and outside of the county school district to take additional high school online courses during the summer term either to catch up or get ahead in Carnegie credits toward graduation. The various enrollment options allow students the opportunity to engage in online learning based on their needs and desires.

There are additional factors surrounding student achievement that make this school an ideal site for this study. First, the College and Career Ready Performance Index (CCRPI) school rating, which is the school accountability measure in the state of Georgia, for the District Online School has consistently performed within two points or above the state average. Secondly, the online school has been recognized nationally and internationally by organizations such as the Technology Association of Georgia, the Foundation for Blended and Online Learning, the National Association of Secondary School Principals, the EdTech Digest, Desire2Learn and Blackboard.

Furthermore, there other aspects to consider when selecting this site regarding the experience and tenure of the school principal. The current principal has been in this position since the opening of the school, serving ten years in this position. The online school principal won the 2017 Nation Principals Month video contest from the National Association of Secondary School Principals. The principal was also recognized as a 2019 Ed Tech Award

Finalist in the category for School Leadership. Additional detailed information about District Online School is described in Table 1 and Table 2 below. It is important to note that the data only reflects students who are enrolled as full-time students, as reported to the state. The data does not reflect enrollment or demographic information relating to students participating in the supplemental program.

Table 1

School Information

School Enrollment and Student Demographics (SY 2019)	
Total Full-Time Enrollment	658
African-American	26%
Asian	6%
Hispanic or Latino	19%
Multiracial (two or more races)	5%
White	44%
Special Education	8%
Speakers of other languages	2%
Free/Reduced Lunch	18%

Table 2

School Performance Profile

CCRPI Scores					
School Year	2015	2016	2017	2018	2019
Overall School Score	76.1	71.4	79.8	78.3	77.5
State Average	75.5	73.6	75	76.6	78.8

In late 2018, District Online School administrators organized a Personalized Learning Team to lead the redevelopment of online course content to incorporate components of personalized learning to meet the diverse needs of all learners. Experienced teacher-developers who are competent in both content knowledge and pedagogy for online instruction were

identified by the school's administration to participate in the redevelopment of online courses to incorporate personalized learning pathways. District Online School administrators also selected several qualified technology coordinators to assist with the technical aspects of developing digital personalized learning pathways within the learning management system. One assistant principal designated by the school principal leads the overall initiative. The following section will describe the participants that will be included in this study.

Participants

The participants of this study included members of the Personalized Learning Team at the District Online School. This group of educators was strategically selected by school administrators to lead the creation and development of online courses utilizing components of personalized learning. Including the perspectives of the teachers, technology coordinators, the assistant principal, and principal who have worked with the personalized learning initiative is essential to gaining a holistic picture of the principal's role as it relates to the development of online courses with personalized learning pathways. Since the participant pool is restricted to the members of the Personalized Learning Team, this study included three teachers, three technology coordinators, one assistant principal, and one principal. This sample size allowed me to get to the point of saturation and answer the research questions proposed in this study.

To honor the privacy of the participants, steps were taken to communicate the process for obtaining consent and protect the participants' identity from being revealed. Participants were provided with a copy of an informed consent letter outlining the purpose of the study, the criteria used to select the participants, and the methods that will be used for conducting the study. Participants were also be informed that pseudonyms will be used such as Principal, Assistant Principal, Technology Coordinator One, and Teacher One to create anonymity. Additional

information about the participants' role, credentials, experience, and years working at the school are outlined in Table 3 below.

Table 3

Participant's Information

Participant	Credential	Years in Education	Years at this Site
Principal	Doctorate	25	10
Assistant Principal	Specialist	16	8
Technology Coordinator One	Specialist	25	10
Technology Coordinator Two	Bachelor's	18	9
Technology Coordinator Three	Specialist	21	10
Teacher One	Bachelor's	25	7
Teacher Two	Specialist	13	6
Teacher Three	Master's	18	9

Data Collection

Data collection techniques for conducting qualitative research include observations, interviews, focus groups, artifacts, and document analysis (Patton, 1990). Researchers suggest that studies using only one method for data collection are more vulnerable to errors (Patton, 1990). Using multiple methods with different data types provides "cross-data validity checks" (Patton, 1990). Therefore, this study involved interviews, observations, and document reviews.

Data was collected over a period of approximately two months. This provided adequate time to conduct the interviews, complete the observations, and collect the documents to be reviewed. For this study, approval was obtained from the school site principal and the university before collecting data. Once I obtained approval through the IRB process, the dissertation committee chair sent an invitation and consent form via email to all potential participants. It was necessary for the faculty investigator to initiate contact with the participants since I am an

assistant principal at the school. This avoided the possibility of coercion or intimidation in the request to participate in this study.

The primary tool for data collection was individual semi-structured interviews with each participant. As recommended by Kvale and Brinkmann (2009), an interview protocol was developed and used to serve as a script to guide the interview process. It included open-ended research questions to gain information aligned with the research questions. Interview questions were aligned to the three components of the instructional leadership theoretical framework: defining the school's mission, managing the instructional program, and promoting a positive school learning climate (Hallinger & Murphy, 1985). The face-to-face interviews lasted no longer than one hour. A recording device and a backup unit were used to ensure the interview data was collected and available to review later. I manually transcribed each interview and used member checking to allow the participants to correct any information provided during the interview.

By the end of the data collection period, I was able to conduct five observations. I attended two planning meetings with the Personalized Learning Team to collect additional data through observations. I attended a meeting with the Assistant Superintendent where the Assistant Principal provided an update on the progress of the Personalized Learning initiative. I also attended a showcase presentation and tour with outside guests visiting the online school. Lastly, I attended a virtual conference where the Assistant Principal and Technology Coordinator presented the design and implementation of the Personalized Learning courses. The observations were conducted in natural settings to provide insight into how the online school principal interacts and supports the members of the Personalized Learning Team. Prior to conducting the observations, I developed an observation protocol that allowed me to document the times and

descriptive notes. I also included an area to add reflective notes while reviewing the descriptive notes.

Relevant documents were collected and evaluated such as the mission statement, Personalized Learning framework, team meeting agendas and minutes, and publications and presentations as additional resources for the study. A document review of all available documents associated with online and personalized learning supplemented the data collected in the interviews and observations. This document review included any documents that are used by the Personalized Learning Team to collaborate and communicate their work. These documents were analyzed for data that aligned and contributed to the themes and patterns identified during the observations and interviews.

Several techniques were used to aid in the quality of this qualitative study. Lincoln and Guba (1985) have outlined five points that make qualitative research reliable: credibility, dependability, confirmability, transferability, and trustworthiness. Credibility establishes confidence in the "truth" of the findings (Lincoln and Guba, 1985). Credibility was reinforced by engaging with the subject matter for an extended amount of time and having a peer review of the data collected (Lincoln and Guba, 1985). Member checking was used during the transcribing process to establish credibility and to remove any possible bias from my perspective (Birt et al., 2016). I showed that the findings are consistent through triangulation of the data and that the study could be repeated by carefully documenting the research process to establish dependability (Lincoln and Guba, 1985). An audit trail of the study was created by providing detailed documentation of my research process to support confirmability (Lincoln and Guba, 1985). Finally, transferability was established by providing a "thick description" of the field experiences and emergent themes so that anyone can evaluate the extent to which the findings can be applied

to similar situations (Lincoln and Guba, 1985). By using these methods, I have demonstrated many efforts to remain neutral and unbiased in the collection and presentation of the findings in this study.

I was initially fearful of potential bias in the responses to the interview questions since I am an employee at the school where I conducted my research; however, since the study is not evaluating teacher performance, the participants have no apparent reasons not to be forthcoming with honest opinions. In fact, I feel that my position has worked to my advantage as the researcher since I have already established a relationship and trust with the participants. Additionally, it is important to note that I have not been directly involved with this initiative at my school. My duties and responsibilities are completely separate from the Personalized Learning Team.

Data Analysis

Once all of the interviews and observations were conducted and all documents collected, I began the data analysis process. This process involved organizing, classifying, and making sense of the date (Yin, 2009). Nvivo was used to assist with the data analysis process. This tool allowed me to easily organize and store my data for this study.

For the purpose of this study, a deductive thematic approach was used to classify the data into pre-determined themes. Yin (2009) describes an approach that relies on theoretical propositions to guide the data analysis process. This approach allowed me to report my findings relative to the theoretical framework of this study. In order to answer the research questions, the data was aligned with the instructional leadership themes to draw conclusions for the study. The three major categories are Hallinger and Murphy's (1985) three dimensions of instructional leadership: defining the school's mission, managing the instructional program, and promoting a

positive school learning climate. Below, the data analysis process is described in two main phases.

Before uploading the data into NVivo, I interacted with the data to become familiar with the key ideas and topics. I manually transcribed the interviews and field notes so that I had first-hand involvement with the data. NVivo was then used to categorize the raw data into broad categories. The document analysis was used to support the major ideas generated from the interviews and observation field notes. I interacted with the data and organized the findings in multiple ways to search for patterns and make connections among the three sources of data. I repeated this process until I gathered all relevant data into generalized groups.

During the second phase of the data analysis, I reviewed each group of data identified in the first phase of the process. I considered the ideas and concepts within each group individually to see if it fell within one of the three themes that I have identified for this study. I removed any groups of data that did not apply to any of the three instructional leadership themes. Once all data had been coded and sorted, I was be able to develop a deep description of how each aspect of the instructional leadership practices of one online school principal applies in the context of creating online digital content using a personalized learning approach.

Findings

This study sought to understand the role of the principal as an instructional leader in the creation and development of online course content using a personalized learning approach. Using Hallinger and Murphy's (1985) three dimensions of instructional leadership (defining the school's mission, managing the instructional program, and promoting a positive school learning climate), the data collected was coded and sorted to identify prominent themes. Through the data analysis process, three primary themes were discovered. The first theme revealed was aligning

the Personalized Learning initiative with the school's goals. The next theme identified was providing resources for the development of Personalized Learning courses. Finally, the third theme recognized was empowering teachers and students. The following sections will include detailed descriptions of the evidence to support each of these themes.

Aligning the Personalized Learning initiative with the school's goals

School leaders are challenged with establishing a vision and purpose for the school. There are many layers involved with defining and communicating a school's goals. As Hallinger and Murphy (1985) explained, the school principal needs to communicate the school's goals and inspire others to embrace those goals. This important aspect will be examined as we begin to explore the principal's role at the District Online School. The data revealed that the principal uses the school's mission and vision to develop core values, to guide the short-term and long-term goals, and to support decisions on programs and initiatives to improve student achievement.

The District Online School has posted the school's goals on their website stating, "The mission of 'District Online School' is to enhance the learning of students in a world-class virtual environment as we empower them with twenty-first-century knowledge and skills necessary to succeed in the local, national, and global community." They have also included a vision statement that says, "Our vision for 'District Online School' is to be a world-class 4-12 education provider to 'Georgia' County students for whom anywhere and anytime access to instruction is an optimal alternative." However, school leaders must go far beyond posting the school's goals to implement change toward achieving those goals (Hallinger & Murphy, 1985).

Based on the data from this study, The District Online School principal has continually communicated the school's goals through various means. Teacher Three believes, "He articulates

the school's goals through action, through words, and through his leadership." Teacher Three also shared,

> He's got a clear vision for our school that he shares with the staff and the students and the parents and the community of where he wants us to go and what he wants us to be, which is the best online school in the nation. He shares that vision. That's one way how he goes about going towards that goal. But then, he also implements ideas and programs that can meet that goal.

Many participants identified group meetings where the school's goals are often discussed such as department meetings, leadership team meetings, cabinet meetings, professional development trainings, and full faculty meetings. All participants agreed that these conversations occur often, not just at the beginning or end of the school year. A review of the previous meeting agendas and minutes confirmed this claim. For example, each department completed a department data report that identified individual goals for each content area that are aligned with the overall school goals. This activity helps align the work being done at all levels, from teaching staff to support staff to administration. Furthermore, the assistant principal pointed out that the principal uses the school's goals to develop the local school plan for improvement and the staff development plan. The principal declared, "This school has all its activities aligned moving us in the same direction."

At the District Online School, the principal listens and seeks input from other stakeholders on guiding the direction of the school. Teacher Three stated, "Our principal and our administrators, and even the other teachers, listen to each other when it comes to instruction, learning, and achievement." Technology Coordinator Two said, "He sees that collaboration is

more powerful than just one person or a select few in the building. So, he incorporates every stakeholder into the purpose of the school." Teacher Three also shared,

> He trusts his faculty and staff to develop and come up with ideas that support the goals of the school. He provides an opportunity for us to share, collaborate, and provide feedback to him and to others, stakeholders in the community and in our school.

The principal added, "We talk with teachers, student focus groups, teacher focus groups, and leadership teams. We talk about our instruction and where it needs to evolve. Everyone has ownership of the instructional process here."

In addition to the school's mission and vision statements, the District Online School has defined core values to guide the work that they do. The core values are exceptional quality instruction, service, collaboration, professionalism, and continuous quality improvement. The core values are illustrated on the school's website as columns or pillars of a building representing their important role for the organization. Underneath the pillars is this statement: "Our core values strengthen us as a learning organization – keeps us steadfast – and guide the decisions we make as we move toward our vision and mission." Technology Coordinator One explained that the faculty created the five pillars that outline their guiding principles. It is important to recognize that school leaders did not mandate these core values; rather, they originated from a collaboration among the teachers and staff. Technology Coordinator Three also shared that the core values are part of the initial training for new staff. She stated, "Every time somebody new comes in, we go over what those core values are and how we at this school embrace, enhance, and push for those goals to be met by everybody that's on staff."

Continuous quality improvement is a key value that drives the ongoing redevelopment of online course content to meet their school's goal of "becoming the leading online school in the

nation". The assistant principal confirmed, "We have a constant focus on continuous quality improvement. Through that focus, there is an ongoing review of the curriculum as well as the students' experiences with the curriculum." The focus on student success pushes the school's constant efforts to evaluate and improve instruction. Teacher Two acknowledges this when she stated, "We're not just giving them stagnant courses that haven't been touched in years. They are continually being updated daily and weekly, to really provide the students what they need." The principal concluded, "If we're not improving and not moving in a direction, we're going to become irrelevant as an online school."

The underlying goal to improve instruction is evident in the data collected in this study. Based on the evidence, the principal played a significant role in aligning the Personalized Learning initiative with the school's goals. The principal had clearly laid the groundwork of defining and communicating the school's goals with staff members. In the interview, the principal stated, "The overall school's goal is to provide a robust instructional program using the latest technology and integrating the instructional practices, really focusing on instructional practices first and then what technology do we bring to bear to deliver that instruction." Furthermore, the principal explained that Personalized Learning had been a vision and desire of his for many years now. He stated,

> The personalized learning was a tremendous process over the last five years of looking at analytical systems, processes, procedures, instructional design, instructional practices, and how could we, as an organization, take our current courses and evolve them to a personalized learning kind of paradigm as we go through a redevelopment phase. This is the direction that we needed to go as a school and as an organization.

The assistant principal has also been a part the ongoing process to rollout the Personalized Learning initiative at the District Online School. She stated, “For the past five years, we have partnered with several third party vendors in an effort to personalize the learning experience of our students. Recently, however, we came to the conclusion that we needed to develop it in-house.”

When the principal introduced the Personalized Learning initiative to the school staff, he presented this project as an extension of the school’s goals to improve student achievement through continuous quality improvement. The principal was able to share his vision in a way that inspired others. The principal explained,

> All schools have to evolve overtime, especially schools in the technology realm. Technology is advancing. Instructional practices are also advancing, changes in standards and changes in curriculum. So, we pride ourselves in being in a continuous quality improvement model, of being reflective practitioners, and really asking ourselves ‘What are we doing? How are we doing it? What are the results that we're getting? And, how can we make it better?’

The assistant principal stated, “It is a part of our culture that is built into every single day here. From our principal to our custodial staff, everybody here is willing to try out new things to better themselves and to better the school.” The teachers and technology coordinators shared similar opinions. Technology Coordinator One commented, “He (the principal) had this grand vision and I think he relayed that to the AP and we just took that vision and started to kind of shape it.” Teacher Three stated, “I think personalized learning offers an opportunity for us to improve upon what we’re doing, make changes to the course, and come up with ideas that will improve student achievement, learning outcomes, and the overall experience of online learning.”

During the initial phase, members of the Personalized Learning Team created their own vision statement, which says, “The vision for personalized learning at ‘District Online School’ is to empower students to exceed their potential through individualized learning paths designed to support and enrich every learning outcome.” Technology Coordinator Two said, “Yes, we have a leader; however, she takes everybody's role into account and we all had a part in designing this mission.” The assistant principal stated, “We really rely on this vision as our guide. It’s not just something we put together and then dismissed at the beginning of the project.” All participants agreed that the goal of the Personalized Learning Team supports the school’s overall mission. Teacher Two shared, “Our goal is always supporting students and encouraging them to be the best academically they can be. That's kind of our school mindset. And, the personalized learning development and courses really feed themselves well into that.” Technology Coordinator Three defined the goal as “to meet individual students where they are and provide them unique opportunities to grow and to develop and to meet and exceed their own individual learning potential, which is obviously different for every kid.”

Ultimately, the Personalized Learning initiative is not intended to change what they do, but how they do it. The principal stated,

> We're not making more time in the classroom but we're going to restructure that time to where students are getting exactly what they need. The teacher can facilitate the learning and provide the feedback that the students need on that bell curve, from your high flyers to the ones that you need to be with every single day. It addresses all those needs and so I see its impact being huge.

The assistant principal explained, “We want to be able to provide students the ability to have a completely individualized learning experience, regardless of where they come to us in their

course.” Since the District Online School is a school of choice, students may enroll for a variety of reasons. With that in mind, the school leaders recognized the need to design an instructional program that was flexible and personalized to meet the needs of all students. The assistant principal continued,

> In order for our school to become the best online school in the nation, we have to be able to recognize our students as individuals and we need to be able to help them meet their individual potential and exceed their individual potential. One way that we can do that is by meeting our students where they're at and then helping them as individual students and individual learners. So, through the work of the personalized learning program, we are able to look at each student and help them with their individual learning needs, help them tackle any struggles that they might have instructionally, and help them reach higher levels and higher gains that they might have not even known that they had within them. That in turn helps us as a school reach great gains.

Technology Coordinator One agreed, “The main goal is to provide a strong education and educational opportunities for students, particularly students who, for whatever reason, the traditional model of schooling doesn't work for them.”

All participants agreed that implementing Personalized Learning was not something that would not happen overnight. Teacher 3 explained,

> There's a lot of planning that goes into what we do at the school. There's a lot of forethought and research before we jump on board any sort of thing that we might be doing. It's more than just coming up with new course material. It's coming up with the entire design of the course, how the course is administered, how you can have different

> pathways for different students within a course, what that looks like and what would be the best for students.

Technology Coordinator Two stated, “It is definitely more time consuming from both the development of the course and the teaching of the class, but we know the benefit for students is going to make it all worthwhile.” Technology Coordinator Three confirmed,

> The hardest part is keeping up with the current content and, as technology changes, making it real and authentic and up-to-date for current kids. The time it takes to develop is significantly longer than how the transitions happen to new and updated technology.

The principal understood the time commitment this project would take. “We've gone through a reflective process of what do we want that to look like because there's no manual for what we're doing.” He continued, “So, it's critical that we take the time to do our research, but then also, what are we learning from the practices that we're currently doing and what's the ideal of where we want to be.” He also shared this powerful statement: “We've always seen it as a journey and not a destination.”

Providing resources for the development of Personalized Learning courses

School leaders must show their commitment to the school’s goals and initiatives by providing necessary resources for proper implementation. The principal admitted, “There is a conscious commitment that we have to make as an organization to move that work forward and to make sure that we're putting the resources into it so it is successful.” For the Personalized Learning initiative to be successful, the principal recognized there was an obligation to provide human resources, staff development, financial resources, and technology resources. The participants identified specific resources provided such as staffing, time, training, and instructional and technology resources.

Staffing.

The principal played an important role in identifying the teachers and support staff necessary to execute his vision for Personalized Learning. He designated one assistant principal to lead the project. Then, he asked himself "Who are our best developers? Who has that eye to move that work forward?" He carefully chose five teacher leaders to join the initial development team. He also recruited three members of the technology team to support the technical aspect of the model. Members of the Personalized Learning Team agreed that the principal was responsible for selecting the right people to implement this project. Teacher One shared, "He brought the best people in who knew how to do the job." Technology Coordinator Three stated, "He's done a very good job of putting the people in place that had that creative endurance." The assistant principal agreed, "He does an excellent job of putting the right people in the right place on the bus."

The assistant principal assigned to the Personalized Learning Team played an integral role in the entire process. Teacher One said, "He (the principal) provided us with an assistant principal who not only had a vision but also knew and understood the procedures that needed to take place in order to implement this program." The Assistant principal shared,

> My role initially was to lead the development team to develop our vision, to develop our values, to develop our framework, and identify the course rollout, what the actual tenants within the program would be, as well as work on the technical aspects.

However, this shift in her responsibilities came at a cost. She explained, "When we started personalized learning, he (the principal) was gracious enough to free up some of my responsibilities here at the school so that I could really focus on launching the personalized learning program." She continued, "From a leadership perspective that was huge because it

allowed us as a school the opportunity to really show with our actions that this is a priority." She also described how her role shifted from focusing the creation and development of the framework to collecting and analyzing data to evaluate the program and determine if the program working.

Finding teachers willing to join the Personalized Learning team was not a difficult task thanks to the culture and core values that have been established and embraced at the District Online School. The assistant principal shared, "Our culture is innovative. Our staff is never shy of trying out new things." The principal agreed, "Everyone has ownership of the instructional process here. And so, there's a willingness to create, innovate, and go to that next step. The work is really never done." However, the principal was very mindful of the people he selected to take on this project. The principal explained,

> It's identifying individuals in the organization that is going to be able to think through that work and those concepts and be able to populate the model, but also know that the model is going to have to evolve overtime based on the information that they're receiving.

He continued, "Really looking at individuals that have a research mind or research base, strong command of the content and the curriculum, know what we've done in the past, but also understand where we're going in the in the future."

Another layer to providing personnel resources, the school leaders at the District Online School also involved the technology experts at the school to collaborate on this team. Technology Coordinator One described her role as "the one they come to if they want to know whether it can be done or not." She explained, "I basically spend my day problem solving." Technology Coordinator Two shared, "As a technology coordinator, I sit in on all of the meetings and we do a lot of listening and trying to hear what they've come up with." She often

asks questions such as “Could this be done a different way? Could it be done a better way? Is what one teacher is doing using the technological tools available better than other tools that another teacher is doing?” Technology Coordinator Three described her role as “to help provide teachers with the technology and the background of what they need in order to provide the best instruction possible.”

Time.

The principal and assistant principal agreed that the teachers needed a reduced teaching load in order to provide them the time to dedicate to their development responsibilities. The assistant principal stated, “They have approximately half the number of students that a full-time teacher would have and that allows them the time to be able to develop in addition to teaching while developing their personalized learning courses.” She further explained the rationale for them managing both teaching and developing responsibilities simultaneously:

> We determined pretty early on that it was critical for the developers to also be teaching the course because we felt, as a team and through the research that we looked at, that it was necessary that they actually be in the world that they were developing in in order to really make true valid development decisions.

Training.

Although the teachers on the Personalized Learning team had the online teaching and development experience, this project required some training with the addition of new technology tools. Technology Coordinator One explained, “We created the anytime professional development course that everybody could go through at their own pace and at their own leisure. We did some face-to-face training as well.” She specifically commented on the challenges with the new gradebook and the in-depth training provided for teachers learning how to calculate

grades properly. Technology Coordinator Three also shared, “We have delivered a lot of training, such as how to use H5P and how to use Nearpod and here's how to use different tools that the teachers can use within their course.” Teacher Three stated, “We've had a lot of training and help from our tech team and from our administrators about how to go about creating and designing a personalized learning platform that is going to work within our LMS (learning management system) and for our students.”

Resources.

In addition to the human resources, the Personalized Learning initiative required financial resources. The principal shared, “As the principal, my role is to identify the financial aspect, to make finances available to support the work.” The principal sought input from the Personalized Learning Team to determine what resources were needed to begin the development process. According to the assistant principal,

> He asked us first to identify what we needed and then he found the resources for us. So, once I had my PL team identified, we then determined how many courses we needed and how much money that would cost us and the funds were provided.

Teacher Two shared, “Our principal is always very good about saying ‘Whatever you need, come talk to me. We'll figure it out.’ If there's the funds available and the need is shown, he's more than willing to help support us in that.” Teacher Three commented, “He's definitely provided the infrastructure, technology research, knowledge, and support needed to create personalized learning.”

The principal made a huge financial investment through a partnership with Desire2Learn, which is the learning management system (LMS) used by the District Online School. The assistant principal stated, “We partner with Desire2Learn, which is our learning management

system. I have a bi-weekly meeting with them to determine what are the technical components that we need in order to make this possible." It was important to have the support from the learning management system to build the personalized learning courses. Technology Coordinator Three explained, "Even though we have these personalized learning pathways, there's limitations within those based on what the LMS can do." During a presentation at the annual Desire2Learn conference, the assistant principal shared,

> We have many rich discussions, ranging from our pie in the sky ideas about what do we want this to look like, to the nitty gritty how is this actually going to work on the back end. It's really been a pivotal component for our success because we all have very different strengths, and we bring different perspectives to the table and it's very powerful when you can have that open dialogue.

Technology Coordinator One also shared, "As we redesign these courses, we tried to use elements and D2L tools that were going to help us implement all of those tenants: flexibility for the students, targeted instruction, and to highlight the quality content that we have."

There was also an investment in the technical resources used for instruction. Teacher Three acknowledged, "He's also provided a lot of technology and support through being able to provide tools we use in a collaborative core lab or learning lab situation, where occasionally we will have students come on campus." She continued, "He's been instrumental in getting us the tools that we need for that and the funding that we need for that." Technology Coordinator Two commented, "He (the principal) provided all sorts of hardware. We now have these clear touch panels. We have iPads specifically for the personalized learning lab. We have headphones and

goggles and all sorts things." The assistant principal further explained,

> We identified that we wanted a personalized learning classroom because the online course is differentiated. Every kid in the classroom has a different learning experience. So, when they came to campus, we wanted to make sure that we had a center-based differentiated classroom environment for the students. So, we built out that classroom for them and it was wildly successful.

She shared that this space was so successful that they have now built out a second personalized learning classroom for the students when they come to campus.

Empowering teachers and students

Once the principal has set a clear vision and provided the necessary resources, the opportunity is available for teachers and staff to execute the proposed initiative. Empower means to give someone the power to do something ("Empower", 2021). The word 'empowerment' is embedded in the overall school's goal. Recall the District Online School's goal: "The mission of 'District Online School' is to enhance the learning of students in a world-class virtual environment as we empower them with twenty-first-century knowledge and skills necessary to succeed in the local, national, and global community." Technology Coordinator Two stated,

> All of the teachers and staff had a part in creating the mission and developing those five pillars in which we stand on. So, when you involve those stakeholders, just like we want to empower our students, you empower the employees, and you get a result that really even we can't imagine.

Teacher Two stated, "Every year, we are so empowered and invigorated to support our students and provide innovative instruction and learning."

The school principal plays an integral role in implementing new school initiatives by supporting and promoting staff members directly involved in the process. Teacher One described the principal's role on Personalized Learning Team as "one of empowerment." One unique aspect about the relationship between the principal and the staff at the District Online School is that he has hired every single person at this school. The principal shared, "That presents a unique buy-in to the goals and the alignment of the school." The assistant principal stated, "They're all educators and they want their students to be successful." Technology Coordinator Two mentioned, "I think we are also intrinsically and personally motivated that we know we're doing good work." When talking about teachers, Technology Coordinator Three stated, "They are willing to try anything new in order to best serve the students." She continued, "I think the teachers are able to really dream big with the personalized learning team and able to dive into what they envision teaching to be when they come out of college and choose this career path."

The principal truly sees the value in the work that online teachers contribute. He stated, "The teacher is an integral part of the decision-making process, in the design of the course, the design of the content, and then the implementation of the course, monitoring the students, evaluating students, providing feedback, and direct teaching." With that in mind, he declared, "We will always create the capacity of our staff to handle change and adjust what we're doing and how we're doing it so we're not stagnant." He also stated, "As our teachers learn the personalized learning framework, those individuals become key in helping us move the whole organization into the personalized learning realm." Teacher Three commented, "For those of us on the PL team developing and teaching, it absolutely has brought about this feeling that you are trusted to do something really important and to make a change for the better at the school."

The Personalized Learning initiative brought about a unique opportunity for teachers and technology coordinators at the District Online School to participate in something new and innovative. The Personalized Learning team began with only nine members: one assistant principal, three technology coordinators, and five teachers. This group felt very empowered to reinvent the structure of the online courses at this school. Teacher Two stated, "I feel like the principal does a great job of letting us try creative new things that may or may not work." Other teachers and staff members quickly recognized the revolutionary work that was being done by the team and were eager to join the effort. Teacher Two shared, "I've never worked in a building where everyone is willing to try new things, willing to work together, willing to be creative all for the betterment of our students." When talking about Personalized Learning, Teacher Two stated, "I feel like it's brought this extra level of excitement to the building." The assistant principal explained, "We started off with five teachers that were dedicated specifically to the personalized learning team. I think I have 15 teachers now, so teachers are being provided the opportunity and some flexibility in their teaching load to be able to focus their attention on the personalized learning development and teaching." She also shared, "Many of the other teachers do ask 'When can I be a part of Personalized Learning?' Our plan is to rotate all of the teachers on there."

There has also been a lot of focus on empowering students through the Personalized Learning initiative. The assistant principal reflected on the vision for Personalized Learning team at the District Online School:

> The two words that really stand out for us in the vision are empower and exceed, because we really want to provide students with the confidence and the tools to be able to take

> control of their own learning. We really want them to go beyond what they actually think they can accomplish.

Teacher One shared, “It's really an empowerment of the students to take responsibility of their coursework, a little bit more, I would say, than in our typical courses.” The assistant principal added, “We are not only trying to empower our students to exceed their potential, we’re also trying to make sure we're working on those soft skills such as managing your time, self-advocating, contacting your teachers and asking for help.”

Teacher Three agreed, “It's also to empower students to learn in their own way.” Technology Coordinator One commented, “I think it's about choice and I think it's about the idea that it's not one size fits all in education.” The assistant principal explained, “The students are able to move through the course in a way that is best fit for them. So, for the students who may struggle in the content area, they are receiving adequate support that is appropriate to them.” The assistant principal also recognized the needs of advanced students.

> Conversely, the student who is a high flyer in a high achieving student in a traditional classroom, that student might be bored or just kind of jump through the motions and not really be challenged. In this environment, that student is being challenged. They're being provided enrichment opportunities or even exemption opportunities, depending on the situation.

Teacher One explained, “I think the difference becomes redeveloping those courses in a way that the student has a better idea immediately of whether or not they’ve mastered a particular content topic or piece of content before moving onto the next topic.”

In the end, all of the participants expressed positive remarks when reflecting on the work they have done with the Personalized Learning initiative. Teacher Two shared, “This is the

defining thing of my career. I'm very proud of the work we've done. I'm excited about the work we have to come. And, I'm very thankful that I was asked to be part of this team." Technology Coordinator One agreed, "I'll just say I think it is one of the most fulfilling projects I've ever worked on." Teacher Three stated, "I haven't had this much fun developing in a long time and it's a lot of fun to teach and collaborate and be a part of a team that's something special and different. So, I'm very thankful." Technology Coordinator Two confessed, "I can say that we feel blessed to be doing it. It's some of the hardest work we've ever done… but we know the benefit for students is going to make it all worthwhile." Technology Coordinator Three exclaimed, "I think it's exciting to see where it is going!" Finally, the principal shared "I'm proud of the team. I'm proud of the work. I'm proud of the leadership. I'm proud of the teachers and what they've created and the time that they've had to invest in creating this new paradigm."

Discussion

The findings in this dissertation contribute to the research surrounding instructional leadership in the online environment, specifically focused on the instructional design and implementation of personalized learning pathways. The purpose of this qualitative study was to investigate the principal's role in the development and implementation of a personalized learning program in an online school setting. Previous research indicates that existing personalized learning models offer students tailored instruction to address individual strengths, needs, interests (Ray et al., 2017). Furthermore, related research identifies the school principal as the person responsible for approving and supporting the implementation of new initiatives to improve teaching and learning (Leithwood, 1994).

The rationale for this study was to consider the instructional leadership practices of an online school principal during the initial process of creating and designing a personalized

learning framework. School principals are expected to be instructional leaders, focusing both on the daily operations of the school and ensuring the academic success of all students (Bryk et al., 2010). Instructional leadership focuses primarily on the role of the school principal in coordinating, supervising, and developing curriculum and instruction in the school (Bamburg & Andrews, 1990; Hallinger & Murphy, 1985). The following section will address each of the guiding questions using Hallinger and Murphy's (1985) three dimensions of instructional leadership: defining the school's mission, managing the instructional program, and promoting a positive school learning climate.

Using a case study approach, this research revealed the instructional leadership decisions and actions of one online school principal involved with the creation and development of personalized digital content. The findings also considered the course developers' perceptions of the impact of leadership behaviors on designing and implementing personalized digital content. The principal interview provided self-perceived leadership practices, while the interviews with the Personalized Learning team members either confirmed or contradicted these claims. Additional data collected through observations and documents added to the overall conclusions to address both of the guiding questions in this study.

The first dimension of Hallinger and Murphy's (1985) instructional leadership model is defining the school's mission. As an instructional leader, the school principal must promote the school's purpose by defining the school's mission and communicating the vision to school staff to provide direction toward achieving the school's goals (Hallinger & Murphy, 1985). The principal's ability to establish a shared vision, model best practices, and embrace instructional technology is key to effective technology integration (Gosmire & Grady 2007). For example, during the interview with the principal, he described the school's mission in his own words as

"to provide a robust instructional program using the latest technology and integrating the instructional practices… to meet students' needs and their goals in life." Teacher One confirmed, "Our school goals are to help students reach their full potential." She continued, "We always encourage our students to strive for excellence in everything that they do. And, that may mean different things for different students."

According to Hallinger and Murphy (1985), the school principal should determine the areas which school staff will focus their attention and resources during a given school year. Halpin (2011) explained that educational technologies require financial commitment to maintaining subscriptions, extensive staff development for facilitators, and ongoing support for students and instructors. The principal discussed his vision of "thinking about how do we apply technology systems in the educational setting to enhance the student experience so they can master the concepts and be successful in life." The idea of "continuous quality improvement" was a prominent theme when discussing the vision and purpose of the Personalized Learning Team. He explained,

> All schools have to evolve over time, especially schools in the technology realm. Instead of just staying in that model of taking what we currently have and continuing to refine it, we think about how do we go to the next step of online instruction.

Teacher One proclaimed, "I feel that he, our principal, felt that Personalized Learning was another tool that we could provide to our students to be successful." The school principal needs to continuously share the school's goals and seek for ways to inspire others to embrace those goals (Hallinger & Murphy, 1985). The principal talked a lot about the core values established by the school staff. They are exceptional quality instruction, service, collaboration, professionalism, and continuous quality improvement. He shared that "those core values are

where all our decisions are made as a school and as an organization." Hallinger and Murphy (1985) suggested, "Principals can ensure that the importance of school goals is understood by discussing and reviewing them with staff periodically during the school year" (p.222). Evidence indicated that this occurs frequently at the District Online School. Teacher One confirmed, "We talk about our school goals often in staff meetings or in professional development."

Next, Hallinger and Murphy (1985) identified managing the instructional program as a key instructional leadership function. In this case study, there is evidence that suggests that the school principal works directly with teachers to support curriculum and instruction. The Personalized Learning initiative at the District Online School was focused primarily on redesigning their digital content to meet the needs of each student. The principal stated, "All of our conversations are around instruction. When we think about the core values and what we're about, it's always about instruction. So, we spend a tremendous amount of time on instruction, on designing instruction, and implementing instruction." Kozloski (2006) explains that school leaders must understand that technology integration is not about the technology itself; it is about focusing on the impact technology has on the learning experience.

The school principal ensures that the school's goals are translated into practice through the supervision and evaluation of instruction (Hallinger & Murphy, 1985). Research shows that instructors who are involved with the development of online courses prior to the course beginning will gain a clear understanding of the process, structure, evaluation, and interaction components of the courses (Anderson, Rourke, Garrison, and Archer, 2001). In this study, the principal hand-selected individuals to participate on the Personalized Learning Team to execute his vision. "Once we figure out the instructional model, it's identifying individuals in the organization that is going to be able to think through that work and those concepts and be able to

populate the model" the principal explained. According to Dexter (2008), teachers often rely on the principal's input about technology use for teaching and learning.

The school principal should periodically review the curriculum and course materials to ensure their alignment with the instructional objectives (Hallinger & Murphy, 1986). The principal assigned an assistant principal to work directly with the Personalized Learning Team to provide structure and guidance throughout the development and implementation process. Gosmire and Grady (2007) stated that school leaders must commit to long-term strategic plans that support new programs through the change process. The school principal uses a variety of information to assess the curriculum, evaluate instruction, and measure progress toward the school's goals (Hallinger & Murphy, 1985). The principal explained,

> I look at benchmarks of how many courses that we're developing and then what are the results of those courses based on our old courses that we're currently implementing. So, it's a neat way that I actually get to see the personalized learning compared to the way that we've taught the courses before. We can see the immediate results.

The assistant principal elaborated, "We are able to look at course success from pretest and posttest and we can look at personalized learning course success versus non-personalized learning course success." She continued, "One thing that we really like and we pride ourselves with the personalized learning course specifically, though, is we are able to look at the effect of personalized learning unit to unit." She explained how they are able to compare the pre-formative assessment at the beginning of every single unit to post-formative assessment at the end of the unit. This enables them to see what gains the students made within each unit.

The final dimension focuses on promoting a positive school learning climate. Principals play a critical role in the successful implementation of new initiatives and have been referred to

as “the gatekeeper of change” (Fullan, 2001). One teacher described the school culture at the District Online School as “innovative” and “supportive.” One of the technology coordinators stated, “We continually look for ways to improve, ways to grow, and ways to learn.” As mentioned previously, the staff at the District Online School established their core values: exceptional quality instruction, service, collaboration, professionalism, and continuous quality improvement. The school principal can influence student and teacher’s attitudes by demonstrating his or her dedication and commitment to teaching and learning within the school (Hallinger & Murphy, 1985). The District Online School principal expressed his passion and commitment to the organization when he talked about the school opening 10 years ago.

> When this position became available, to actually create an online school that was going to be cutting edge, and to bring innovation and creativity to instructional practices, I jumped at the chance and it's been a tremendous journey. There's no textbook for the work that we do.

He continued, “From that first year to where we are now, thinking of how do we apply technology systems in the educational setting to enhance the student experience so they can master the concepts and be successful in life.” As an instructional leader, the school principal must put systems and structures in place to limit interruptions or distractions during instructional time. The District Online School principal recognizes teachers’ needs and makes an effort to provide them the necessary resources. He shared, “Teachers need resources. Teachers need analytical information of how students are progressing through the course and the flexibility to be able to do in-person or direct instruction and use digital content at the same time.” For example, in order to support the teachers who were on the Personalized Learning Team, he reduced their teaching loads so that they had time to work on development.

The school principal should provide staff development activities that are aligned with the school's goals (Hallinger & Murphy, 1985). The technology coordinators discussed their role in supporting teacher-developers and providing professional development as needed. Teacher Three verified, "We've had heavy professional development both one-on-one and in groups with our LMS as far as what we're able to use to design the personalized learning course." Teacher Two added, "Our school does a great job of providing local professional development." Principals are responsible for facilitating positive attitudes toward change in schools (McLeod, Bathon, and Richardson, 2011). The school principal can increase informal interactions and build relationships with students and staff by being visible and available during the school day. All participants agreed that the District Online School principal is approachable. Teacher Three shared,

> I feel that I can go into his office at any point. He has made that clear many times, that his door is always open and he's always available to chat. I see him in the hallways. I see him at meetings. He's a visible presence at our school.

The assistant principal added, "The principal has strategically situated his office at the epicenter of the school building and he is purposeful to be in the halls during transition times and critical relationship-building opportunities." Hallinger and Murphy (1986) mentioned, "Principals promote high expectations for students indirectly through the expectations they hold for themselves and their staff" (p. 6). The principal shared, "It takes a teacher leader, somebody who's very committed to the work, understands the work, able to ask questions, able to articulate what we're doing and how we're doing it, and really create a new paradigm."

Ultimately, the results of the data collected in this study support Hallinger and Murphy's (1985) instructional leadership framework in an online school setting. There is evidence to

support each of the three dimensions defined by Hallinger and Murphy (1985) making this model still relevant and applicable to modern-day virtual schools. The information collected and shared through this study provides a detailed description of one school principal's leadership decisions and actions impacting the creation of an individualized learning program for students in an online setting.

Limitations and Biases

It is important to consider the limitations of a study when designing the research methodology. For this particular study, the sampling method and the case itself limit this study. This study is bounded by the specific criteria outlined for the site selection. That is, the information provided through this study will apply only to online schools or programs that are interested in or in the process of designing online curriculum with a personalized learning approach. The uniqueness of this case prevents the results from being generalizable to all populations. Furthermore, this study is bounded by time, given the research data was collected over two months. The boundedness of this case study restricts the application of the findings.

My role as an insider researcher raises additional concerns for subjectivity and biases. Insider researchers are those who choose to study a group to which they belong (Unluer, 2012). There are many advantages, as well as disadvantages, to conducting insider research. First, my position at the District Online School has allowed me to access information and observe internal practices that may be valuable to other online schools or programs. I have developed a clear and thorough understanding of the online course development process. There is value in the work that is being done at District Online School with the creation of online course content using components of personalized learning. My presence on campus to conduct my research did not disrupt the normal workflow or social interaction among the participants. In fact, the trust and

respect established through my professional relationships with the participants elicited openness and truthfulness during my interviews and interactions.

On the other hand, there are some possible disadvantages to conducting insider research. It can be difficult to balance the roles and responsibilities of the researcher and the insider. My familiarity to the organizational structure and processes could have made it difficult for me to notice important information. Also, my role provided me access to sensitive information about the participants. By acknowledging and addressing these pitfalls, I was able to avoid the negative impacts that they might have on this study. With this in mind, the advantages outweighed the disadvantages for the purpose of this study.

Implications

This dissertation aimed to address two crucial research questions surrounding the principal's role in developing digital content for online learning courses. The findings of this study provide qualitative data to school and district leaders so that they will be able to make informed decisions with regards to the creation and development of district level online learning programs. This study showed extensive evidence surrounding the role and impact of an online school principal through the lens of instructional leadership. As researchers continue to investigate the development and implementation of online learning programs using personalized learning pathways, educators are able to gather information from existing literature. School leaders are able to make informed decisions based on others' experiences and to learn from their processes and outcomes. A review of the literature for this dissertation study found that online and virtual schools are growing at a rapid rate across the nation and across the world. Literature exists on online learning, personalized learning, and instructional leadership independently; however, this study fills in a gap of the literature by integrating all three components into a single

study. The findings from this study have implications for both school and district leaders as they contemplate the implementation of online learning programs or schools in their district, as well as developing personalized learning programs in online and traditional schools.

First, district leaders may consider establishing district online schools to serve students with unique needs that are not being met in the traditional setting. The results of this study may assist central office staff in the selection of school leaders to develop an online school or program. This study highlights key leadership qualities observed in one online school principal when creating new digital content with personalized learning pathways. While interviewing candidates for leadership positions in online schools, school superintendents may consider the instructional leadership qualities and priorities that are addressed in this study to be an effective online school administrator. For example, a school leader who is able to define and communicate a school's mission, demonstrate the ability to manage an instructional program, and show a commitment to promoting a positive school culture may be a good candidate for a position as an online school principal.

School principals who are charged with opening a new online school or improving an existing online program or school may find the information from this study to be informative and powerful. There are many decisions to make when designing a new online school; creating or purchasing digital content is one of those decisions. Although this study focused primarily on the creation and implementation of digital content using personalized learning pathways, the instructional leadership aspects can be applied to other contexts as well. The findings in this dissertation study specify several instructional leadership driven decisions, which contributed to a successful online school. For example, the online school principal in this study focused on aligning local school initiatives with the school's goals, providing necessary resources to

implement new initiatives, and created a culture of empowerment for teachers and students. As reflective practitioners, school leaders may take this information to examine their own practices and priorities. The shared experience of one online school principal may inspire and guide other school leaders to adopt a similar approach to prioritizing tasks and initiatives. Current and future online school principals may consider these leadership decisions and actions when initiating school change. The results can also be applied to school leaders in traditional schools. The leadership actions and behaviors examined in this study can be similarly applied within other school contexts, such as those within traditional brick-and-mortar schools.

Future research on the principal's role in designing and implementing personalized online courses would benefit state, district, and local leaders interested in creating or improving online learning programs. This case study focused on a very specific case in which an established online school was undergoing a redevelopment phase to improve digital content through a personalized learning framework. Other researchers might consider expanding their research to include a larger population and participant pool to include additional online schools and programs to reveal other effective leadership practices in the virtual learning environment. Further research may also conduct similar studies through an alternate lens using another theoretical framework.

Furthermore, the timing of this study lends itself to a larger audience in our current environment due to the challenges of in-person learning during the Covid-19 pandemic. Educators are being forced to reframe the way we view teaching and learning causing school districts to explore alternative learning models. During this time, it would be reasonable to further investigate the structure and effectiveness of various distance-learning models in K-12 schools.

Conclusions

This study was designed to uncover how the leadership practices of one online school principal impacted the development of digital content. The intent of this study was to build a comprehensive look at the role of the online school principal and to examine the instructional leadership decisions and actions involved with the creation and development of personalized digital content. Therefore, this qualitative case study included data collected through interviews, observations, and a review of relevant artifacts and documents. Furthermore, the participants involved were the principal, as well as all individuals directly involved with the Personalized Learning development team. For this study, this included an assistant principal, technology coordinators, and experienced teacher-developers. Collectively, the beliefs of these individuals can offer a broad scope of the leadership practices that influence their work. Multiple perspectives were considered in the data analysis process adding depth and corroboration in the findings of this research.

The findings of this study align with Hallinger and Murphy's (1985) definition of instructional leadership, as well as other scholarly research. However, the specific themes that emerged from this study illuminate aspects of educational leadership that are significant. During the launch of the personalized learning initiative at this online school, the principal focused on aligning local school initiatives with the school's goals, providing necessary resources to implement new initiatives, and creating a culture of empowerment for teachers and students. The evidence from this study provide a deep look into how the principal's decisions and priorities impacted the creation and implementation of this new teaching model.

First, there was a consistent emphasis in the participants' responses on the importance of aligning the Personalized Learning project with the school's goals. The online school principal

explained how the school's mission and vision is the basis of all decision-making. The principal clearly communicated the long-term goal for implementing the new instructional model using personalized learning pathways and the potential impact this could have on student success. This provided school staff and stakeholders with value and purpose for embarking on this journey. Overall, the participants in this study expressed a commitment to the school's goals and willingness to take part in the Personalized Learning project based on the principal's vision.

In addition, the school principal and leadership team demonstrated an investment in the Personalized Learning team by providing the necessary resources to make this initiative successful. The school administrative team selected veteran online teacher-developers and technology coordinators to participate in this project, as well as a designated assistant principal to provide ongoing guidance and support. Members of the Personalized Learning team were granted a reduced teaching load to allow time for collaboration and development. Furthermore, the technology coordinators played a vital role in materializing the technical aspect of the instructional model and providing professional development for Personalized Learning developers and instructors. The principal allocated funds to purchase software and tools needed to build the ideal virtual learning environment for individualized and interactive digital content.

Finally, the school principal purposefully and strategically embraced opportunities to empower both teachers and students throughout this process. When the principal introduced this task to the Personalized Learning team, he granted them the permission and authority to turn his vision into reality. He removed potential barriers and limitations to allow the team to be entirely creative and innovative without boundaries. In the end, the product of the Personalized Learning courses empowered students to have choice and command within their learning experiences. This truly elevated the learning experience for both teachers and students.

Ultimately, the online school examined in this study displayed the epitome of an organization that truly embraces the idea of continuous quality improvement. All stakeholders involved in the research showed a commitment to the school's mission and dedication to constantly improving the learning experience for all students. The participants openly acknowledged the complexity of the work involved with this task; however, the participants also accredited this project as "fulfilling" and the "defining moment" in their careers.

References

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conference context. *Journal of Asynchronous Learning Networks, 5*(2), 1-17.

Andrews, R., & Soder, R. (1987). Principal instructional leadership and school achievement. *Educational Leadership, 44*, 9–11.

Bamburg, J., & Andrews, R. (1990). School goals, principals and achievement. *School Effectiveness and School Improvement, 2*(3), 175–191.

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802–1811.

Bossert, S., Dwyer, D., Rowan, B., & Lee, G. (1982). The instructional management role of the principal. *Educational Administration Quarterly, 18*(3), 34–64.

Bryk, Anthony S., Penny Bender Sebring, Elaine Allensworth, John Q. Easton, and Stuart Luppescu (2010). *Organizing Schools for Improvement: Lessons from Chicago*. Chicago: University of Chicago Press.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process.* London: Sage.

Dexter, S. (2008). Leadership for IT in schools. International handbook of information technology in primary and secondary education, 20, 541-554. doi: 10.1007/978-0-387-73315-9

Empower. (2021). Retrieved January 5, 2021 from https://www.merriam-webster.com/dictionary/empower.

Fullan, M. (2002). Principals as leaders in a culture of change. *Educational leadership,* May, 2002.

Gosmire, D., & Grady, M. L. (2007). A bumpy road: Principal as technology leader. *Principal Leadership, 7*(6), 16-21.

Hallinger , P., & Murphy, J. (1985). Assessing the instructional management behavior of principals. *The Elementary School Journal, 86*(2), 217–247.

Hays, D. G., & Singh, A. A. (2012). *Qualitative inquiry in clinical and educational settings.* New York, NY: Guilford Press.

Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing.* Los Angeles, CA: Sage.

Koerber, A. & McMichael, L. (2008). Qualitative sampling methods. *Journal of Business and Technical Communication, 22*(4), 454-473.

Kozloski, K. C. (2006). *Principal leadership for technology integration: A study of principal technology leadership*, Unpublished doctoral dissertation, Drexel University.

Leithwood, K. (1994). Leadership for school restructuring. *Educational Administration Quarterly, 30*(4), 498 – 518.

Leithwood, K., Begley, P., & Cousins, B. (1990). The nature, causes and consequences of principals' practices: An agenda for future research. *Journal of Educational Administration, 28*(4), 5–31.

Leithwood, K., Seashore Louis, K., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning: A review of research for the Learning from Leadership Project*. New York, NY: The Wallace Foundation.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Beverly Hills, CA: Safe.

McLeod, S., Bathon, J. M., & Richardson, J. W. (2011). Studies of technology tool usage are not enough: A response to the articles in this special issue. *Journal of Research on Leadership Education, 6*(5), 288-297.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.

Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Newbury Park, CA: Sage.

Ray, R., Sacks, L., & Twyman, J. S. (2017). *Equity and personalized learning: A research review*. Retrieved from https://ccsso.org/resource-library/advancing-equity-through-personalized-learning-equity-and-personalized-learning

Robinson, V. M., Lloyd, C. A., Rowe, K. J. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly, 44*, 635-674.

Unluer, S. (2012). Being an Insider Researcher While Conducting Case Study Research. *The Qualitative Report, 17*(29), 1-14. Retrieved from http://nsuworks.nova.edu/tqr/vol17/iss29/2.

Yin, R. K. (2009). *Case study research: Design and method* (4th ed.). Thousand Oaks, CA: Sage.

APPENDICES

APPENDIX A

Georgia State University
Informed Consent

Title: Creating Digital Content for the Individual Learner: A Personalized Approach to Online Learning
Principal Investigator: Dr. Nick Sauers
Student Principal Investigator: Genna Sengstacke McCurley

Introduction and Key Information

You are invited to take part in a research study. It is up to you to decide if you would like to take part in the study.
The purpose of this study is to investigate the instructional leadership aspects involved in the creation and development of online course content using a personalized learning approach.
Your role in the study will last approximately three hours over two months.
You will be asked to do the following:

- Participate in a one-on-one interview for one hour
- Provide school related artifacts
- Grant permission to be observed during a meeting or presentation on two different occasions for one hour each

Participating in this study will not expose you to any more risks than you would experience in a typical day.
This study is not designed to benefit you. Overall, we hope to gain information about the development of online digital content using personalized learning components.

Purpose

The purpose of the study is to investigate the instructional leadership aspects involved in the creation and development of online course content using a personalized learning approach. You are invited to take part in this research study because you are directly involved in the development of personalized learning courses at the site location selected for this study. A total of 10 people will be invited to take part in this study.

Procedures

If you decide to take part, you will participate in a 60 minute face to face interview. You will be asked open-ended questions related to your experience with the Personalized Learning Team. The interview will be audio-recorded and transcribed by the student investigator. You will be allowed to review the written transcription and provide corrections or clarification, if needed.

The interview will occur in a private, quiet location within your school at a mutually agreed upon time. You will be asked to provide school related artifacts such as meeting agendas and minutes, publications, and presentations. You will be asked to be observed during two meetings or presentations with the Personalized Learning Team, for one hour on each occasion.

Future Research

Researchers will not use or distribute your data for future research studies even if identifiers are removed.

Risks

In this study, you will not have any more risks than you would in a normal day of life. No injury is expected from this study, but if you believe you have been harmed, contact the research team as soon as possible. Georgia State University and the research team have not set aside funds to compensate for any injury.

Benefits

This study is not designed to benefit you personally. Overall, we hope to gain information about the development of online digital content using personalized learning components.

Alternatives

The alternative to taking part in this study is to not take part in the study.

Voluntary Participation and Withdrawal

You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. You may skip questions or stop participating at any time. This will not cause you to lose any benefits to which you are otherwise entitled.
The student principal investigator may be your direct supervisor. No preference will be given to those who participate. The decision to participate, or not take part, will have no effect on your employment at this institution.

Confidentiality

We will keep your records private to the extent allowed by law. The following people and entities will have access to the information you provide:

- Dr. Nick Sauers and Genna Sengstacke McCurley
- GSU Institutional Review Board
- Office for Human Research Protection (OHRP)

We will use numbers (i.e. 1, 2, …) rather than your name on study records. A key will be used to connect the numbers to names, which will be stored separately from the data. The information you provide will be stored electronically on a password and firewall- protected computer or in a locked cabinet in the office of the student investigator. The key having participant names will be

stored separately from the data to protect privacy. Audio-recordings will be erased from the device once uploaded. All study data, including the key code and audio-recordings, will be destroyed three years after the study closure. Your name and other facts that might point to you will not appear when we present this study or publish its results. You will not be identified personally. In order to protect your confidentiality, a pseudonym will be used to reference the school site. The school site will be referred to as District Online School.
When we present or publish the results of this study, we will not use your name or other information that may identify you.
The participant should be aware that data sent over the Internet may not be secure and information sent via email cannot be assured to be anonymous.

Contact Information

Contact Dr. Nick Sauers at 712-330-3493 or nsauers@gsu.edu and Genna Sengstacke McCurley at 770-262-5313 or gsengstacke1@student.gsu.edu

- If you have questions about the study or your part in it
- If you have questions, concerns, or complaints about the study

The IRB at Georgia State University reviews all research that involves human participants. You can contact the IRB if you would like to speak to someone who is not involved directly with the study. You can contact the IRB for questions, concerns, problems, information, input, or questions about your rights as a research participant. Contact the IRB at 404-413-3500 or irb@gsu.edu.

Consent

You may keep a copy of this consent form for your records.

If you are willing to volunteer for this research and be audio-recorded, please respond to this email and state “I agree to be in the study.”

APPENDIX B

Recruitment Email

Date:

Greetings,

I am writing to tell you about a study entitled, *Creating Digital Content for the Individual Learner: A Personalized Approach to Online Learning* being conducted by Genna McCurley. She is a doctoral student at Georgia State University.

The purpose of this research study is to investigate the instructional leadership aspects involved in the creation and development of online course content using a personalized learning approach.

As an employee of Gwinnett Online Campus, you could potentially provide valuable firsthand information about your own perceptions and experiences related to the Personalized Learning Team.

Obtaining Your Consent:
Additional information is provided in the "Informed Consent Form" below. After reading the informed consent form in its entirety, if you are willing to participate in the research study, please respond to this email and state "I agree to be in this study" within 10 days.

After giving consent, you will be contacted via email by Genna McCurley to schedule a 60-minute interview. It is important to know that this letter is not to direct you to participate in the study. It is your decision; your participation in this study is voluntary. Please do not feel obligated to respond to this email if you are not interested in the study. Thank you in advance for your time and consideration. If you have any questions, you may contact Dr. Nick Sauers (nsauers@gsu.edu) or Genna McCurley (gsengstacke1@student.gsu.edu).

Sincerely,

Dr. Nick Sauers

APPENDIX C

Principal Interview Protocol

Thank you for agreeing to speak with me today. This interview should last about 60 minutes. During this interview, please do not use any names or share information that can identify specific people. If at any time, you do not wish to answer a question, or would like to end the interview, please let me know.

1. How long have you been principal at the online school?
2. What are the school's goals?
3. Does the mission and purpose of the Personalized Learning Team align with the school's mission and vision?
4. How does the personalized learning initiative support the school's mission?
5. In what ways do you supervise and evaluate instruction in the online setting?
6. How did you decide that there was a need to redevelop online course content with a personalized learning approach in your school?
7. What factors did you consider when deciding to move forward with the initiative to redevelop course content with personalized learning pathways?
8. Who was involved in this decision process?
9. What has been your role in supporting the Personalized Learning Team?
10. How do you measure or monitor student progress in Personalized Learning courses?
11. How would you describe the school culture?
12. What impact, if any, do you think the Personalized Learning Team or initiative has had on the school culture?

13. What, if any, resources did you decide to allocate for the redevelopment of online courses with personalized learning?
14. As you prepared to implement the personalized learning development, what actions did you take in regards to preparing/training the members of the Personalized Learning Team?
15. How do you monitor the development process of the personalized learning courses?
16. How do you protect instructional time while promoting course development?
17. What, if any, incentives have you provided to teachers?
18. What, if any, incentives have you provided to students?
19. Is there anything else that you would like to share with me about the personalized learning initiative at your school?

APPENDIX D

Assistant Principal Interview Protocol

Thank you for agreeing to speak with me today. This interview should last about 60 minutes. During this interview, please do not use any names or share information that can identify specific people. If at any time, you do not wish to answer a question, or would like to end the interview, please let me know.

1. How long have you been an assistant principal at the online school?
2. What are the school's goals?
3. How has the principal articulated the school's goals?
4. What are the goals of the Personalized Learning Team?
5. In your opinion, does the mission and vision of the Personalized Learning Team align with the school's mission and vision?
6. How does the personalized learning initiative support the school's mission?
7. In what ways do you supervise and evaluate instruction in the online setting?
8. Were you part of the decision process to determine if there was a need to redevelop online course content with a personalized learning approach in your school?
    a. Do you believe there was a need to redevelop online course content with a personalized learning approach in your school?
    b. What factors were considered when deciding to move forward with the initiative to redevelop course content with personalized learning pathways?
9. What is your role in supporting the redevelopment of online course content with a personalized learning approach in your school?

10. What role has the principal played in developing Personalized Learning courses?
11. How do you measure or monitor student progress in Personalized Learning courses?
12. How would you describe the school culture?
13. What impact, if any, do you think the Personalized Learning Team or initiative has had on the school culture?
14. What, if any, resources did your principal allocate for the redevelopment of online courses with personalized learning?
15. What professional development have you received supporting your role?
16. How do you balance time spend on developing courses and teaching?
17. To your knowledge, how does your principal monitor the development process of the personalized learning courses?
18. Do you feel the principal is visible and available to teachers and students at your school?
19. What, if any, incentives have been provided to teachers?
20. What, if any, incentives have been provided to students?
21. Is there anything else that you would like to share with me about the personalized learning initiative at your school?

APPENDIX E

Technology Coordinator Interview Protocol

Thank you for agreeing to speak with me today. This interview should last about 60 minutes. During this interview, please do not use any names or share information that can identify specific people. If at any time, you do not wish to answer a question, or would like to end the interview, please let me know.

1. How long have you been a technology coordinator at the online school?
2. What are the school's goals?
3. How has the principal articulated the school's goals?
4. What are the goals of the Personalized Learning Team?
5. In your opinion, does the mission and vision of the Personalized Learning Team align with the school's mission and vision?
6. How does the personalized learning initiative support the school's mission?
7. Were you part of the decision process to determine if there was a need to redevelop online course content with a personalized learning approach in your school?
    a. Do you believe there was a need to redevelop online course content with a personalized learning approach in your school?
    b. What factors were considered when deciding to move forward with the initiative to redevelop course content with personalized learning pathways?
8. What is your role in supporting the redevelopment of online course content with a personalized learning approach in your school?
9. What role has the principal played in developing Personalized Learning courses?

10. How do you measure or monitor student progress in Personalized Learning courses?
11. How would you describe the school culture?
12. What impact, if any, do you think the Personalized Learning Team or initiative has had on the school culture?
13. What, if any, resources did your principal allocate for the redevelopment of online courses with personalized learning?
14. What professional development have you received supporting your role?
15. To your knowledge, how does your principal monitor the development process of the personalized learning courses?
16. Do you feel the principal is visible and available to teachers and students at your school?
17. What, if any, incentives have been provided to teachers?
18. What, if any, incentives have been provided to students?
19. Is there anything else that you would like to share with me about the personalized learning initiative at your school?

APPENDIX F

Teacher Interview Protocol

Thank you for agreeing to speak with me today. This interview should last about 60 minutes. During this interview, please do not use any names or share information that can identify specific people. If at any time, you do not wish to answer a question, or would like to end the interview, please let me know.

1. How long have you been a teacher at the online school?
2. What are the school's goals?
3. How has the principal articulated the school's goals?
4. What are the goals of the Personalized Learning Team?
5. In your opinion, does the mission and vision of the Personalized Learning Team align with the school's mission and vision?
6. How does the personalized learning initiative support the school's mission?
7. Were you part of the decision process to determine if there was a need to redevelop online course content with a personalized learning approach in your school?
    a. Do you believe there was a need to redevelop online course content with a personalized learning approach in your school?
    b. What factors were considered when deciding to move forward with the initiative to redevelop course content with personalized learning pathways?
8. What is your role in supporting the redevelopment of online course content with a personalized learning approach in your school?
9. What role has the principal played in developing Personalized Learning courses?

10. How do you measure or monitor student progress in Personalized Learning courses?
11. How would you describe the school culture?
12. What impact, if any, do you think the Personalized Learning Team or initiative has had on the school culture?
13. What, if any, resources did your principal allocate for the redevelopment of online courses with personalized learning?
14. What professional development have you received supporting your role?
15. How do you balance time spent on developing courses and teaching?
16. To your knowledge, how does your principal monitor the development process of the personalized learning courses?
17. Do you feel the principal is visible and available to teachers and students at your school?
18. What, if any, incentives have been provided to teachers?
19. What, if any, incentives have been provided to students?
20. Is there anything else that you would like to share with me about the personalized learning initiative at your school?

APPENDIX G

Observation Protocol

Date: _____ Time: _____ Length of activity: _____ Site: _____

Participant(s): _____

Event Description: _____

_____

Descriptive Notes	*Reflective Notes*
Physical setting	Initial interpretation
Description of individuals present	Personal reflections
Sequence of activity over time	Questions to self
Interactions between individuals	Points of interest
Unplanned events	Areas of confusion
Participants comments	