Learner Profiles in Middle School Classrooms

Mikayla Bruner

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We hereby certify that this Dissertation, submitted by Mikayla Baker, conforms to acceptable standards and fully fulfills the Dissertation requirements for the degree of Doctor of Education from College of Saint Mary.

Claudia Wickham, EdD

Credential Chair

Kristi Preisman, PhD

Credential Committee Member

Mark Weichel, EdD

Credential Committee Member

Dedication Page

This is dedicated to my family. Your never-ending love and support mean the world to me. Without your support throughout this process, I would not have been able to accomplish this dream. You have always been there cheering me on; thank you.

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Abstract

The purpose of this grounded theory qualitative study was to examine how educators develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as their experiences with personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students. To explore these elements, seven middle level classroom teachers participated in an initial interview, final interview, and completed bi-monthly journals. The researcher kept memos and collected blank learner profile questionnaires from participants in a Midwest middle school.

Chapter One: Introduction

Personalized learning is a current buzz word in education. One aspect of personalized learning is learner profiles (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015; Rickabaugh, 2016). Using Vygotsky's sociocultural constructivist theory, this study examined how educators use learner profiles, challenges associated with using personalized learner profiles, as well as their experiences with personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students in a Midwest middle school.

Background and Rationale

Schools are buried in the marrow of tradition. Beane (1993) stated, "One cannot overestimate the power of these structures of tradition or the very deep loyalties many […] educators have to them" (p. 12). A one-size-fits all approach to education based on the needs of the industrial-age can no longer be justified as best practice (ASCD, 2007; Conole, 2009; Hargreaves, 2010; Kallick & Zmuda, 2017; Tomlinson, 2001; Wolf, 2010). Too many students are not served under a one-size-fits all model for education (Kallick & Zmuda, 2017; Murphy, Redding, & Twyman, 2016; USDOE, 2010). As stated from the Lindsey Unified School District (2017), "students—not time—should be at the center of the education system" (p. 15). There should be a more effective model to best serve the students of tomorrow. When students are engaged, self-directed, autonomous, and motivated, they are more likely to attend school because they are empowered (Lindsey Unified School District, 2017); and when students attend school, they are more likely to graduate. Students are motivated when schools have meaningful curriculum that "is applicable to the outside world" (AMLE, 2012, pg. 21).

There is a specific need to focus on middle level education. The Association for Middle Level Education (2012) stated, "many urban districts have confirmed that large middle schools, ones that have not implemented the middle school concept, are failing to provide a quality education to their young adolescents" (p. vii). Balfanz (2009) found that "sixth graders who failed math or English/reading, or attended school less than 80% of the time, or received an unsatisfactory behavior grade in a core course" maintained a 10% to 20% change of earning their high school diploma on time (p. 4). Middle school is a key age that can make or break a student's academic career. Students who lack the "skills, knowledge, and self-confidence" in middle school carry over their deficiencies to high school, unable to correct their course causing them to drop out (Balfanz, 2009).

A handful of research studies have been conducted on personalized learning as a whole (Bill & Melinda Gates Foundation, 2014; Hargreaves, 2010; Jones & McLean, 2012; Redding, 2013; Sebba, Brown, Steward, Galton, & James, 2007; Underwood, Baguley, Banyard, Coyne, Farrington-Flint, & Selwood, 2007), but little to no research has been conducted on the components of personalized learning, including personalized learner profiles. Knowing the learner is important because learners are central to personalized learning (Bray & McClaskey, 2013; Hargreaves, 2010; Lindsey Unified School District, 2017). In order for a classroom teacher to be successful, he/she must know their students (Cherif, 2011). The more a classroom teacher knows about his/her students, the better instructor the teacher will be (Cherif, 2011). Fisette (2010) argues that getting to know students, and understanding their background and experiences are an effective teacher's primary goals. Learner profiles provide a way for classroom teachers to collect meaningful information about students.

Problem Statement

When looking at innovation in society, from computers that fit in our pocket, to expediency in which information is now shared, one thing is eerily the same-- our schools. We still have bells, students sitting in rows facing a board, and teachers teaching subject areas in isolation. Every student learns differently. According to Jukes, McCain, and Crockett (2010), digital learners have the following characteristics and the consequent disconnects:

Digital learners prefer:

- to access information quickly from multiple-media sources, but many educators prefer slow and controlled release of information from limited sources.

- parallel processing and multitasking, but many educators prefer linear processing and single tasks or limited multitasking.

- random access to hyper-linked multimedia information, but many educators prefer to prove information linearly, logically, and sequentially.

- to learn "just in time," but many educators prefer to teach "just in case."

- instant gratification and immediate rewards, but many educators prefer deferred gratification and delayed rewards.

- to network simultaneously with others, but many educators prefer students to work independently before they network and interact.

- processing pictures, sounds, color, and video before text, but many educators prefer to provide text before pictures, sound, and video.

- learning that is relevant, active, instantly useful, and fun, but many educators feel compelled to teach memorization of the content in the curriculum guide (p. 15).

As a result of these disconnects, these new, active learners are bored in formal educational

settings (Scheninger, 2014).

Several school systems are attempting to break out of the traditional use of time, energy,

and resources within schools. ASCD (2007), urges schools to "put the child at the center of

decision making and allocate[ion of] resources" (p. 19). School leaders are looking into new

ways to use time and resources through personalized learning (PL). Several educational leaders

convened at an ASCD symposium and identified the following elements as possible means to

achieve PL: redefining the use of time, both the Carnegie Unit and the school calendar; allowing

performance-based assessments; fair and equitable able access to technology and the

infrastructure needed to support it; a change in the way schools are funded; and the dismantling

of the grade band system currently in place (Wolf, 2010). Personalized learning has the potential

to "transform the way we educate our children" (Hargreaves, 2010, p. 139).

PL moves away from the teacher-centered classroom and moves toward a student-

centered learning environment (Hargreaves, 2010; Wanner & Palmer, 2015; Wolf, 2010). PL

puts students in the driver's seat of their own learning and experiences they have in and out of

the classroom. However, students must be taught how to assume responsibility for planning and

assessing their own learning (AMLE, 2012). All classroom instruction begins and ends with the

learner. Twenty-first century educators must know their learners.

One way to know the learner, when designing personalized learning opportunities, is

through the use of a learner profile. By collecting information about a student, educators can

offer students voice and choice within the load bearing walls of our current educational system.

Many educators conduct surveys or questionnaires to get to know students better at the beginning

of the school year (Polleck & Shabdin, 2013). Students' answers give the classroom teacher

insight into individual students; it is a way for the classroom teacher to build a relationship with that student. Middle schools are intentionally designed to have teams of teachers, who have the same group of 120-150 students split between a core group of 3-6 classroom teachers (Dickinson & Erb, 1997). By intentionally placing students on teams, schools create a smaller community within the existing larger middle school community where students can build confidence, leadership, and grow within safely (Boyer & Bishop, 2004). The core group of classroom teachers can aid students' development in this time of transition; when classroom teachers know and recognize students' backgrounds, experiences, and cultures, educators can then scaffold instruction or processes to help students be successful learners. This is part of Lev Vygotsky's sociocultural constructivism theory and the Zone of Proximal Development, which will be explain further in the theoretical framework (Vygotsky, 1978a).

Ershel and Stabile (2015) assert that learning is unique to each learner. When educators help students make connections between content and the student's experiences, they have a positive perception of school and learning (Polleck & Shabdin, 2013; Smart, 2014). Students who have positive connections with their classroom teachers are more likely to then succeed academically (AMLE, 2012; Wallace, 2007). However, after an extensive search, it was found that many of the studies dealt with e-learning and computer programs making decisions about instruction, rather than the classroom teacher (Biletsky, Baghi, Keleberda, & Fleming, 2009; Beres, Magyar, & Turcanyi-Szabo, 2012; Green, Southard, & Valenzuela, 1995; Ng, 2015).

Other studies focused on learner profiles in the context of differentiated instruction, which focused on student readiness and interests (Tomlinson & Moon, 2013). This neglects other important factors, mentioned above, to consider when creating and using a learner profile to personalize instruction, such as the learner's history with content and vital background

information personal to that child. Therefore, little to no research has been conducted on the use of personalized learner profiles and how middle level classroom teachers use the information collected to personalize student learning (Bill & Melinda Gates Foundation, 2014; Sebba, Brown, Steward, Galton, & James, 2007).

Purpose

The purpose of this qualitative study was to examine how educators develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as their experiences with personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students in a Midwest middle school.

Research Questions

The central research question was:

How do middle level classroom teachers use personalized learner profiles to personalize instruction in a Midwest middle school?

The proceeding questions were sub-questions:

a. What is the process classroom teachers use when developing personalized learner profiles?

b. What challenges do classroom teachers face when using personalized learner profiles?

c. What are classroom teachers' experiences with personalized learner profiles in relation to classroom instruction?

Definition of Terms

The following list of terms includes definitions of key vocabulary used within this research study:

Personalized Learning. Personalized learning is a pedagogical approach that shifts the focus from teacher-centered to learner-centered pedagogy in schools (Ellen, O'Ferral, Henschell, & Roth, 2014). Within personalized learning, every aspect begins and ends with the learner, including their needs, interests, background and designs the educational environment to what, when, how, and where students learn best (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015; Rickabaugh, 2016).

Personalized Learner Profile. A learner profile is a current record of a student's information, that could include: goals, strengths, interests, needs, motivators, demographic data, test scores, and dispositions (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015; Rickabaugh, 2016).

Differentiated Learning. Differentiated learning is a student-centered approach that accounts for student readiness and interests by differentiating content, product, and assessment of and for learning (Gregory & Chapman, 2002; Tomlinson, 2001; Tomlinson & Moon, 2013).

Learner-centered approach. A learner-centered approach, which can also be referred to as a student-centered approach, to learning is responsive to student needs by shifting classroom methods and strategies from the teacher as disseminator of information to the classroom teacher helping students create and use content in relevant ways (Blumberg, 2015; Bray & McClaskey, 2013; Ellerbock & Kiefer, 2014). Strategies and methods are typically hands-on and active (Ellerbock & Kiefer, 2014).

Scaffolding. Scaffolding is a "sliding scale" of supports for students to access information and content within the student's zone of proximal development (Alberta Education, 2010; Fisher & Frey, 2014, p. 349; Manitoba Education, 2006; Morgan, 2014). Scaffolding could

include breaking up the chunks of learning, previewing or pre-teaching vocabulary, asking guiding questions, or modifying writing assignments.

Middle level classroom teacher. A classroom teacher is the person who primarily instructs students within the classroom setting (AMLE, 2012; Thornton, 2013). Specifically, within a secondary setting of grades seven and/or eight, this person instructs students in one content area (AMLE, 2012; Reidel & Draper, 2013).

Classroom instruction. Classroom instruction refers to the middle level classroom teacher's teaching, directions, and/or information provided before, during, and after a lesson. This instruction may occur electronically via a platform like Google Classroom, or in person, such as in small groups, and/or larger whole class settings.

Midwest middle school. A Midwest middle school is a public school consisting of seventh and eighth grade students in the state of Nebraska.

Assumptions, Limitations, Delimitations

The researcher assumes classroom teachers were honest in their responses. It is also assumed that classroom teachers get to know their students with beginning of the year surveys and/or get-to-know-you activities. It is also assumed that classroom teachers care and want to know personal information about their students in addition to academic data.

Although all efforts were taken to use appropriate qualitative research methods, the researcher acknowledges certain limitations restrict the validity of these findings. Limitations of a study are possible weak points regarding the study as determined by the researcher (Creswell, 2012). Limitations for this study include ungeneralizable results, as this study has a limited sample size and will be conducted on only one site in the Midwest; therefore, the usefulness of these findings may only pertain to district stakeholders. The generalizability of these findings are

also limited by the participants themselves and their experiences with personalized learning and personalized learner profiles.

Additionally, bias of the researcher must be mentioned as a limitation of this study, as the research site is the researcher's place of employment. Bias, for the purpose of this study, will be defined as distortion of research data (Gay, Mills, & Airasian, 2009). Lastly, this study relied on participants to self-report data and information about the use of personalized learner profiles.

This study was delimited to the exploration of classroom teacher uses and experiences with personalized learner profiles. The perspectives and experiences of other school professionals, such as Speech Language Pathologist, Guidance Counselors, administrators, as well as other school professionals that may work with students will not be considered as participants for this study. Lastly, the theoretical framework of Vygotsky's sociocultural constructivism is the lens in which this study was viewed.

Summary

This chapter discussed the background and rationale for this study. There is a gap in the research regarding learner profiles under all methods, including differentiated learning and personalized learning. Several leaders in the field of education discuss the importance of getting to know students, but best practices on how to go about this has been overlooked (AMLE, 2012; Bray & McClaskey, 2013; Rickabaugh, 2016; Tomlinson, 2001). The purpose of this study was to begin filling the current oversight in research about learner profiles by exploring how classroom teachers use learner profiles, as well as their experiences, including challenges using these profiles. Lastly, this chapter addressed the assumptions of the researcher, in addition to limitations and delimitations of this study.

Chapter Two: Review of Literature

There are several pieces that feed into each other for this review of literature. The corner piece of this puzzle is the theory behind middle level education, which includes constructivism and Maslow's Hierarchy of Needs. The second key piece is how personalized learning and differentiation fit together into this puzzle. Personalized learning and differentiation are both learner-centered approaches of education. The third key piece to this puzzle is the role of technology. The final piece revolves around the idea of knowing the learner, which fits snuggly with culturally and developmentally responsive teaching while providing learner voice and choice. Educators can know the learner by using personalized learning profiles.

Theoretical Frameworks

Sociocultural Constructivism

Sociocultural constructivism, developed by Lev Vygotsky, is a theory that feeds into what is coined personalized learning and was derived from Piaget's work. Kallick and Zumuda (2017) include social construction as one of the four defining attributes of personalized learning. Vygotsky (1978a) contends that learning and development are interrelated and that learning occurs when a "child is interacting with people in his environment and in cooperation with his peers" (p.40). Vygotsky (1978b) states, "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level" (p. 57). The sociocultural constructivist view contends that learners actively construct knowledge socially by engaging with their environment, devices, artifacts, peers, and experts (Ershler & Stabile, 2015; Foster, 2015; Kallick & Zmuda, 2017; Schrader, 2015; Vygotsky, 1978a) and growth occurs in the Zone of Proximal Development (ZPD) (Schrader, 2015; Vygotsky, 1978a). According to Vygotsky (1978a), the ZPD is determined by establishing a child's actual developmental level

and their potential development "as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 38). This is referred to as scaffolding (Fisher & Frey, 2014; Vygotsky, 1986). Just like the scaffolding workers use when building a structure, scaffolding with students it intended to be temporary and help students grapple with more difficult material (Fisher & Frey, 2014).

New learning is "built into the schema of existing concepts" (AMLE, 2012, p. 21). However, when studying language acquisition, Vygotsky (1986) determined "a concept's generality does not coincide with the stages in the development of the structure of generalization" (p. 198). Vygotsky (1978a) clarifies a difference between imitation and the advancement of development; children have the ability to imitate beyond their own capabilities, but true learning or the advancement of development does not occur with imitation alone. However, Vygotsky (1978b) compared the child's imitation of an adult to a multi-exposure photograph; the repeated behavior solidifies the scheme and creates a "rough blueprint for possible types of action in the future" (p. 22).

According to Ershler and Stabile (2015), sociocultural constructivism "asserts that educators do not transmit knowledge to students, but instead they help them discover meaningful ways to learning about the context," meaning classroom teachers are facilitators of learning (p. 5). It is then necessary for learners to "engage in interpretation, organization, and inference creation about knowledge" (Ershler & Stabile, 2015, p. 6). Educators must monitor students' ZPD, knowing students' sweet spots; in other words, educators must find and know what students are independently ready to do and learn and when students need assistance (Foster, 2016; Vygotsky, 1978a). Expert classroom teachers build scaffolds for learners to be successful (Ankrum, Genest, & Belcastro, 2014). As a result, learners reflect the active learning

environment, which is a product of a learner-centered classroom (Ershel & Stabile, 2015).

Within the realm of sociocultural constructivism, learning is unique to the individual learner

(Ershel & Stabile, 2015) and "occurs through problem-solving experiences" (Schrader, 2015).

Sociocultural constructivism leads to the assumption that when learners are in the ZPD they are

motivated intrinsically to learn (Morgan, 2014; Schrader, 2015). Active engagement in the ZPD

is a core component of personalized learning.

Maslow's Hierarchy of Needs

Abraham Maslow provided the world with a psychological view of science (Maslow,

1954). Maslow (1954) described the basic need and motivation of the human species for food;

affection or love; safety or protection and care; then respect and status; lead then by self-

actualization. Maslow (1954) goes on to explain that if at any point these needs are not met and

the person experiences frustration, then mental disorders result. Maslow identified five levels of

human need and motivation (Maslow, 1954; Noltemeyer, Bush, Patton, & Bergen, 2012;

Thielke, Harniss, Thompson, Patel, Demiris, & Johnson, 2012). Each level is a prerequisite for

the next, beginning with physical needs (food, water, breathing), safety and security (security of

resources, of family, of health, of property), belonging and love (friendship and family), esteem

(confidence, achievement, respect of others), and self-actualization (morality, creativity,

problem-solving, lack of prejudice) (Maslow, 1954; Noltemeyer, Bush, Patton, & Bergen, 2012;

Thielke, Harniss, Thompson, Patel, Demiris, & Johnson, 2012).

Ultimately, students need the foundation of four base layers in order to learn; these

foundations provide motivation to achieve (Malsow, 1954; Noltemeyer, Bush, Patton, & Bergen,

2012). If the first layer of physical needs is not met, as explained by Maslow (1954), other

functions are impaired, such as memory, emotions, and context of thinking. Speaking directly to

motivation, Maslow (1954) discussed the need to examine unconscious motivation. Maslow (1954) mentions repeatedly the need to look at the whole person. Human needs and motivation do not happen in isolation, nor can one be isolated from another (Maslow, 1954). Maslow (1954) stated, "when a conscious desire is analyzed we find that we can go behind it […] to other, more fundamental aims of the individual" (p. 21). Another key to motivation lies within what humans wish for; Maslow (1954) explained that humans "yearn consciously for that which might conceivably be actually attained" (p. 31). This has monumental implications when examining populations based on class and culture; when looking at students in poverty, college may not seem attainable, therefore, this population does not wish to go to college because they feel it is not attainable.

Maslow (1954) stated, "better social conditions tend to help the searcher of knowledge" (p. 10). When students have the four base layers, they are more likely to "become engaged in school," "act in accord with school goals and values," "develop social skills and understanding," "contribute to the school and community," and "achieve academically" (ASCD, 2007, p. 12). According to Brunzell, Waters, and Stokes (2015), a child's ability to self-regulate and maintain healthy relationships is dramatically affected by traumatic stressors, such as sexual abuse, neglect, death, or other adverse childhood experiences.

Maslow (1954) noted that frequently moving disrupts and distresses children; this disrupts the community and sense of belonging a child creates within their native environment. According to the 2016 America's Children Brief, nearly one in five children living in the United States live in poverty and 23% of children live in homes with food insecurity. These kinds of childhood traumas damage critical neurological and psychological systems (Brunzell, Waters, & Stokes, 2015). The California Department of Education (2005) reported connections between

physical health and academic advancement, including a correlation between grades and attendance when the leaner's health needs are fulfilled, and the lack of breakfast, presence of substance abuse, illicit drugs, and the sense of a lack of safety effect students' performance in school. A 2005 study correlated adverse childhood experiences with mental illness, substance abuse, and impaired memory (Anda, Felitti, Bremner, Walker, Whitfield, Perry, Dube & Giles, 2005). The participants in the study had difficulty controlling anger, experienced depression, had anxiety, and sleep disturbances (Anda, Felitti, Bremner, Walker, Whitfield, Perry, Dube & Giles, 2005). Maslow (1954) stated that we must assume motivation does not end, it fluctuates, and is complex. Therefore, if students are coming to school without the first level of physical needs being met, nor the second of safety and security, those students will not reach the top level of self-actualization, meaning they will not be ready to learn.

History and Philosophical Foundation for the Middle School Concept

William M. Alexander is considered the founder of the middle school movement (Schafer, Malu, & Yoon, 2016). Alexander (1963) suggested four characteristics of junior high schools to address in his speech: the purpose of a junior high is to transition students from childhood to adolescence; programing is developmentally appropriate; programing is exploratory; and the continued teaching of general education curriculum. Alexander (1963) expanded on each of these ideas in his speech. The need for middle level education to be a bridge between the broadness of elementary education and the departmentalization of high school, including core programing or block-time (Alexander, 1963). Alexander (1963) emphasized that the "chief justification of this program is to ease the transition from elementary to junior high school" (p. 1). Alexander (1963) recognized the developmental difference and challenges adolescents face, including the need for freedom of movement; more opportunities to participate

and mange learning experiences; resources to help students with the "problems of growing up";

and expanded "opportunities to explore new interests" (p. 2). Little did Alexander (1963) realize,

but several of his ideas for a new middle school model would mold future teaching and learning

strategies and pedagogy. The third characteristic discussed by Alexander (1963) was exploratory

experiences. Alexander (1963) purposed alternative scheduling, independent experiences and

projects to allow learners to explore their interests. The fourth characteristic of general education

touched on the need for purposeful teaching and thoughtful curriculum planning (Alexander,

1963). Alexander (1963) went on to add three more characteristics, but of a middle school, which

include individualized instruction, flexible curriculum and character education, although

individualized instruction has been dubbed unstainable (Tomlinson, 2001). Alexander (1963)

danced around some key phenomenon that often frustrate and perplex middle level educators,

including rebellion or resistance and the lack of motivation with this age group. Alexander

(1963) discussed potential drop-outs that can be identified in middle school due to being

intellectually unstimulated or motivated. Alexander (1963) provided the following example:

"Jonny needs all the attention he can get from a teacher who knows him well and respects his

individuality" (p. 3). Alexander (1963) hit on the importance of knowing learners and alludes to

the potential this has on the intellectual stimulation and motivation of learning. The second

purposed characteristic in Alexander's (1963) speech was flexible curriculum. Alexander (1963)

recognized that learners learn at different rates and depth and that there is a need for

"differentiated tasks for learners," and a need for inquiry to replace memorization (p. 4).

Alexander's (1963) final purposed characteristic of character education encouraged the idea that

middle level learners should be guided to take responsibility for their actions, respect one another

and adults, know right from wrong, and teach learners to "grow to a real independence" (p. 5).

In 1963, schools in the United States underwent a change in name from "junior high" to "middle school" (Schafer, Malu, & Yoon, 2016). Middle schools and high schools transformed to prepare students not only for college, but to "become the managers in […] new enterprises" (Dickinson & Erb, 1997, p. 24). This new era required specialization, thus creating more complex systems within schools (Dickinson & Erb, 1997). After being criticized for not meeting the social and emotional needs of learners, another shift occurred (Dickinson & Erb, 1997). During the 1970s, the middle school movement centered on identifying and defining foundational pieces of a middle school, including "individualized instruction, team teaching, and interdisciplinary planning" (Schafer, Malu, & Yoon, 2016, p. 5). Individualized instruction was interpreted as the teacher planning different lessons each student, which exhausted educators (Tomlinson, 2001). Although Tomlinson (2001) noted the fatal flaw of individualized instruction, Tomlinson (2001) applauded the lesson learned, which was the recognition that students have different learning needs. Alexander (1963) suggested teams of students be between 75 and 150. Students were grouped into interdisciplinary teams, which allowed for more flexibility; teams of teachers could team teach and plan labs, field trips, speakers, and independent study time (Dickinson & Erb, 1997).

A Nation at Risk was published in 1983; the report declared a decline in educational performances and then blamed the inadequacies on the educational process itself (*A Nation at Risk*, 1983). *A Nation at Risk* (1983) criticized everything from teacher preparation to expenditures on text books, but the report largely ignored middle level education (Schafer, Malu, & Yoon, 2016). Middle school concepts evolved to not just interdisciplinary planning and teaching, but the actual content being taught, team teaching, and the acknowledgement that middle schools learners are as unique as they are diverse (Schafer, Malu, & Yoon, 2016).

Schafer, Malu, and Yoon (2016) refer to middle school students as transescents. The whole notion of middle school revolved around the questions: "What should transescents know? And what were the circumstances needed for them to learn?" (p. 7). Beane (1993) commented on the lack of conversation concerning middle level curriculum. Beane (1993, 2005) advocates for a democratic and thematic approach to middle level education. Beane (1993) linked early adolescent concerns with themes. For example, an adolescent is concerned with social status and Beane (1993) linked this to the theme of social structures. Content and skills should be connected to concepts taught through actual personal and social concerns of learners (Beane, 1993). In this way, the themes transcend traditional silos subjects live in (Beane, 1993, 2005). Beane's (1993, 2005) work ties directly to the Association for Middle Level Education (2012) assertions about adolescents, including "[becoming] actively aware the larger world, asking significant and relevant questions about the world and wrestling with big ideas and questions" (p. 2).

Advisory times, or homeroom, were designed as a platform to discuss and engage students in conversations about their choices, feelings, and repercussions of their actions (Schafer, Malu, & Yoon, 2016). Alexander (1963) called for small groups of students to have time to meet with a teacher assigned to their team. The curricular focus was of exploration, including vocational and career education and aging education (Schafer, Malu, & Yoon, 2016). The 1990s were influenced by the Carnegie Council on Adolescent Development report *Turning Points: Preparing American Youth for the 21st Century*, which included key organizational structures and process of today's middle schools-- team teaching, common plan time, block scheduling, and exploratory courses (Schafer, Malu, & Yoon, 2016). At the time, "teaming [was] a cornerstone of the middle school concept" (Schafer, Malu, & Yoon, 2016, p. 9). During the 1990s, cooperative learning and differentiation emerged as teaching and learning strategies that

corresponded to the success of all learners (Schafer, Malu, & Yoon, 2016). Along with exploration, the need for middle school students to solve real world problem added to the relevance of the learner's experience. Beane (1993, 2005) argued for the use of theme teaching, which would eliminate individual subject-areas. Interdisciplinary teams were touted as being the "most critical component" of the middle school movement (Friend & Cook, 1997; Schafer, Malu, & Yoon, 2016; Wallace, 2007). Interdisciplinary teaching, although not referred to such by name, can be seen in Maslow's (1954) work. Maslow (1954) stated, "Science is only one means of access to knowledge of natural, social, and psychological reality" (p. 8). Maslow (1954) goes on to discuss how poets, philosophers, and manual laborers should not be seen as mutually exclusive.

The 2000s ushered in the era of high-stakes testing with the passage of *No Child Left Behind* (NCLB) (Schafer, Malu, & Yoon, 2016). Educators across the country felt the conflict between the demands of testing and teaching (Downes & Bishop, 2015). Boyer and Bishop (2004) found that students reported positive personal growth when they were "invited to collaborate in team governance and learning (p. 73). The distinct pedagogy of middle school emerged as a socio-cognitive style of learning (Schafer, Malu, & Yoon, 2016). The Association for Middle Level Education, formerly the National Middle School Association, is the leading national and international association advocating for students between the ages of 10 and 15 (AMLE). The AMLE (2012) agrees that the teacher's role in middle level exploratory education is to be a guide for "students in actively building understanding rather than telling them what they should understand" (p. 20). Building this capacity in our learners is important for them to function as they proceed through their educational careers and life.

History of Differentiation

Several parallels can be drawn between personalized learning and differentiated instruction. Differentiated learning is a student-centered approach that accounts for student readiness (where the learner is academically) and interests by differentiating content, product, and assessment of and for learning (Gregory & Chapman, 2002; Tomlinson, 2001; Tomlinson & Moon, 2013). Although the term differentiated was not used in Piaget's and Vygotsky's works, components of their work is ultimately the foundation for differentiated learning. Vygotsky and Piaget agreed that for a child to acquire knowledge, the child must be an active participant (Piaget, 1979; Vygotsky 1978a). Vygotsky's (1978a, 1978b) zone of proximal development and scaffolding are the foundation of differentiated planning and instruction.

Differentiation allows for several ways learners may access content (what is being taught), process (how the content is being taught or learned), or product (how the learner expresses what he or she has learned), is student centered, allows for flexible grouping of students, and is on-going (Tomlinson, 2001). Differentiated instruction seeks to deepen learner's understanding of content (Tomlinson & McTighe, 2006). Differentiation is critical for meeting individual student's needs while building self-efficacy and increasing student motivation (Hodges & McTigue, 2014; Tomlinson, 2001). Differentiation allows for classroom teachers to leverage technology and scaffold skills for students. Tomlinson (2001) argues that differentiation requires all students receive challenging and supportive classrooms. Morgan (2014) contends that differentiated instruction can diminish or eradicate student disengagement.

Just like personalized learning, there are several misconceptions that hover over differentiated instruction, including that it is just another fad or that differentiation requires individual lesson plans for each student every day (Birnie, 2015). However, Gundlach (2011)

argues that differentiation dates to the one room school house, when a teacher was charged with educating a wide array of students with varying ages and abilities. Preston Search in Colorado allowed student to work at their own pace in 1899 (Gundlach, 2011). By 1912, achievement exams indicated gaps in students' abilities (Gundlach, 2011). The Individuals with Disabilities Education Act (IDEA) was enacted in 1975, requiring differentiation for special education students (Gundlach, 2011). Many educators tend to believe differentiation requires an individual lesson plan for every learner; however, even in the most diverse classes, ranges of student abilities can be determined and addressed (Birnie, 2015).

One of the criticisms of differentiation is that of practicality. A 2016 study supported the lack of practicality in a Turkish primary school (Pilten, 2016). The researchers cited a lack of teacher professional development, time, class size, and conflicts with instructional policies for the inability of the seventeen teachers who participated to be successful with implementing differentiated instruction in the area of reading (Pilten, 2016). However, a 2015 study conducted in the Netherlands found a statistically significant positive effect of digital differentiation on 115 secondary students' achievement (Haelermans, Ghysels, & Prince, 2015). In alignment with the Haelermans, Ghysels, and Prince (2015) study, Little, McCoach, and Reis (2014) conducted a multi-site cluster-randomized design with 2,150 middle level students and 47 classroom teachers. The Little, McCoach, and Reis (2014) focused on reading instruction and found differentiated instructional methods were at least as effective as traditional approaches to reading instruction.

Differentiation does require scaffolding for each students' success (Birnie, 2015) and professional development and support for classroom teachers to be successful in planning and implementing differentiated instruction methods (Pilten, 2016). One can only conclude that differentiation is possible and it is certainly not a passing fad in education.

Personalized Learning

Learning is only meaningful when it is personalized (Prain, Waldrip, Sbaglia, & Lovejoy 2017). Personalized learning has been the current focus of several governments, including the United Kingdom, New Zealand, Australia, and the United States (Keamy, Nicholas, Mahar, & Herrick, 2007). Personalized learning seems to stem from differentiated instruction; however, very few research studies have been conducted on the components of personalized learning (PL). PL is complex and, just like a school system, has several moving parts that could look different depending on budgets, space, students, district and building leadership, and available resources.

A 2007 in-depth case study found that there is a wide array of approaches to PL (Sebba, Brown, Steward, Galton, & James, 2007). The study identified five key components of PL used as: assessment for learning, effective teaching and learning, "curriculum entitlement and choice," school organization, and "beyond the classroom" (Sebba, Brown, Steward, Galton, & James, 2007, p. 6). Assessment for learning includes a variety of teaching strategies, such as systematic feedback to identify areas in which the learner struggled, and misunderstandings of material (Sebba, Brown, Steward, Galton, & James, 2007). For the 2007 study, effective teaching and learning was measured by the shift in teaching and learning practices from teacher focused to more student-directed learning, an increase in flexibility and autonomy, and enhanced communication between home and school. The same study defined "curriculum entitlement and choice" as involving all stakeholders in curriculum reform to include more flexibility, choice, and relevance for every learner. For school organization, the 2007 study focused on staffing; the study used the justification that the literature linked the size of school with personalized learning. Lastly, the 2007 study used "beyond the classroom" as the final component; this included increased student engagement, trust between the school and home, as well as the introduction of

community resources, such as social workers. There was evidence of all five key components of

PL in each school studied, but not equal emphasis was placed on each component (Sebba,

Brown, Steward, Galton, & James, 2007). This is similar to the findings done by the Bill and

Melinda Gates Foundation (2014), where the researchers noted PL approaches varied based on

the classroom teachers' use of competency-based instructional practices, classroom teachers' use

of learner profiles, and technology available within the school building. The Bill and Melinda

Gates Foundation (2014) study did note that middle school scores "grew significantly" as

compared to national averages (p. 15). Both studies indicated a change in attitude on behalf of

staff and students when using a personalized learning approach (Bill & Melinda Gates

Foundation, 2014; Sebba, Brown, Steward, Galton, & James, 2007).

Another study focused on principals' perceptions of PL (Hargreaves, 2010). Hargreaves

(2010) found three elements principals view as essential to PL: partnerships, meta-cognition, and

student centricity. The 2010 study specified partnerships as being between home and school. The

second essential element identified by the 2010 study of meta-cognition refers to making

knowledgeable choices about learning, not only by the teachers, but by students themselves

(Hargreaves, 2010). Hargreaves (2010) clarifies student centricity as "time limited instalments of

subject specific learning" (p. 84). The study mentions this time limitation is detrimental to

student positive learning experiences (Hargreaves, 2010). Lastly, Marín Juarros, Salinas Ibáñez,

and de Benito Crosetti (2014) found college students within an "institutionally powered personal

learning environment," which incorporated a learner-centered approach within a "technology-

enhanced learning environment," were encouraged to be "more independent in their work and to

learn more autonomously" (p. 211). These college students did work cooperatively with Google

products, like Google Docs to collaborate; this social engagement allowed students to build upon

previous knowledge (Marín Juarros, Salinas Ibáñez, & de Benito Crosetti, 2014). Like the Marín

Juarros, Salinas Ibáñez, and de Benito Crosetti (2014) study, Byant Davis, Dieker, Pearl, and

Kirkpatrick (2012) found similar results. Although the Byant Davis, Dieker, Pearl, and

Kirkpatrick (2012) study included other Google products, such as Google Hangouts to interact

with the instructor and peers for feedback. A deep and meaningful learning space can be created

with the aid of technology (Byant Davis, Dieker, Pearl, & Kirkpatrick, 2012). A case study

involving three science teachers found students' engagement and understanding increase when

leveraging technology to connect with an expert in the field (Prain, Waldrip, Sbaglia, & Lovejoy

2017). The way leaners communicate and interact via the use of technology is a social system

(Johnson & Sherlock, 2014). According to Kallick and Zmuda (2017) "A student-driven model

of personalized learning attends to the human architecture—to how teachers and students interact

with one another" (p. 17).

　　　Figure 1 represents how learners create and shapes their learning in a personalized

learning setting via their learning facilitator (classroom teacher), learning environment, peers,

prior experiences, and their home environment or life outside of school. The learning facilitator

or classroom teacher fosters the learning environment based on his or her knowledge of the

learners, which includes peers, prior experiences, and home or life outside of school. The

learning facilitator must know his or herself as much as each and every one of the learners within

the learning environment. Maslow (1954) stated, "'knowledge about the human species really

means only 'knowledge about oneself'" (p. 5). Individuals determine what is valued and define

what barriers exist to reach what is valued; in other words, the learner partially creates his or her

own barriers (Maslow, 1954). Vygotsky (1978a) emphasizes that we learn from each other and

our environment. Children learn before they attend formal schooling and come to the learning

environment with a history (Vygotsky, 1978a). Maslow (1954) supposed children want their

environment to be "predicable, lawful, [and] orderly" (p. 40). Not only do educators see these

factors impacting the learner, but also how the learner shapes and has his/her own impact on

these factors as well. Lastly, the learning facilitator must have knowledge of these factors that

have a direct impact on the learner's learning.
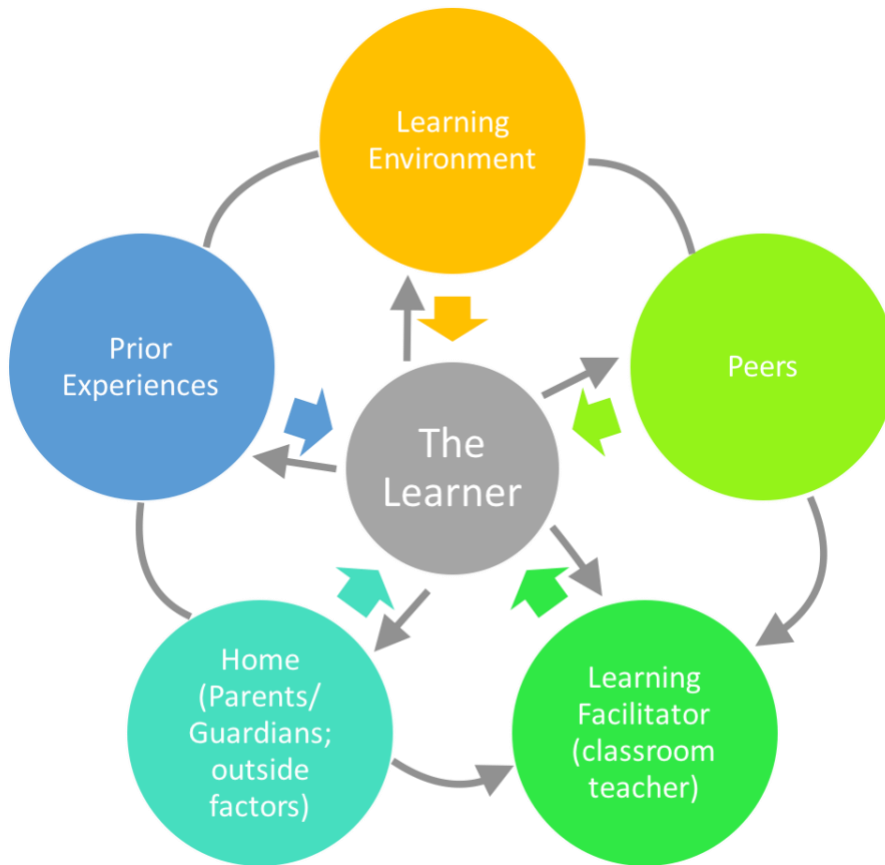
Figure 1. Proposed model for how the learner creates and shapes their learning in a personalized

learning setting.

Although knowing the learner is central to personalized learning, to improve the flow and

show the connectedness of ideas, the role of technology is featured first to not disrupt the flow

and linkage of ideas related to knowing the learner.

Role of Technology

One aspect of this puzzle is the role technology currently plays, as well as the potential technology has moving forward. Traditionally, technology has been used for absent students or students who were unable to attend physical classes for a number of reasons; the online or virtual environment was an alternative to the physical classroom (Fanning, 2012). However, technology is now being leveraged in the classroom to differentiate, individualize, and personalize the experiences of learners (Byant Davis, Dieker, Pearl, & Kirkpatrick, 2012; Kallick & Zmuda, 2017; Lindsey Unified School District, 2017; USDOE, 2010). Most experts agree that technology is a tool to support learning, not drive learnings (Bray & McClaskey, 2013; Bray and McClaskey, 2015; Byant Davis, Dieker, Pearl, & Kirkpatrick, 2012; Lindsey Unified School District, 2017; Rickabaugh, 2016; USDOE, 2010). The United States Department of Education Office of Educational Technology's (2010) goal is: "All learners will have engaging and empowering learning experiences both in and out of school that prepare them to be active, creative, knowledgeable, and ethical participants in our globally networked society" (n.p.). The personalized learning environment has the potential for learners to use technology in meaningful ways that connect to their lives outside the classroom (Johnson & Sherlock, 2014).

Learning is magnified "through media that connect[s] people through communities otherwise unavailable or unreachable without it" (Schrader, 2015, p. 23). Downes and Bishop, (2015) connected the use of technology with curriculum in a middle school setting in four ways: authentic assessment, individualization, engagement, and purposeful and meaningful student involvement. Schools must leverage technology to make personalized learning scalable (Wolf, 2010). The use of technology could also be leveraged to bring or keep parents and guardians in the learning process (Edmunds & Hartnett, 2014). Morgan (2014) cautioned that "many

educators are critical of technology implementation and question whether the need to use digital resources is based on scientific evidence, recent brain research supports the idea that these resources benefit students" (p. 36). However, Mouza and Barrett (2015) found the "use of iPads and educational apps support[s] student academic growth and empowerment" (p. 1). Another study conducted by Edmunds and Hartnett (2014) found that when using a learning management system (LMS), teachers were better able to identify the needs of each student and guide the teacher's design of each student's learning experience. Sinha, Banka, and Dae (2013) claim human support of learning is not sufficient. Learners' actual preferences can be taken into account by technology to improve pedagogical accuracy when planning or suggesting learning pathways (Biletsky, Baghi, Keleberda, & Fleming, 2009; Chen, Hsieh, & Hsu, 2007; Sinha, Banka, & Dae, 2013).

Learning does not take place in isolation. Students can learn anywhere and at anytime (Bray & McClaskey, 2015; Lindsey Unified School District, 2017; Rickabaugh, 2016). However, Johnson and Sherlock (2014) caution that shared experiences are important or we may be forced to discuss our experiences through the very technology that isolates us.

Knowing the Learner

Learners are central to personalized learning (Bray & McClaskey, 2013; Hargreaves, 2010; Lindsey Unified School District, 2017); therefore, knowing your learners is important. Jensen (2013) states that positive student-teacher relationships lead to less stress for the student, enhance the likelihood for appropriate behavior, and promote student engagement. Knowing your students' names, background, and social groups are just as important, if not more important, as knowing their test scores. One of the five key elements of culturally responsive teaching is an authentic relationship with the learner (Hershfeldt, Sechrest, Pell, Rosenberg, Bradshaw, & Leaf,

2009). These relationships must be nurtured and developed between the classroom teacher, the student and his or her family (Hargreaves, 2010). Hershfeldt, et. al. (2009) commented on the need for authentic relationships between teachers and students. Teachers who engage in these authentic relationships strategically plan learning opportunities that support individual student learning (Hershfeldt, et. al, 2009). Authentic relationships are cultivated when educators know their learners. Hensley, Powell, Lamke, & Hartman (2007) state that teacher-student relationships influence everything from school climate to student performance. Hensley, Powell, Lamke, & Hartman (2007) go on to urge that an open and trusting classroom environment leads to students' academic and social success. While the vast majority of sources agree that intentionally and systematically getting to know each learners' strengths, needs, preferences, and interests is important, little research exists to explain the best ways to go about getting to know your students and then using the information gained to create meaningful work for students (Alberta Education, 2010; Powell & Kusuma-Powell, 2011).

Collection of Learner Information.

Many school districts use student information systems to allow teachers to grade and parents or guardians and students alike to check on missing assignments and attendance (Bendici, 2016; Pearson PowerSchool, 2014). These student information systems may house student GPAs, past courses, past grades, teacher comments, Individualized Education Plans, 504 information, and demographic information (Bendici, 2016; Pearson PowerSchool, 2014), but these platforms often do not tell classroom teachers the deeper information they need to know about a student. According to Powell & Kusuma-Powell (2011), "To maximize learning, we need to dig deeper than this superficial acquaintance" (p. 21). As Farrington, Roderick, Allensworth, Nagaoka, Keyes, Johnson, & Beechum (2012) report, a student's grades are a

measure of their content knowledge, academic skills, and noncognitive factors. When planning, classroom teachers work to understand the needs and experiences of all students to provide an appropriate learning environment for each child (Cook & Faulkner, 2010). There are myriads of ways for classroom teachers to collect information about learners.

Formal Inventories.

Learning style inventories can be helpful to classroom teachers and can make up one component of a personalized learner profile. Based on Dunn, Dunn, and Price (1989) Learning Style Inventory, Tully, Dunn, and Hlawaty (2006) suggest that knowledge of learning styles should be a part of daily instructional decisions. The Tully, Dunn, and Hlawaty (2006) study used middle school students in Bermuda to determine if learning style preferences had an impact on students' math scores when student learning style preferences were used when planning and delivering math instruction. The Dunn and Dunn Learning Style Inventory (LSI) is designed to be used with primary and secondary students, as well as adults (Cassidy, 2004). This LSI is a 100 question self-report questionnaire (Cassidy, 2004). The questions relate to environment, emotional, sociological, physical, and psychological factors (Cassidy, 2004). Another learning style inventory was developed by Kolb (1984). Kolb's Learning Style Inventory identifies four learning styles: divergers, assimilators, convergers, and accommodators (Bergsteiner & Avery, 2014; Brunton, 2015). Diverges view situations from several perspectives; assimilators "use inductive reasoning and have the ability to create theoretical models"; convergers rely on "hypothetical-deductive reasoning"; and accommodators adapt to circumstances, plan and conduct experiments (Brunton, 2015, p. 90). The LSI consists of 12 self-report items on a questionnaire (Cassidy, 2004). A study conducted by Brunton (2015) focused on nine

microeconomic classes found the Kolb Learning Style had no significant effect on student performance.

Modality preferences include auditory, visual, and kinesthetic learners. According to Powell and Kusuma-Powell (2011), we all use all styles, but combine them for our preferred learning style. Auditory learners best learn information when it can be heard; visual learners prefer to acquire knowledge by seeing it; and kinesthetic leaners prefer to be active or moving to learn (Pashler, McDaniel, Rohrer, & Bjork, 2009). Visual learners make up the largest group, followed by kinesthetic, and finally auditory (Powell & Kusuma-Powell, 2011). Prithishkumar and Michael (2014) found that of the 91 undergraduate students studied, 86.8% had multimodal learning preferences, only 13.8% were unimodal. The most common bimodal learning preferences were kinesthetic and oral, reading and writing (Prithishkumar & Michael, 2014).

The McCarthy (1990) and Gregorc 4MAT system Gregorc Learning Styles consist of concrete random thinkers, concrete sequential thinkers, abstract random thinkers, and abstract sequential thinkers. Concrete random thinkers are intuitive, independent, original and prefer to take risks, be creative and experimental; concrete sequential thinkers are practical, methodical, deliberate, and prefer to do things step-by-step in an organized fashion; abstract random thinkers are multi-faceted, imaginative, empathetic and prefer spontaneity; and abstract sequential thinkers are intellectuals, logical, analytical, and seen as judgmental (Wakefield, 1993). A study conducted by Wakefield (1993) surveyed 196 undergraduates and graduate students majoring in education, as well as 104 classroom teachers, and found a preference of two of the four learning styles, abstract random and concrete sequential. Powell and Kusuma-Powell (2011) stress the importance of teachers knowing themselves to better address the needs of their students. Ross, Drysdale, and Schulz (2001) used the Gregorc Learning Style Inventory with two college level

computer application classes and concluded that learning style had a significant effect on academic performance.

Howard Gardner's theory of multiple intelligences has been widely used in education. However, according to Powell and Kusuma-Powell (2011), Gardner did not intend his multiple intelligences to be used in a classroom setting. Howard Gardner's identified multiple intelligences are verbal-linguistic, logical-mathematical, interpersonal, intrapersonal, spatial, musical-rhythmic, bodily-kinesthetic, and naturalist (Alberta Education, 2010). Verbal-linguistic learners express their learning best with spoken and written communication (Morgan, Kornhaber, & Gardner, 2006). Logical-mathematical learners learn best when they have the ability to use logic and numerical symbols and operations (Morgan, Kornhaber, & Gardner, 2006). Interpersonal leaners process information best when they are able to interact with others (Morgan, Kornhaber, & Gardner, 2006). Intrapersonal learners learn best when they have time to internally process their own thought's, feelings, interests, and preferences (Morgan, Kornhaber, & Gardner, 2006). Spatial leaners have the "ability to orient and manipulate three-dimensional space" (Morgan, Kornhaber, & Gardner, 2006, p. 23). Musical-rhythmic learners prefer musical or patterns when learning (Morgan, Kornhaber, & Gardner, 2006). Bodily-kinesthetic leaners learn best with hands-on activities or learning opportunities that allow for physical movement (Morgan, Kornhaber, & Gardner, 2006). Naturalist learners are able to discriminate between and categorize objects or natural phenomena (Morgan, Kornhaber, & Gardner, 2006). Morgan (2014) stated differentiation is based on Howard Gardner's multiple intelligences theory. Morgan (2014) goes on to reinforce that differentiation is good for all students. Ghamrawi (2013) studied multiple intelligences on vocabulary acquisition with preschool students in a Lebanese ESL

class. Ghamrawi (2013) found students who received traditional vocabulary instruction acquired

more new vocabulary words opposed to those students with multiple intelligence instruction.

Robert Sternberg's (1985) theory of successful intelligence includes: analytic

intelligence, practical intelligence, and creative intelligence. Teaching for analytical learning

includes teaching to analyze, evaluate, explain, compare and contrast, and judge (Sternberg,

2002). Teaching for practical learning includes putting learning into practice, using knowledge of

concepts, implementing plans and strategies, and applying knowledge (Sternberg, 2002).

Teaching for creative learning includes encouraging students to create, invent, explore, imagine,

suppose, and synthesize (Sternberg, 2002). Sternberg's (2002) main argument for teaching with

successful intelligence is that of teaching students for memory. Sternberg (2002; 2004) argues

teaching with successful intelligence stimulates deeper and requires a "more elaborated encoding

of material than does traditional teaching"; "encourages more diverse forms of encoding

material," allows students to use their strengths; and is motivating (p. 279). A study conducted

by Sternberg, Bimey, Stemler, Otterbach, Randi, Jarvin, and Grigorenko (2014) with over 7,000

4th grade students from across the United States concluded with mixed results.

Another popular assessment in education is the Myers-Briggs Type Indicator (MBTI)

(Atay, 2012). MBTI was originally designed to help C.G. Jung's theory of psychological types

understandable and applicable to everyday life (Briggs & Briggs Myers, 1998; "MBTI Basics").

The MBTI assess how individuals perceive information and how individuals process that

information (Atay, 2012; Rashid & David, 2015). The Myers-Briggs Type Indicator identifies

the following preferences: extraversion (E) or introversion (I); sensing (S) or intuition (N);

thinking (T) or feeling (F); and judging (J) or perceiving (P) (Briggs & Briggs Myers, 1998;

"MBTI Basics"). The extraversion-introversion scale indicates if an individual prefers people

and objects or concepts and ideas when judging and perceiving the world (Briggs & Briggs Myers, 1998; Rashid & David, 2015). The sensing-intuition scale indicates if an individual would rather become aware of the world through their senses or intuition (Briggs & Briggs Myers, 1998; Rashid & David, 2015). The thinking-feeling scale indicates if an individual prefers engaging in fact-based analysis or value-based feelings (Briggs & Briggs Myers, 1998; Rashid & David, 2015). The judging-perceiving scale indicates if an individual prefers to engage in planning and organizing or being flexible (Briggs & Briggs Myers, 1998; Rashid & David, 2015). These preferences form sixteen personality types, which will not be discussed within the scope of this dissertation (Briggs & Briggs Myers, 1998; "MBTI Basics"). The MBTI is considered a quality indicator of differences between individuals (Atay, 2012). The Myers-Briggs Type Indicator is one of the most widely used personality assessments (Atay, 2012).

Dweck's work with growth mindset has become popular in education. Classroom teachers could use a growth mindset survey to assess how students see themselves. Dweck (2010) believes two mindsets dictate behavior: fixed-mindset or growth-mindset. Students with fixed-mindsets see intelligence as something they have or do not have and that intelligence cannot be changed; whereas students with a growth-mindset relish in the challenge learning new things offer (Dweck, 2010; Dweck, Walton, & Cohen, 2014). Mueller and Dweck's (1998) original study found when students received praised based on effort, student enjoyment and test performance were higher than students who were praised based on intelligence or received non-specific praise. Dweck (2010) stresses the importance of creating a culture where risk taking is encouraged and valued. The following are suggested by Dweck (2010) to create a growth-mindset classroom environment: challenges are emphasized, students have a sense of their progress, and students are graded based on their growth. Nash (2017) suggests classroom

teachers ask the "right" questions to promote growth-mindset in the classroom, such as "What are you most proud of so far in this project?" or What barriers are you encountering and what are your thoughts about solving these problems? (p. 29). A form of fixed-mindset, as noted in Dweck, Walton, and Cohen (2014), is that students may participate in self-handicapping, where students self-sabotage their academic success in order to blame an outside factor on not doing well, rather than their intelligence. If classroom teachers promote a growth-mindset environment, student motivation can be positively impacted (Dweck, 2010).

Adverse Childhood Experiences or ACEs is another aspect that could be part of a learner profile. Adverse Childhood Experiences are powerful negative experiences with long lasting effects (Chapman, D. P., Yong, L., Presley-Cantrell, L. R., Edwards, V. J., Wheaton, A. G., Perry, G. S., & Croft, J. B., 2013). These experiences include sexual, physical, or verbal abuse; divorce, domestic violence, incarceration of a member of the household; and substance abuse, among others (Liu, Y., Croft, J., Chapman, D., Perry, G., Greenlund, K., Zhao, G., & Edwards, V., 2013) Several studies highlight the negative effects of trauma that occurs during childhood (Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., & ... Giles, W. H., 2006; Chapman, D. P., Yong, L., Presley-Cantrell, L. R., Edwards, V. J., Wheaton, A. G., Perry, G. S., & Croft, J. B., 2013; Perry, 2006). Jensen (2013) insists that a child's brain becomes insecure and stressed when early experiences in life are chaotic or when at least one parent is missing from the home. In short, these experiences change the brain (Perry, 2006). According to Perry (2006) people who experience trauma over an extended period of time become hypervigilant causing constant anxiety. Only when a learner feels safe can the learner experience curiosity (Perry, 2006). Jensen (2013) states that strong student-teacher relationships have been shown to counter the negative effects and have a positive effect on student engagement. An

effective classroom teacher can provide students who have experienced trauma with a structured and predictable environment, making the learner feel safe, which then allows for learning to occur (Perry, 2006). Knowing about a student's ACEs score can help classroom teachers know what that student needs to be successful in a particular learning environment. This is what Brunzell, Waters, and Stokes (2015) call trauma-informed practice. This is merely one more piece of information and one more strategy for classroom teachers to use to build strong relationships with students.

Informal Inventories.

Reading and writing inventories are also helpful to classroom teachers. For instance, student reading preferences give classroom teachers insights on how comfortable a student is reading aloud, reading alone at choice, or identifying a student's favorite genre (Miller, 2008). Teachers might ask what experiences students have had with a particular subject area or what students love about that content and why. Miller (2008) refers to the information gathered as "nuggets" (p. 39). These provide valuable insights to the student's history in school (Miller, 2008). Tovani (2011) asks students to complete a beginning of the course survey to provide information about students' behaviors by asking questions like, "Describe what you do to help yourself when you're having difficulty reading a text" (p.24). This insight allows classroom teachers, like Tovani (2011), to discover what students already know, skills or troubleshooting areas, and how to help students thrive in the classroom. Another example of gathering informal information comes from Smith and Wilhelm (2002), who asked participants to keep a reading log. Smith and Wilhelm (2002) asked students to record what they were reading, why, for how long, and general comments regarding their thoughts about what they read. Miller (2009) asks students to complete a "Reading Interest-A-Lyzer," which is based on Joseph S. Renzulli's

Interest-A-Lyzer. Miller's (2009) Reading Interest-A-Lyzer includes questions like, "Are you currently reading a book for pleasure?" and "I would read a book about" (p. 202). Tovani (2011) uses conversation calendars where students write about things they are wondering about, confused about, or connections they are making to class content. Tovani (2011) uses the conversation calendar to provide insight on students' depth of knowledge and mastery of concepts. Teachers might also find science, social studies, or math specific inventories helpful when assessing student strengths and areas of growth.

Interest inventories are a popular way to get to know students at the beginning of the school year. Smith and Wilhelm (2002) provided students with an activity ranking sheet, which included playing sports, listening to music, and reading. Shumow and Schmidt (2013) suggest choosing 5-8 items from the list provided in their book, which include questions about school and career, extracurricular activities, as well as general interest questions. Knowing even one thing about students helps to build a positive student-teacher relationship, which is important to building trust within the classroom (Kiefer, Ellerbracok, & Alley, 2014). The importance of student-teacher relationships and how it is connected to student learning is discussed further in following sections.

The goal of these inventories is not to label or pigeonhole students, but rather to "help them develop multiple pathways for learning" (Alberta Education, 2010, p. 25; Powell & Kusuma-Powell, 2011). The inventories presented in this paper are not intended to be an end all be all, but rather to make the reader aware that there are several components that could make up a learner profile, one inventory is not necessarily preferred over another. There are several ways to get to know learners and inform classroom practices to personalize instruction.

Learning Preferences and Styles.

While the use of surveys and questionnaires to identify students' learning styles and preferences has been cited by Tomlinson and Moon (2013) as not being supported by research, a study conducted by Rogowsky, Calhoun, and Tallal (2015) found no statistically significant relationship between learning style preference and instructional method on immediate or delayed comprehension assessments. Other research states that understanding learning preferences is important (Lee & Sidhu, 2015) and curriculum should be designed to fit the learning preferences and styles of the learners (Kell & Van Deursen, 2002). Educators must adjust their teaching strategies to consider learner preferences rather than treat students as compliant consumers of information (Lindsey Unified School District, 2017). When learners are engaged, they learn more and cause less behavior problems (Jensen, 2013). In adult groups, Cela, Sicilia, and Sánchez (2015) found groups formed based on preference of topic increased collaboration more than groups based on learner performance. Clewley, Chen, & Liu (2011) sought to identify how dimensions of cognitive style affect learning preferences. Clewley, Chen, & Liu (2011) concluded web programs should be designed with the unique needs of learners in mind. Engineering student preferred "spontaneous, pragmatic, and concrete style of learning" (Lee & Sidhu, 2015, p. 266). While learning style preferences are debated (Rogowsky, Calhoun, & Tallal, 2015; Tomlinson & Moon, 2013), support does exist for educators to continue assessing and using learning style preferences when designing lessons (Kell & Van Deursen, 2002; Lee & Sidhu, 2015; Lindsey Unified School District, 2017).

Other Influences.

Several studies have been conducted on gender in the classroom. King and Gurian (2006) reported that teachers in a Colorado school district saw the learning styles of boys as

problematic, while the learning styles of girls were a better fit for traditional modes of education, i.e. note taking and sitting still. In a research study conducted by Beres, Magyar, and Turcsanyi-Szabogender (2012), researchers administered the Myers-Briggs Type Indicator to 156 college students. A gender gap was identified between the indicator of thinking and feeling. The thinking indicator favored males, while the feeling indicator favored females (Beres, Magyar, & Turcsanyi-Szabogender, 2012).

Middle school students, in particular, are beginning to compare themselves to others (AMLE, 2012). This self-awareness and assessment of one's own strengths and weaknesses is certainly a characteristic that must not be ignored. People are not able to separate their cognitive and emotional lives (Gasque, 2016). Powell and Kusuma-Powell (2011) contend that students' attitudes and temperaments are "exterior manifestations of students' internal emotions" (p. 31). The classroom teacher's awareness of social status is important for ensuring equity in cooperative learning groups (Powell & Kusuma-Powell, 2011); however, Berg, Lansu, and Cillessen (2015) found classroom teachers have a tendency to either overestimate or underestimate students' preference and popularity.

A problem facing the current educational system in the United States is that of increasing diversity (Brown-Jeffy & Cooper, 2011). According to Brown-Jeffy and Cooper (2011), "Language, behavioral expressions, interpretations of actions, and societal expectations are all culturally borne and implemented" (p. 72). A 2008 study discussed the way culture fundamentally influences the way we see the world (Varnum, Grossmann, Katunar, Nisbett, & Kitayama, 2008). The study was conducted with Western European and Central, Eastern European, and American graduate students studying in the United States. It was concluded that

societal level differences in independent and interdependence are connected to differences in cognition (Varnum, Grossmann, Katunar, Nisbett, & Kitayama, 2008).

Lastly, other influences include "being expressive or reserved in class interactions, preferring competition or collaboration, preferring to work individually or in a group, approaching learning with a creative or practical way of thinking, preferring part-to-whole or whole-to-part learning, preferring contextual and personal learning or learning that is discrete and impersonal, viewing time as fixed and rigid or fluid and flexible, being more impulsive or more reflective in one's thinking and actions, or valuing creativity or conformity" (Alberta Education, 2010, p. 26-27). Leveraging these, as well as the other information that could be collected about a learner, can increase student motivation (Morgan, 2014).

Responsive Teaching.

The early 2000s led to a barrage of research focused on the environment of the classroom, including those in special populations such as gifted and talented, bisexual, transgender, and English language learners (Schafer, Malu, & Yoon, 2016). These research studies furthered and specialized the idea of responsive teaching. When educators use what they know about students' cultural and personal backgrounds, there is a positive effect on student achievement (AMLE, 2012). Kiefer, Ellerbock, and Alley (2014) acknowledge that teacher-student relationships are "at the heart of responsive teaching" (p. 22). Strahan, Kronenberg, Burgner, Doherty, and Hedt (2012) focused on three guiding propositions of responsive teaching in two classrooms:

1. Teachers create academic connections with students by learning more about them as individuals.

2. Teachers enrich academic connections with students by collaborating with colleagues to create more personalized instructional strategies by scaffolding instruction to guide concept development.

3. Students' levels of understanding of academic concepts vary by the types of connections they make with teachers and with ideas. (p. 5).

Overall, the Strahan, Kronenberg, Burgner, Doherty, and Hedt (2012) study found several students who demonstrated a deeper understanding of the concepts taught. Another study focused on the teacher-student relationship (Kiefer, Ellerbock, & Alley, 2014). In this study, half of the student participants expressed a sense of care and connection with at least one of their teachers (Kiefer, Ellerbock, & Alley, 2014). The Kiefer, Ellerbock, and Alley (2014) qualitative study looked for responses that indicated a level of respect between teacher and student, empathy, and a socially supportive environment. When respect, empathy, and support were evident, students were more likely to learn.

Culturally Responsive Teaching.

By being culturally aware and responsive, schools can meet students' needs on Abraham Maslow's hierarchy of needs. When students' needs are met, they are more likely to reengage in school and achieve academic gains (ASCD, 2007). Brown-Jeffy, and Cooper (2011) identified five culturally relevant principles: identity and achievement, student-teacher relationships, equity and excellence, developmentally appropriateness, and teaching the whole child. Ginsberg (2005) argues that by respecting cultural diversity, student's motivation will increase. Hershfeldt, Sechrest, Pell, Rosenberg, Bradshaw, and Leaf (2009) state a large amount of time needs to be spent adopting classroom practices that support cultural diversity. Authentic relationships are key to academic interventions (Hershfeldt, Sechrest, Pell, Rosenberg, Bradshaw, & Leaf, 2009).

Behaviors that are often viewed as problems in the classroom stem from a mismatch between mainstream expectations and the cultural environment, in which students bring to school (Hershfeldt, Sechrest, Pell, Rosenberg, Bradshaw, & Leaf, 2009). But, there is hope in the field of culturally relevant pedagogy (Brown-Jeffy, & Cooper, 2011). Research in this area may help determine the effects of this mismatch within the education system and the effects on learning outcomes (Brown-Jeffy, & Cooper, 2011). A study conducted by Debnam, Pas, Bottiani, Cash, and Bradshaw (2015) concluded classroom teachers who use more culturally responsive teaching strategies see more meaningful engagement from students in the classroom.

   Developmentally Responsive Teaching.

  Developmentally responsive curriculum and teaching took root in the 1980s, as the middle school model was continuing to gain popularity (Schafer, Malu, & Yoon, 2016). According to the AMLE (2012), "Young adolescents are at a unique place in their intellectual and cognitive development" (p. 18). Ellerbock and Kiefer (2014) agree that teens have unique developmental needs and classroom teachers can best reach these students when they understand students' needs. Active learning is one of the key components of middle level curriculum, as student begin to see the world in shades of gray (AMLE, 2012; Ellerbock & Kiefer, 2014). A study conducted by Ellerbock and Kiefer (2014) witnessed through classroom observation, joy, motivation, and engagement from the students whose teams of teachers who were developmentally responsive to middle schoolers' needs. Middle school kids really want three things from school: to work with their friends, have fun, and have nice teachers (Beane & Lipka, 1984).

Learner Voice and Choice.

For true personalized learning to occur, students must have a voice and choice in their learning. Students are energized when they have a say, therefore, "if there is no evidence of student passion and ownership, enduring learning is not likely" occurring (AMLE, 2012, p. 43). Wanner and Palmer (2015) found that students enjoyed more choice in their learning, as well as how they were assessed. Wanner and Palmer (2015) went on to assert that students should be more immersed in their own teaching and learning. Even Carol Tomlinson, a proponent of differentiation, campaigns for voice in the classroom (Mills, Monk, Keddie, Renshaw, Christie, Geelan, & Gowlett, 2014). Gash (2015) contends, "Changes in the relationship between instructor and student and learning that depend on constructivist understandings of how thinking works have implications at different levels of the educational process" (p. 10). Students must take on more active roles in their learning, rather than the traditional model of education, where students are "compliant and passive" (Gash, 2015, p. 10). Within a personalized learning environment, students are co-creators of their experience, which requires voice and choice (Bray & McClaskey, 2013; Rickabaugh, 2016). A 2014 study concluded that teachers need to hand over some of the decision-making power to learners and allow the learner to make decisions about his or her learning (Parry, 2014). This same 2014 study found that strategic leadership and school culture and purposeful professional development are required to effectively implement learner voice and choice in the classroom.

Personalized Learner Profiles.

As cited in Tomlinson and Moon (2013), the goal of a learning profile "should be to create more ways for students to take in, engage with, explore, and demonstrate knowledge about content, and then to help students develop awareness of which approaches to learning work best

for them under which circumstances, to guide" students to know when their approach to learning should change or be flexible (p. 11). Dultz (1999) argues that information used to create learner profiles should largely come from the students themselves. Dultz (1999) goes on to explain how learner profiles benefit several stakeholders. Students benefit because it supports ownership of learning; the designers of the curriculum benefit because the curriculum can reflect student needs; classroom teachers benefit because content can be connected to students' lives; and parents benefit because it allows them to become better advocates for their child. When learner profiles are created by the student and can be accessed by students and parents or guardians, it becomes a living document (Alberta Education, 2010). Personalized learner profiles allow classroom teachers to purposefully plan lessons based on actual students rather than generally how students are different (Alberta Education, 2010).

Perhaps the most powerful application of personalized learner profiles is the sharing of information from year to year; each year classroom teachers spend weeks or even the entire year getting to know their students, this would jumpstart that process (Alberta Education, 2010). Ellerbock and Kiefer (2014) suggest homeroom as a place to get to know students and their specific needs. Schools are pushing for software to create and store these learner profiles; however, the software that is needed to create and store learning profiles has not been developed (Herold, 2015). There is a lack of research to contest to how educators are using the information collected from students to adjust instruction. Educators are gathering information, but not harnessing the potential instructional power to personalize and connect what is to be learned to each learner.

Summary

  This chapter discussed the theoretical framework behind this study, as well as offered brief overviews of middle level philosophy, differentiation, and personalized learning. Embedded within each of these concepts is a web of complex subcomponents, which include the role technology plays in learning, knowing the learner via culturally and developmentally responsive teaching, learner voice and choice, and personalized learner profiles. A list of definitions can be found in Appendix A. This list was intended to provide clarity to the reader.

Chapter Three: Research Methods

Chapter three contains a description of the research methods and procedures used to select study participants, select the setting, collect data, as well as a description of the data quality measures, and ethical considerations. The intended results of this study are to add to the literature regarding personalized learning, specifically learner profiles.

Research Design

Fitting with the design of qualitative research, the intention of this study is to explore and understand (Creswell, 2014) how middle level classroom teachers develop and use learner profiles to personalize learning. Creswell (2013) stated that a qualitative research approach is appropriate when "a problem or issue need to be explored" (p. 47). The researcher determined that little to no research has been conducted on personalized learner profiles (Bill & Melinda Gates Foundation, 2014; Sebba, Brown, Steward, Galton, & James, 2007). Qualitative research is also used to develop theories when limited or insufficient theories exist (Creswell, 2013). Capitalizing on the lack of research and limited theories of personalized learning, this study used a grounded theory approach.

According to Strauss and Corbin (1990) "grounded theory should explain as well as describe" (p. 5). Grounded theory takes the experiences and descriptions of those that have lived the process and develops a theory to aid in the explanation of the process or action and guide future work by providing a framework (Creswell, 2013). Grounded theory views phenomena as fluid and ever changing "in response to evolving conditions" (Strauss & Corbin, 1990, p. 5). Therefore, anything that may reveal information about the central phenomenon, such as interviews and the collection of documents are important to grounded theory (Strauss & Corbin, 1990). A piece of data that does not seem relevant, at first, may lead to the development of a

theory (Strauss & Corbin, 1990). When coding grounded theory data, repetition of concepts may become apparent only after conducting several interviews (Strauss & Corbin, 1990). A concept must prove its relevance through repetition, and this helps to protect against researcher bias (Strauss & Corbin, 1990).

Originally introduced by Barney Glaser and Anselm Straus in 1967, grounded theory was developed in the field of sociology (Creswell, 2013). Grounded theorists believe theories should originate or be "grounded" in data from the field (Creswell, 2013). More recently, two variations of grounded theory have emerged. In 2005, Adela Clarke suggested researchers should use social situations to analyze data gathered using grounded theory, and in 2006, Kathy Charmaz promoted a constructivist view of grounded theory (Creswell, 2013). Grounded theory is appropriate when little is known about the area of study (Birks & Mills, 2015), which is the case for personalized learning-- specifically learner profiles. Grounded theory requires the researcher to collect data, then analyze and code the data, then go back and collect more data, then analyze and code that data (Birks & Mills, 2015). This back and forth collection of data allows the researcher to saturate categories (Creswell, 2013). Comparing collected data to emerging categories is called the constant comparative method of data analysis (Creswell, 2013, 2014).

The researcher's role is to gather data from the field, then interpret this information to generate a working framework for a theory. The researcher is to "sketch out the flow" based on data that has been collected and analyzed (Creswell, 2013, p. 85). As qualitative research is reflexive, the research must convey his/her background and "how it informs [his/her] interpretation of the information in a study, and what [he/she has] to gain from the study" (Creswell, 2013, p. 47). With this in mind, the site that will be used for this study is the site in which the researcher works. One of the district's core strategic goals is personalized learning,

which is how the researcher became interested in the idea of personalized learning. The researcher was part of the district's second cohort of early adopters of personalized learning, used personalized learning in a middle level classroom, and provided professional development on personalized learning for colleagues. The researcher has a genuine and vested interest in the outcome of this study.

Identification of Participants

Using a grounded theory approach, participants were chosen because they "help the researcher best form the theory" (Creswell, 2013, p. 86); this is called theoretical sampling. Theoretical sampling is unique to grounded theory and essential to the emergent process (Birks & Mills, 2015). Theoretical sampling provides direction for the cyclical collection of data until categories are saturated (Birks & Mills, 2015). Theoretical sampling in grounded theory allows the researcher the flexibility to seek out broader and more diverse data sources to dig deeper into concepts that arise throughout data collection (Birks & Mills, 2015). Representation and consistency are obtained in grounded theory via theoretical sampling because the researcher seeks and selects based on representation of concepts, not of people (Strauss & Corbin, 1990). In other words, the participants are not what is important, but rather the topics or concepts provided by the participants.

For this study, participants were identified with the help of the principal and assistant principal at the research site. The researcher sought input from six to eight middle level classroom teachers that have either been a part of district level professional development regarding personalized learning or were classroom teachers who were willing to try personalized learning approaches in their classroom. Inclusion criteria included: middle level classroom teachers who have participated in district professional development regarding personalized

learning (e.g., a member of a district cohort and/or attended district sponsored professional

development sessions); a willingness to experiment with personalized learning strategies in the

classroom; and middle level classroom teachers that will not hesitate to share ideas (Creswell,

2013). There is no restriction on number of years in teaching; however, since an inclusion

criterion is that these middle level classroom teachers have participated in district sponsored

professional development, it is assumed these middle level classroom teachers have been in the

district for at least one semester, as professional development days occur in both the fall and

spring semesters. Exclusion criteria included: non-classroom teachers (i.e. administration, school

psychologists, school counselors) and high school and elementary school classroom teachers.

The researcher gathered a list of names as recommended by building level administration and

then contacted possible participants about participating in this study.

Identification of Setting

The research site has been selected because one of this school district's initiatives is

personalized learning. The specific building was selected because this Midwest district only has

one middle school. The selected district is located in the middle of a nearly half million-

populated city in the North central portion of the United States. As of the 2015-16 school year,

this district's enrollment of pre-kindergarten through 12th grade is 6,123 (Nebraska Department

of Education). The high school consists of grades 9-12 and the middle school contains grades 7

and 8. District wide 51% of students identify as male and 49% female, 16% of the population

receive special education services, 9% of students are eligible high ability programing, and 31%

qualify for free or reduced meals (Nebraska Department of Education). The racial make-up of

the district consists of 74% white and 26% non-white or multiracial students (Nebraska

Department of Education). Specifically, the middle level building has 961 students (Nebraska

Department of Education). The middle level building's gender, special education, racial, and free

or reduced meal demographics reflect that of the district with 51% of students identifying as

male and 49% identifying as female; nearly 16% receive special education services; 74% of

students identifying as white and 26% as non-white or multiracial; and 31% qualify for free or

reduced meals (Nebraska Department of Education). The middle level building does have 12%

of students that qualify for high ability programing (Nebraska Department of Education).

Data Gathering Tools

As part of qualitative research and grounded theory approach, data can be collected from

various sources (Strauss & Corbin, 1990). However, grounded theory data collection and

analysis are an interrelated process (Strauss & Corbin, 1990). Engaging in the before mentioned

constant comparison method of data analysis, the researcher will go back and forth between

gathering data and analyzing data (Creswell, 2008). It is the researcher's responsibility to "catch"

the interactions of how participants respond to changing conditions and "the consequences of

their actions" (Strauss & Corbin, 1990, p. 5). In order to "catch" these interactions, the researcher

conducted interviews, collected artifacts, and examined bi-monthly participant journals.

Memoing is vital in the grounded theory process and not optional (Birks & Mills, 2015).

Memos were used by the researcher throughout the research process to explore ideas about the

data and coded categories (Creswell, 2008). Memos are records of the researcher's thoughts,

feelings, insights, and ideas regarding the research (Birks & Mills, 2015). The researcher kept

memos to map out research activities, note unforeseen circumstances, make notes about the data

collected, and changes in direction of the study. Memoing was completed on a password

protected Google Doc. Memoing allowed the researcher to abstract concrete data (Birks & Mills,

2015).

Creswell (2013) suggests grounded theory researchers use interviewing to collect data. The researcher constantly goes back and forth between analysis and data collection to shape and reshape (form and reform) an evolving theory (Creswell, 2013). It is typical to conduct at least 20-30 interviews when using grounded theory; however, this may change if multiple sources of data are collected (Creswell, 2008, 2013). When interviewing, it is important that the interviewer be theoretically sensitive (Birks & Mills, 2015). Birks and Mills (2015) suggest pilot testing interview techniques before conducting interviews with participants. The researcher pilot tested interview questions with one of the district's personalized learning coaches.

Birks and Mills (2015) also recommend that the less structured the interview, the more flexibility the researcher has to follow the direction of the participant; therefore, this study utilized semi-structured interviews to maintain focus, but to allow some flexibility. The researcher planed to conduct a minimum of two interviews per participant (beginning of the school year and end of semester). Birks and Mills (2015) suggest novice researchers record interviews. The interviews were audio recorded on a password protected laptop using QuickTime and then uploaded and stored in Google Drive on a password protected Google account. The interviews were transcribed by a third party. Coding was then planned to take place in NVivo to aid the researcher in indexing data (Creswell, 2008). However, due to technology issues with NVivo, the hand coding was utilized by the researcher. The transcribed interviews were stored on the same Google Drive as a back-up. Interview questions can be found in Appendices D and E.

The researcher sought to learn more about how middle level classroom teachers get to know their students, specifically looking at how information is gathered and stored, then used to purposefully design instruction. Interviews consisted of open-ended questions. Interviews

allowed the researcher to interact with the participants in a way that would allow the participants to guide the interview to address the classroom teacher's experiences and challenges with learner profiles and the planning of instruction. Interviewing several times allowed for saturation (Birks & Mills, 2015). The interview questions were developed based on the research questions; see Appendix D for interview questions. Creswell (2013) suggests grounded theory questions be how or why questions.

The second form of data that was collected were artifacts. If classroom teachers give out a 'get to know you' paper survey or use a Google form to collect information, the researcher collected those artifacts. The researcher was also interested in collecting lesson plans, presentations, and/or assignments designed with specific students in mind. This addressed the sub-question about classroom teachers' experiences with personalized learner profiles in relation to classroom instruction. The researcher attained 'get to know you' surveys and activities at the beginning of the school year. Lesson plans, presentations, and assignments were collected throughout the semester. These were coded for analysis.

The last form of data collected was electronic journals completed bi-monthly by the participants. Creswell (2013) lists having participants keep a journal during the research study as a qualitative research approach. Creswell (2013) goes on to state that "[w]hen researchers ask participants in a study to keep journal, additional field issues emerge" (p. 174). Hayman, Wilkes, and Jackson (2010) state that there are two goals for using journaling as a form of data collection: "enrich and confirm the data already collected during interviews and to clarify data and seek responses to questions inadequately explored during the interview" (p. 28). Journaling helped to saturate the data. Janesick (1998) recommends using journaling as a form of qualitative data collection to "refine the understanding of the responses of participants in the study," use as

"an interactive tool of communication," and as a way to triangulate data (p. 3). Journaling provided the researcher insight to everyday decisions the classroom teacher is making about getting to know students, gathering information about students, as well as designing personalized instruction for students. Hayman, Wilkes, and Jackson (2010) suggest journaling be used for participants to share their thoughts, feelings, and experiences. Classroom teachers were more apt to remembering if they have a place to jot down thoughts rather than waiting to set up a time to speak with the researcher. Internet journaling "provides a convenient, accessible and secure environment" for participants (Hayman, Wilkes, & Jackson, 2010, p. 27). The district being utilized in this study provides classroom teachers with laptops and utilizes Google products. Electronic journals eliminated the concern of poor handwriting. The journal was an electronic journal using Google Docs. Suggested prompts were included at the top of the journal, but participants do not have to use the prompts provided. Keeping the journals in Google Docs allowed the researcher real time data that was reviewed before the interviews, which provided the research opportunity to ask clarifying questions. See Appendix F for journal template.

Data Gathering Procedures

The first step was to contact participants via district email. The researcher then obtained consent from the participants. After initial contact and consent, the researcher asked the participants to prepare physical or electronic blank copies of personalized learner profiles and/or 'get to know you' documents (e.g., worksheets, surveys) given to students in the current school year or previous school years. The researcher requested that these documents be provided at the first interview.

The next step was to set up the one-on-one initial interviews via district email. In grounded research, it is imperative that the researcher picks up on subtle non-verbal cues of

participants (Birks & Mills, 2015). Grounded theorists rely on participants to provide direction

(Birks & Mills, 2015); therefore, the researcher was the primary and only interviewer. Interviews

took place in the classroom teacher's classroom or the researcher's classroom in order to help the

participant feel comfortable. For optimal recording, Creswell (2008) suggested a quiet location

free from distractions. The door was shut as to limit distractions and noise. A sign was placed on

the door stating, "Interview in progress- Please do not disturb." The initial recorded interview

took between thirty and forty-five minutes, in which the interviewee was ask open-ended

questions.

   Creswell (2008) suggested the interviewer follow the questions, but be flexible enough to

have a conversation with the participant. The researcher employed good listening techniques and

asked probing questions (e.g., "Tell me more.") to elicit more information for the participant

(Creswell, 2008, p. 229). Creswell (2008) recommended using a protocol in case of a technology

malfunction; see Appendices D and E. In this study, the researcher took notes during the

interview as a backup. To end the interview, the researcher thanked the participant for his/ her

time and assured his/her responses will be kept confidential (Creswell, 2008).

   Lastly, the participants received instructions (Appendix F) for keeping a bi-monthly

journal after the interview. At that time, the participants asked questions about the journaling

process and instructions. The middle level classroom teachers were asked to record a journal

entry on a Google Doc shared with the researcher at least twice a month (see Appendix F). The

journals were checked at least once a month by the researcher for new entries. Following the

constant comparative method of data collections, the interviewer set up additional interviews

with participants after coding the initial interviews, documents, and/or journal entries. The

researcher's goal was to gather enough data to saturate developing categories (Creswell, 2013).

Data Analysis Plan

The constant comparison method was used to analyze data. The concurrent collection and analysis of data is what makes grounded theory different from other research methods (Birks & Mills, 2015). Constant comparison is an inductive and abductive data analysis procedure (Birks & Mills, 2015; Creswell, 2008). Constant comparison requires the researcher to collect data, sort the data into categories, collect additional data, and compare the new data to the emerging categories (Creswell, 2008). Raw data is turned into indicators or categories, which then are grouped and turned into codes; codes are then grouped into categories (Birks & Mills, 2015; Creswell, 2008; Strauss & Corbin, 1990). Categories were developed through open coding (Creswell, 2013); however, not all concepts became categories (Strauss & Corbin, 1990). This study utilized hand coding by the research to create codes due to a technology issue with NVivo. To avoid redundancy, the researcher constantly compared indicators to indicators, codes to codes, and categories to categories (Creswell, 2008).

A grounded theory researcher uses open coding to form major categories of information (Creswell, 2013, 2014). Categories relating to or surrounding the core phenomenon is called axial coding (Creswell, 2013, 2014). This axial coding leads to the creation of "one open coding category to focus on" named the core phenomenon (Creswell, 2013, p. 86). Strauss and Corbin (1990) determined that there are four types of categories ascertained around the core phenomenon. Those types of categories are: causal conditions, strategies, intervening conditions, and consequences (Strauss & Corbin, 1990). Causal conditions are factors that caused the core phenomenon (Strauss & Corbin, 1990). Strategies are "actions taken in response to the core phenomena" (Creswell, 2013, p. 86). Intervening conditions are "broad and specific situational factors that influence the strategies" (Creswell, 2013, p. 86). Consequences are the outcomes that

result from the use of the strategies (Strauss & Corbin, 1990). The final procedure of the research is then selective coding, where the researcher determines how the categories interrelate (Creswell, 2013). This selective coding generates propositions or hypotheses (Creswell, 2013, 2014). The research sought to generate specific actions, resources, or steps one might take in a process of developing a personalized learner profile. The aim of this grounded theory study was to build a theory about the development of personalized learner profiles in middle level classrooms.

With grounded theory, coding occurs in three stages: low, medium, and high, also referred to as initial, intermediate, and advanced (Birks & Mills, 2015). Initial coding is also referred to as open coding (Birks & Mills, 2015; Creswell, 2008). This initial coding or open coding is when the grounded theorist "forms initial categories of information about the phenomenon being studied by segmenting information" (Creswell, 2008, p. 434). In this first stage of coding, the researcher begins naming "apparent phenomena or beginning patterns" to identify "conceptual possibilities" (Birks & Mills, 2015, p. 91). This can be done by chunking the data or coding line by line (Birks & Mills, 2015). For this research study, the researcher coded line by line. Birks and Mills (2015) suggested asking the following questions during data generation and collection:

- Are there elements of process or action apparent in the early analysis?

- What is left unsaid in the data analysis to date?

- Are there more questions than answers? If so, what are they?

- Who are the key stakeholders in the field?

- Where else do I need to go to get more data? What should that data consist of?

- Are there contextual influences at play?

- Is the original research question/ substantive area of enquiry/ unit of analysis reaming

  constant? (p. 93)

In addition to the questions above, the researcher focused on the conditions, actions, and

consequences affecting the core phenomenon (Strauss & Corbin, 1990).

After the initial coding, intermediate coding or axial coding occured (Creswell, 2008,

2013). Intermediate coding involves the researcher selecting "one open coding category,

positions it at the center of the process being explored (as the core phenomenon), and then relates

other categories to it' (Creswell, 2008). Strauss and Corbin (1990) describe this phase of coding

as putting the data back together in new ways by making connections between and within

categories. It is important to continue to question the data to identify gaps (Birks & Mills, 2015).

Advanced coding involves selecting a core category or phenomenon (Birks & Mills,

2015; Creswell, 2008). According to Birks and Mills (2015), "Once a core category is selected,

theoretical sampling becomes delimited to the generation or collection of data that will

theoretically saturate the core and related categories" (p. 98). At this stage of coding, the

researcher narrowed in on the core and related categories. The researcher's goal was then to

saturate the core and related categories.

For this study, coding occurred in three stages described above. Based on advice that

appears in Birks and Mills (2015), a list of initial codes will be made in a Google Sheets.

Interview transcripts, participant journals, and researcher memos were housed in Google Drive

as Google Docs. Hard copies of documents were coded with different colored highlighters and

handwritten notes. Handwritten codes were added to the master list of codes.

Google Docs allows the user to create comments. The comments feature was utilized to

note emerging themes and phenomena, as well as key words and phrases. The key words and

phrases from the comments created on the Google Doc, as well as the hard copies, were written on different colored sticky-notes. The researcher intended to use the different colored sticky-notes to create a map or diagram of how the codes relate on a large sheet of butcher paper. The sticky-notes were moved and re-categorized throughout the research study.

Different sets of interviews and participant journal were coded with different colors to allow the researcher to visually note when the information was collected. As part of the grounded theory process, the codes and categories were modified as new data is gathered throughout this research study.

The researcher intended to utilize the sticky-notes and butcher paper as a rough draft for a diagram. Birks and Mills (2015) suggested keeping a record of what has been created and to not throw anything away. The researcher took a picture of the evolving physical diagram. The pictures were stored on Google Drive. Once the researcher was satisfied with the development of the physical diagram, the researcher used Microsoft products to create a computerized diagram. The computerized diagram was also stored on Google Drive. Strauss and Corbin (1990) suggested the data be "examined for regularity and for an understanding of where that regularity is not apparent" (p. 10). The data was examined regularly (e.g., after every interview or journal entry) for patterns or variations of previous patterns.

Strauss and Corbin (1990) suggested memo writing should "begin with the first coding sessions and continues to the end of the research" (p. 10). Throughout the study, the researcher wrote and coded memos. Memos were recorded on a Google Doc with the date and thoughts, ideas, and notes of the researcher. Ultimately, the constant comparative method resulted in "high-level conceptually abstract categories, rich with meaning" (Birks & Mills, p. 61, 2015).

Data Quality Measures

To ensure the validity of findings, the researcher used several methods of data quality measures (Creswell, 2013). The researcher triangulated interviews, researcher's memos, participant journals, and participant documents. The researcher used multiple sources to provide corroborating evidence (Creswell, 2013). If multiple sources of data revealed a common theme, the data then was valid to the findings of this study. While reviewing the collected data, the researcher noted negative cases. Evidence that does not match the theme is disconfirming evidence (Creswell, 2013); this evidence was reported in the study.

Creswell (2013) cites prolonged engagements and persistent observation as a way to validate qualitative studies. To validate data, the researcher engaged in prolonged engagement via conducting multiple interviews, reviewing participant journals, and the collection of documents provided by the participants. The researcher learned about the classroom, building, and district culture and context.

As suggested by Creswell (2013), interview questions should be piloted. To validate interview questions, the researcher refined questions with professor and piloted questions with a personalized learning coach in the district being studied.

Member checking was used; Birks and Mills (2015) suggest member checking as a way to validate findings. The researcher provided a transcribed copy of the transcribed interview to the participant to verify. The researchers will return the researcher's analysis of data to participants to check and comment upon as a way to validate research findings. The researcher intended to develop a diagram. This diagram was shared with the participants for feedback.

Creswell (2013) suggested the researcher clarify any bias the researcher may have. In this study, the researcher used the researcher's memos to clarify researcher bias and practice

reflexivity to validate data. The researcher planed to include past experiences with personalized learning that may shape the interpretation and results of the study by making connections to and between collected data.

In regards to journaling, the researcher addressed the following issues associated with journaling for participants: poor participation, feeling exposed, and staying on task (Hayman, Wilkes, & Jackson, 2010). To address poor participation, Hayman, Wilkes, and Jackson (2010) suggest coaching, limiting the journaling period, and follow-up contact. In this study, coaching was not utilized, but the journaling period was limited to two journals a month, and the researcher sent out reminders to those who had not written a journal entry every two weeks. To address the issue of feeling exposed, the researcher promoted comfort and increased safety by keeping names of participants secret, as well as what participants wrote and said confidential. To address the issue of participants staying on track, the researcher clarified content expectations during the initial interview (Hayman, Wilkes, & Jackson, 2010).

Ethical Considerations

Federal regulation requires that an Institutional Review Board (IRB) review research plans in order to protect human rights (Creswell, 2013). The researcher obtained IRB approval from the College of Saint Mary; see appendix H. The researcher also sought approval from the district's Assistant Superintendent of Curriculum and Instruction per board of education policy. See Appendix G for the Request to Conduct Research at the research site. No data was collected until both permissions had been granted.

To protect the rights of participants, the researcher did not pressure or influence the participants to sign the consent form (Creswell, 2013). In order to obtain informed consent from the potential participants, the researcher explained to potential participants the consent letter and

form (Creswell, 2013). The purpose of the study was disclosed to participants (Creswell, 2013).

See Appendix A for the Participant Letter and Appendix B for the Consent Form. Before

providing data, the participants signed an informed consent form. The form included the purpose

the study, the procedures used for data collection, "the right of participants to voluntarily

withdraw from the study at any time," "the protection of the confidentiality" of the participants,

"the known risks associated with participation," "the expected benefits," and "the signature of

the participant" and researcher (Creswell, 2013, p. 153).

To protect the data collected, it was stored on a password protected laptop. After the data

had been analyzed, raw data will be kept for a minimum of five years, as recommended by

American Psychological Association (APA) (2010). All data stored on Google Drive is also

protected by a log-in. No student data or information was gathered. If participants used student

names or any identifying comments, those would have been struck from the document to protect

the privacy of students. Identity of the participants was protected and participants were de-

identified (Creswell, 2013). Participant names were not used, instead the researcher intended to

use Teacher A, Teacher B, etc. Grounded theory requires researchers to "commit to a

relationship of reciprocity with the participants" (Birks & Mills, 2015). Since the site is where

the researcher worked, a relationship has already been established. Interviews took place at a

time that was convenient for the participant and his/her classroom or the classroom of the

researcher.

The reflexivity of the researcher protected the theoretical sensitivity of the research study

(Birks & Mills, 2015). This was addressed through the researcher's memos. The researcher

critically examined her thoughts and beliefs about teaching and learning, wrote about feelings

and actions, and what has influenced the researcher's thoughts and actions.

Data was reported honestly (Creswell, 2013). The researcher acknowledged that the research site is her place of employment. The researcher has also been a part of several district sponsored personalized learning opportunities. The researcher addressed and acknowledged "philosophical position," "the nature of reality," "the relationship between the research and participants," and "how the humans view the world and how humans gain knowledge of the world" throughout the researcher's memos (Birks & Mills, p. 72, 2015).

Tables and Figures

The research used a storyline. A storyline is a "descriptive narrative about the central phenomenon of the study" (Strauss & Corbin, 1990, p. 116). In grounded theory research, a storyline can be used as a tool for constructing and formulating the final theory and a "mechanism for presenting findings" (Birks & Mills, 2015, p. 114). Birks and Mills (2015) suggest the following guiding principles for creating a storyline: theory takes precedence, allows for variation, limits gaps, evidence is grounded, and style is appropriate (p. 115). The researcher made clear the connections between the concepts and the final theory. The diagram created as part of the data analysis was used as part of the storyline.

Summary

This chapter contained a description of the research methods and procedures used to select study participants, select the setting, collect data, data quality measures, as well as ethical considerations as these apply to a qualitative grounded theory research study.

Chapter Four: Results

Introduction

The purpose of this grounded theory qualitative study was to examine how educators develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as the use of personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students within a Midwest middle school. The first segment of this chapter describes what experienced middle level classroom teachers choose to include in a learner profile. Participants were asked to provide a blank sample of the collection tool, as well as asked about how and what information is collected about the learner during the initial interview. The second segment of this chapter reviews the results of the initial interviews, participant journals, researcher memos, and final interviews conducted during this study. The last part of this chapter contains how the data was analyzed and the findings for each research question.

Initial Interviews

The researcher conducted seven face-to-face interviews within a week and a half time frame. The initial interviews were scheduled after the start of the school year. This allowed the classroom teachers to settle into a routine and avoided extra stress or pressure on both the researcher and participants. To validate findings, member checking was used by providing participants a copy of their transcribed interview. Five of the participants are female and two are male. Three teach non-core classes, while the remaining four teach in one of the core subject areas of Language Arts, Social Studies, or Science. The only content area not represented is math.

While the researcher slotted one hour for initial interviews, the initial interviews took between 30 and 45 minutes. The shortness in interviews can be attributed to the researcher not wanting to disregard the value of the participant's time. The researcher first attempted to set up initial interviews via a Google Form; however, the style of the form did not produce the desired result and functionality the researcher was hoping for. Initial interviews were set up via email with each participant.

The style of interviews was intensive interviews, which allowed the participants to tell their story and experiences with personalized learner profiles. Charmaz (2014) recommended this guided interview process for grounded theory studies. This also gave the researcher enough flexibility to ask follow-up questions when needed. With little information to begin with, the researcher stuck to the pre-written questions. The responses are listed below:

Question 1. *How many years have you been a classroom teacher?* The participants have an average of sixteen years of experience with a total of 115 years of experience between the seven participants.

Question 2. *How many years have you been with this middle school?* Four participants have only taught at the research site middle school, while the remaining three have experience teaching in at least one other school district.

Question 3. *What district offered personalized learning professional development have you participated in?* All participants have participated in a minimum of one district offered professional development session on personalized learning or an aspect of personalized learning. Four participants have been a part of the early-adopters district personalized learning cohort. The district has had three cohorts over the past three school years. The other three have participated

in either district offered professional development sessions and/or summer conferences offered by the district.

Question 4. *What information is important to know about your students? Why?* Four classroom teachers indicated that they wanted to know what students are interested in. Teacher two stated, "I want to know interests, especially outside of the school day. It might still be at school, so maybe they're in a club or maybe they're in the musical or instrument or practice at 7 a.m., or show choir […]." Five classroom teachers indicated they wanted to know about students' learning needs or preferences. Teacher three stated, "I always give [students] a survey in the very beginning [of the school year] where they can share things like, 'what ways do you learn best, how do you like to learn?'." Four of the participants noted that they would like to know a piece of information about the students' knowledge or skill level pertaining to the classroom teacher's content area. Teacher seven stated, "The last couple of years I've been giving a 'getting to know you form' with my students, which asks kind of just general background knowledge of what they know about history." Other participants revealed a similar desire to know what students already know or what skills students already have pertaining to class material.

Question 5. *How do you decide what you want to know about your students?* When answering this question, participant answers consisted of pre-test or inventory, years of experience, and teacher two stated, "[I came] up with that list in time. I noticed that there were gaps in where I tried to work with a student and felt like I didn't know some of those key pieces." The most frequent response was through years of experience.

Question 6. *How do you gather information about your students?* When answering this question, participants responded with: Google form, verbal conversations with students, photo

rosters with notes, beginning of the year classroom activities, homework assignments, paper survey or inventory, and online questionnaire.

Question 7. *How do you store information you have learned about your students?* When answering this question, participants responded with a variety of ways they have or do keep student information, including notes on a physical student roster, Google sheet, Google doc, Word document, or on the physical paper inventory students completed.

Question 8. *Once you have the information, how do you use it to personalize instruction?* Several examples were given throughout the interview; however, a common response dealt with grouping students. Teacher one described it as, "they fall into very basic 'have not used these applications ever;' then you have students that have that 'they feel comfortable but there's still room for them to grow;' and then you have the higher-level students that – those are my students that are always raising their hand to say, 'this is the shortcut,' or 'this is how you do this another way.'" Teacher two used the information gathered for a budgeting lesson by placing students "strategically" into groups. Other participants referred to materials or strategies they used when teaching content. One classroom teacher discovered from the survey given to students that most of the class were visual learners. The classroom teachers incorporated more visuals in preparation for a quiz that students would be taking. This same participant, as well as others, discussed the use of technology to help make these kinds of modifications and to offer different kinds of resources for students who learn differently. One participant discussed the use of supplementary videos for students. A common theme among participants was the challenge of management of time and resources when discussing how they used what they know about students to personalize learning.

Table 1 lists the initial codes from the initial interviews in order of frequency. The researcher used 82 unique codes during the initial coding phase of the initial interviews.

Table 1

List of Initial Codes from Initial Interviews

Get to know you/ want to know	Use of data	Teacher's class
Teacher's experience	Teacher's growth	Teacher using knowledge of Students
Organizing student data	Example	Teacher using information about students
Using technology	Collecting data	
Student choice	Challenge	Teacher strategy
Use of information about students	Use of data	Teacher planning
Experienced teacher professional development	Timing	Taking charge
Adapting to student's needs	Teacher progression	Students reveal about themselves
Teacher's Hope/ Wanting to Excel	Surveying students	Student's taking ownership
Questioning students	Student know self	Student's perspective
Gathering information	Scaffolding	Student's lives
Adapting to students	Modifying for Students	Student reflection
Student buy-in	Knowing students	Student Generating ideas
Novelty	Content specific	Student engagement through interests
Grouping students	Collection of data	Student engagement
Student autonomy	Collecting Information about Students	Student creativity
Teacher shares personal experience	Working with students	Respect
Supporting students	Wording of questions	Progression of release of responsibility
Student's needs	Why of PL	Preparing students
Student's demonstrating	When to Collect Data/ Timing	Meeting Student's needs
Resources	Visual	Letting students take risks
Relevancy	Using student information	Letting Go of Control
Knowledge of age group	Using PL	Getting information out of Students
Connecting with Students	Using knowledge of students	Flexibility
	Trying new things	
	Teacher's Knowledge of Learner	

| Existing student data Evolving teacher experience | Conferencing with Students Collecting and Learning about Students | Building student success Adapting questions |

Participant Journals

Participants completed bi-monthly journals over the course of three months. Participants could choose to respond to provided prompts or write a reflective journal on how they were using what they know about students, a class, or a particular student to personalize instruction. The classroom teachers wrote about a wide variety of topics. A noticeable common pattern was that of context. All of the participants in at least one journal entry set up the context of the situation in which they were writing about. This was helpful to the researcher to understand the context of the situation. Only one participant did not complete the November Journal Entries; all other participants completed two entries for the months of September, October, and November.

Most participants discussed one particular student they were struggling with. Participants described seeking out resources, such as the 'get to know you' surveys or questionnaires given at the beginning of the school year, as well as other teachers. Teacher three used previous knowledge about a student and a pre-test:

> As we started our new unit, Student A came to me and explained that she had already
> studied this unit at a previous school last year. I gave this student a pre-test to see what
> this student retained and she scored a 60%. I used this information to help determine the
> best options for her with this unit. It was evident there was still some gaps in her learning,
> so there are days when she is in class and a part of direct instruction. However, I also
> have designed some assignments that will allow her to personalize her learning and dig
> deeper into the concepts that she already knows something about.

Participants used tools at their disposal to get to know students, then adapt or modify learning opportunities if, or when the classroom teacher perceived that the student was struggling or having difficulty in class academically.

Some participants wrote about whole classes they had struggled with. Teacher five wrote about an ongoing struggle with classroom management:

I started this year with my room in pods of four and allowing students to pick their seats. After struggling with lack of focus and abundance of socializing, I knew something had to be changed. Instead of creating a seating chart, I re-arranged the desks to be in pairs as opposed to groups of four. This helped but with one group of 8th graders, it didn't resolve the problems. I gave the students multiple warnings and heartfelt/candid explanations, but eventually I decided a seating chart was in order.

Most journal entries consisted on context, the teacher's experience, and result of a challenge or struggle the classroom teacher was experiencing.

Table 2 lists the initial codes from the participant's journals in order of frequency. The researcher used 95 unique codes during the initial coding of the participant's journals.

Table 2

List of Initial Codes from Participant Journals

Context	Connecting with Students	Student autonomy
Teacher's experience	Adapting to student's needs	Space
Result	Observation	Resources
Challenge	Teacher questioning decisions	Student engagement
Using technology	Teacher's reflection	Classroom environment
Student choice	Strategy	Getting to know
Ts Hope/ Wanting to Excel	Knowing the learner	Feedback
Planning	Assessing student need	Experienced Teacher Professional Development

Teacher's growth	Wanting student success	Questioning students
Teacher growth	Teacher's reaction	Progress
Engaging class/ peers	Teacher's process	Participant journal codes
Teacher's learning	Teacher's observation	Modifying
Student background	Teacher's analysis	Maturity of students
Conferencing	Teacher trying to connect to student	Making student expert
Building relationships	Teacher tried	Knowledge of age group
Timing	Teacher taking risks	Knowing student limitations
Time	Teacher realization	Knowing age group
Teacher's self-assessment	Teacher flexibility	Ideal world
Teacher's perception	Teacher expanding opportunities for students	Holding student's accountable
Teacher's hope	Teacher enforcement	Flexible grouping
Teacher control	Student's not knowing how to manage self	Evaluating response
Survey	Student voice	Encouraging risk
Student pace	Student success	Easing into content
Responding to student needs	Student struggling	Content
Questioning	Student struggle	Collecting
Knowing student needs	Student ownership	Capitalizing on student strength
Evaluating student behavior	Student need	Being purposeful
Evaluating	Student desire	Applied to content
Engaging students	Student as expert to peers	Addressing student need
Willingness to take risks	Still willing to try	
What would be helpful	Reporting progress	
What is PL?		

'Get to Know You' Surveys

Only two participants discussed provided blank samples of their 'get to know you' surveys. However, all of the participants discussed the tools they used to gather information about their students. A general agreed upon timeframe for when to give the survey or questionnaire was within the first three weeks of school. Some participants wanted students to

get to know the classroom teacher before giving a 'get to know you' survey, while other reasons for waiting included technology. Students are not given laptops until typically the end of the first week of school. The participants that chose to give the 'get to know you' survey the first week of school had students complete the survey on paper. Classroom teachers that chose to give a paper version then transferred the data collected to a teacher friendly version. One participant used a class roster to mark information she wanted to remember, while another participant used a spreadsheet so that he could organize and sort information. One participant emailed parents or guardians to learn about students, while all other participants gathered information directly from students.

Participants asked students about their family, interests both inside and outside of school, class specific questions regarding content, and how students learn best. Most participants at some point during the study commented on how the questions were asked is vital to the quality of information classroom teachers gathered about students.

Final Interviews

In order to avoid the madness of the end of the semester, the researcher conducted final interviews the first two weeks in December. The researcher also modified the original timeline to allow two weeks to complete final interviews due to what was learned in attempting to schedule the initial interviews. By extending the window to two weeks, this gave participants more options to schedule a time with the researcher. To validate findings, member checking was used by providing participants a copy of their transcribed interview.

The final interviews were conducted in a similar manner as the initial interviews. The researcher slotted one hour for final interviews; however, the final interviews, like the initial interviews, actually took between 30 and 45 minutes. The shortness in interviews can be

attributed to the researcher not wanting to disregard the value of the participant's time. Final interviews were set up via email with each participant.

The style of interviews were intensive interviews, which allowed the participants to tell their story and experiences with personalized learner profiles. Charmaz (2014) recommended this guided interview process for grounded theory studies. This also gave the researcher enough flexibility to ask follow-up questions when needed. Charmaz (2014) points out an advantage of grounded theory research is that the researcher can learn about and identify gaps in the data from earlier data points (p. 118). Therefore, the researcher referenced participant journal entries in an attempt to saturate certain categories. After examining the initial interviews and participant journals, the researcher determined that the participants did not distinguish between the 'get to know you' survey, which is the tool for gathering information, and the personalized learner profile. The researcher adapted the wording of some questions due to this discovery.

The final interviews revealed several challenges classroom teachers faced when getting to know students and then using that information to personalize learning. The challenge of time and number of students came out loud and clear. There is not enough time to develop strong relationships with each student, develop resources for the wide variety of needs, and conference with students. Several participants either discussed or wrote about conferencing with struggling students. At the middle level, participants have between 120 and 150 students. Teacher five in her final interview discussed the connectedness she has with students:

I'm visualizing it. If I were the hub in the middle. Right? And I've got all these students around me, the connection here might be super thick but the connection here might be super thin. But that is because I've had more opportunity to access this student. And this one not as much. Because I can't. I keep throwing lines and I don't get any hits. So not

having a consistent way to access, in contrast, if it were, if a student profile contained

five questions, that students are required to answer about themselves and I took the time

to read it. Then I would have at least a similar starting ground for each student. I manage

to still include those students and try to engage with them, connect with them. But

inevitably, the students that send me feedback regarding the things that are interesting to

them or tell me, disclose things to me, those connections get thicker and I then worry that

students who don't have a thick of a connection are going to feel somehow alienated.

The sense of connectedness or strength of relationship is not as strong with some students as it is

with others. This tied back to the kind of responses students gave. One participant discussed in

her final interview how she does not even know what her hobby would be if asked on the spot.

The way information is elicited from students was discussed by several participants.

Table 3 lists the initial codes from the final interviews in order of frequency. There are

112 unique codes from the initial coding of the final interviews.

Table 3

List of Initial Codes from Final Interviews

Using technology	Parent view	Challenge: content heavy course
Knowledge of age group	Organization: mental note	ZPD
Building relationships	Knowledge of student	Holistic teaching
Experienced teacher professional development	Holding students accountable	Who should have access of profile
Connecting with students	Context	What information do students already know
Teacher reflection	Content of LP: Baseline Skills	Use of different pieces of data to help student learn
Maslow	Conference	Upholding Student dignity
Challenge: time	Confidentiality	Trust in Teacher's Professionalism
Resources	Challenge: Establishing a relationship	
Teacher planning		
Challenge: Number of Students		

Theme

Teacher's experience

Teacher view

Teacher strength

Teacher self-check/ check of intuition

Teacher perspective

Teacher hope

Teacher feedback

Teacher buy-in

Subcategory: rapport

Student reflection

Student need

Student grouping

Student feedback about PL

Student engagement

Student as expert

Student accountability

Skill of organization

Skill of managing time

Skill of collaboration

Release of responsibility

Preferred Organization: Class Period and Notes

PL cannot be static

PL can be organized chaos

Parent access

Organization: spreadsheet

Organization-- lack of system

Need: Accessibility of Profiles

Modifying

Misconception: individualize = personalize

PLP continuous

Knowing students

It's okay to be a little different.

Get to know you

Future use

Existing data

Example as applied to health care

Encouraging student to take risks

Digging deeper into student responses

Demonstration

Conversation

Content of LP: What student cares about

Content of LP: Way students learn best

Content of LP: teacher commentary

Content of LP: Success and Challenge

Content of LP: Student Time Management Skills

Content of LP: Relationships

Content of LP: nonacademic information

Content of LP: Interests outside of School

Content of LP: Interests

Content of LP: Intelligences

Content in LP: student reflection

Collective effort

Challenge: Student Responses (digging deeper)

Challenge: Helping students be more self-directed

Challenge: Using that information to plan

Challenge: time management

Challenge: Students making social choices a priority over academics

Challenge: student choice

Challenge: quantifying context

Challenge: Providing Opportunities for Learners that match Learning Styles while adhering to standards

Challenge: PL easy to abandon

Challenge: Number of Adults in Learner's Life

Challenge: management of a flipped classroom

Challenge: managing data

Challenge: How to utilize data best to help students

Challenge: How to get information out of students

Challenge: How much do teacher's want to know about students

Challenge: How long Teacher has learners (quarter, semester, year long)

Challenge: Getting Information about students

Challenge: department

Challenge: Communication between core and non-core teachers

Challenge: common assessments

Challenge: Cognitive space

Challenge: Availability of Existing Data

Challenge: Availability of Data

Challenge: Asking good questions

Challenge: Addressing needs of students who internalize

Challenge: technology

Apply to own teaching

Accessibility

Access to Technology

Access

Researcher's Memos

The researcher's memos kept throughout the study contain eleven entries. Charmaz (2014) states, "Memos catch your thoughts, capture the comparisons and connections you make, and crystallize questions and direction for you to pursue" (p. 162). The researcher was allowed to engage in reflexivity, narrow in on subsequent data collection, as well as develop and question ideas through memo writing.

During the early stages of this research study, the researcher relied on the initial interviews and each month's journal entries. Having bi-monthly journals created an intense coding session after each month's journals were completed. The researcher also noted commonalities from the constant comparative method of analysis. As more data was gathered, the researcher was able to compare participant responses. The researcher found it easier to see patterns when looking at larger sets of data. For instance, after reflecting on the participant's October journal entries, the researcher wrote: "Several participants are struggling with making connections clear to me with HOW they are using what they know about students to personalize learning" (November 2017). The patterns and cross-connections between participant responses allowed the researcher to make stronger connections between data collection and analysis.

The researcher noted insights and hunches. The contemplation of participant journals every month allowed the researcher to capture the following thought, "Because of what teachers know about their students, students are happier in class. Teachers can build positive relationships with Ss" (November 2017). The researcher questioned the data in the memos. One entry questioned, "Connecting with students through conversation-- how do we capture this?" (November 2017). Charmaz (2014) noted that memo writing is supposed to advance the researcher's thinking. By keeping informal, short, personal memos, as Charmaz (2014) suggests,

the researcher was able to gain insight to the central phenomena through the experiences of participants.

Data Analysis

The purpose of this grounded theory qualitative study was to examine how educators develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as their experiences with personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students within a Midwest middle school. The constant comparative process was used to compare data collected from initial interviews, final interviews, researcher memos, blank 'get to know you' documents, and participant bi-monthly journals.

Open line-by-line coding was used to initially code. By using line-by-line coding, the researcher fulfills "fit and relevance" because the "study fits the empirical world when you have constructed codes and developed them into categories that crystallize participants' experience" (p. 133). Charmaz (2014) declares line-by-line coding is a way to see nuances in the data (p. 125). The initial coding consists of "shorthand defining and labeling; it results from a grounded theorist's actions and understandings" (Charmaz, 2014, p. 115). Charmaz (2014) recommends coding data with gerunds. Charmaz (2014) argues by coding with gerunds, the researcher can better understand the actions of the participants, which will likely reflect an insider's view rather than that of an outsider to the phenomenon (p. 121). See Tables 1, 2, and 3 for initial codes.

To advance the theoretical orientation, the researcher then moved on to focused coding. As Charmaz (2014) points out, "These codes appear more frequently among your initial codes or have more significance than other codes" (p. 138). The researcher used Google Sheets to type all initial codes and created a frequency table to determine how many unique codes had been

created, as well as how many times a code appeared. The researcher discovered some typos that lead to the misidentification of unique codes by the frequency formula. The research attempted to fix these errors for the most accurate frequency count. However, Charmaz (2014) warns that the frequency of a code does mean a code is automatically significant (p. 145). For instance, the participant journals contained a code the researcher deemed as "context." This code was not relevant to developing categories, but rather an indication of participants' journal patterns and desire for the researcher to understand the context of the journal entry. The codes from all sources of data were collected on a master list for comparison. Comparison of codes was deemed important by Charmaz (2014) because a code "that you constructed to fit one incident or statement might illuminate another" (p. 143). The codes were compared to the original data to ensure consistency and that the codes captured what the data was actually saying. Charmaz (2014) suggests questing the codes and data by looking "for what these codes imply as well as what they reveal" (p. 140).

The researcher followed the recommendation of Charmaz (2014) to lift a code to a category by defining the category. When generating categories, Charmaz (2014) suggested comparing participants' experiences through focused coding (p. 191). The researcher used Charmaz's (2014) advice to compare the experiences of participants and used focused coding to develop the following six categories: knowing the learner (what is collected), challenges, how classroom teachers are collecting information about students (how information is collected), content of a personalized learner profile (what should be included), classroom environment (how information is used), and teacher's experience. The researcher defined knowing the learner as including building relationships by knowing the age group, what makes learning novel for this age group, the maturity of students, individual student's ZPD, IEPs, 504s, personal information

about students, as well as addressing, adapting, modifying, or evaluating student needs. This also

includes the organization of student data or information formally or informally collected. This

code will also include a teacher's knowledge of where students might be on Maslow's Hierarchy

of Needs. Challenges include challenges classroom teachers face when implementing, using, or

collecting data for PLPs. The researcher defines how classroom teachers are collecting

information about students by including existing data, classroom teacher observations, student

demonstrations, or a survey adapted from another source, created by the classroom teacher, or

other 'get to know you' forms used by the classroom teacher to collect information about

students. The researcher defines content of a personalized learner profile needs to follow a

student throughout their school experience, be accessible, and include the items listed to the

right. The researcher defines classroom environment by including how classroom teachers use

what they know about students to grouping students, encourage students to take risks, student

autonomy, student voice, student choice, or pace. The researcher defines teacher's experience by

including professional development, the classroom teacher's hopes for students, personal

learning, and professional learning communities, as well as the experiences the classroom

teacher has had in the learning environment. This also takes into account the classroom teachers'

willingness to take risks, their growth, ability to scaffold, plan, utilize resources (such as other

teachers), and execute engaging lessons for learners.

Axial coding was used to relate categories to subcategories (Charmaz, 2014, p. 147). A

Strauss and Corbin organization scheme was referenced by Charmaz (2014) for use when

relating categories to subcategories. The researched used this scheme to create Figure 2. Figure 2

illustrates the relationship between the conditions, actions, and consequences of the phenomena.

The organization shows the links between subcategories and overarching category. The central

phenomenon is personalized learner profiles, which is one way of knowing your learners. The context or circumstances that form the central phenomenon is the teacher's experiences, growth and learning, and willingness to take risks. The specific causal conditions of this study include students in participants' classrooms and the classroom teachers' desire to meet students' needs, as well as the desire to want to know students. The actions participants have to take for this phenomenon is deciding when to give the 'get to know you' survey, what the classroom teacher wants or needs to know about the learner, and the classroom teacher needs to decide how to best ask questions that will elicit the best student responses. Consequences, as perceived by the classroom teacher, of this include a positive learning environment, as well as a sense of preparing for and supporting student learning.

The researcher then used clustering to visualize and organize the codes for the initial interviews, participant journals, and final interviews. Charmaz (2014) suggested using "this technique to produce a tentative and alterable chart or map of your work" (p. 184). Figure 2 is a picture of the clustered initial interviews. Figure 3 is a picture of the clustered participant journals. Figure 4 is a picture of the clustered final interviews. The markup feature on the Photos Mac application was used to write on Figures 2 and 3. The codes were arranged by commonality and given a main topic name. Charmaz (2014) suggested "draw[ing] connections between parts of your emerging pattern" (p. 185). Figure 5 is the visual representation of the researcher's initial connections. The researcher remained reflexive throughout the entire coding process. After saturating the six categories, two concepts emerged: knowing the learner and the teacher's experience.

Context
*Teacher's Experience
*Growth and Learning
(including Professional
Development)
*Willingness to take risks

Causal Conditions
*Student in classroom
*Classroom teacher's desire
to meet student's needs/ know
student

Personalized
Learner
Profiles
(Knowing
Learners)

Consequences
*Positive Learning
Environment
*Preparing for and
Supporting Learning

Action Strategies
*WHEN: Deciding When to Give
Survey
*WHAT: Deciding on WHAT
teacher's wants/ needs to know
*HOW: Asking questions in a
way students can understand and
will lead to the information
teacher is seeking (Design of
survey)

Figure 2. Visual Organization of Axial Coding
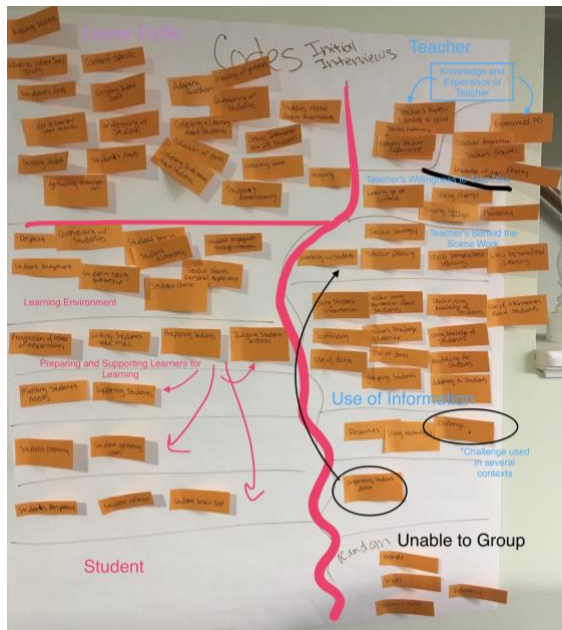
Figure 3. Picture of Cluster Coding of Initial

Interviews
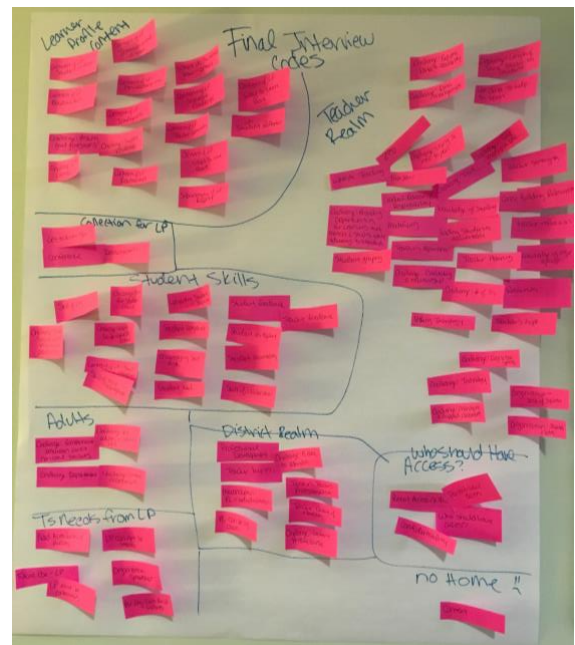
Figure 5. Picture of Cluster Coding of Final

Interviews
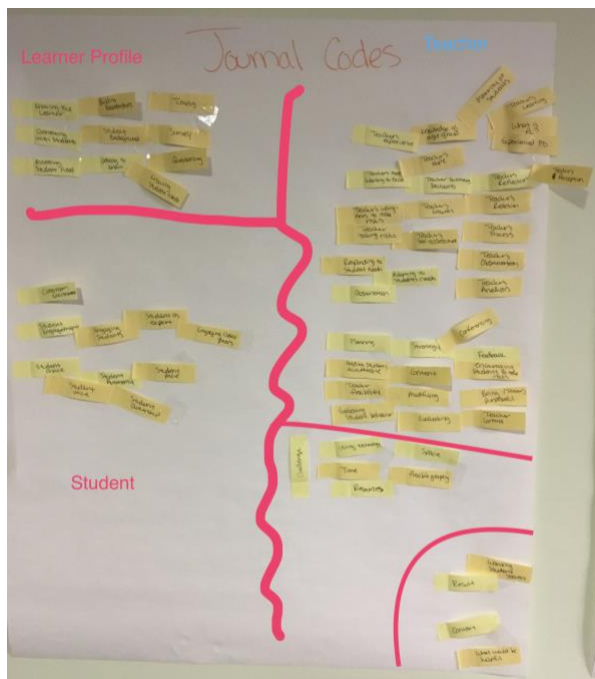
Figure 4. Picture of Cluster Coding of

Participant Journals
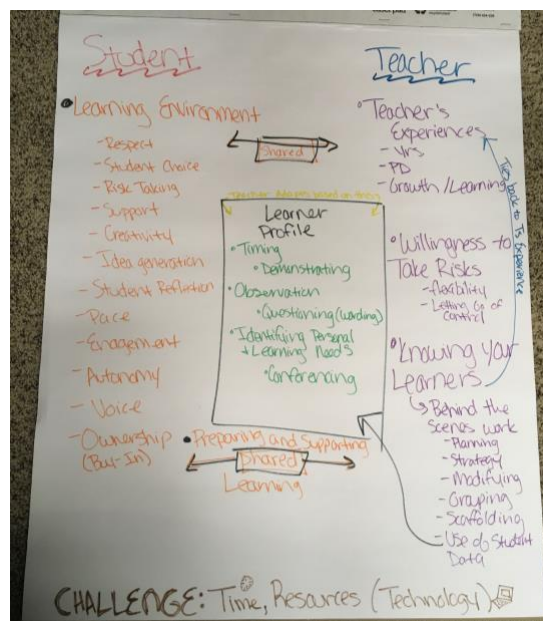
Figure 6. Picture of Cluster Connections

Results for Each Research Question

Through several data points, data was collected and triangulated around the following questions; the central research question is:

How do middle level classroom teachers use personalized learner profiles to personalize instruction in a Midwest middle school?

The proceeding questions are sub-questions:

a. What is the process classroom teachers use when developing personalized learner profiles?

b. What challenges do classroom teachers face when using personalized learner profiles?

c. What are classroom teachers' experiences with personalized learner profiles in relation to classroom instruction?

In this study, the central question was intended to provoke a theoretical underpinning about personalized learner profiles. The sub-questions were intended to tease out the finer details of the central question. The sub-questions are addressed first, followed by the result of the central research question.

A combination of the identified concepts, knowing the learner and teacher's experience were the central and sub research questions. Knowing the learner encompasses the content or information collected for a personalized learner profile, as well as the classroom environment. Classroom teachers use their experience to identify what information should be collected, how it should be collected to elicit accurate and useful responses from students. In this study, at best the participants used experience to develop personalized learner profiles; as illustrated by one participant's response, "I don't know how I ever just sat down and decided. I think it is just over

the years that you just pick up things that become natural and comfortable." This same sentiment is reflected in several participant initial interview responses.

Classroom teachers face several challenges when using the information they have collected about learners. Several participants discussed using conferencing with students. Teacher six stated, "[I] try to individually conference with students as much as possible. And kind of direct them towards certain projects [that are] kind of be a better fit maybe, for them to do based upon what I've learned about them over the course of the year and their abilities and skill levels and skill sets." One of the resources that gets in the way of conferencing with students is time; teacher one stated, "Time. Getting to know all of them. I think just getting an opportunity to even just have that one-on-one relationship." This ties back to another participant's response regarding building relationships. She found it challenging to develop an "equally accessible connection" with all students, "the students that send me feedback regarding the things that are interesting to them or tell me, disclose things to me, those connections get thicker and I then worry that students who don't have a thick of a connection are going to feel somehow alienated," as stated by teacher five.

The last challenge addressed by several of the participants was the number of students. At the middle level classroom teachers often have between 120 to 150 students. Teacher two stated, "I mean it's like you have 150 kids of your own. That you have to try to get to know all of them." Some of the participants are encore teachers, which means they might have a group of 120 to 150 students for a quarter or semester, unlike core classroom teachers who have the same 120 to 150 students for the entire year. Teacher one commented, "By semester and then by 2nd semester you could even do—you can take it to that next level of getting to know them and

establishing those relationships and knowing what you really can expect from them as far as work and what they can do." All participants expressed a want to know their students.

A negative case to note was that of a classroom teacher who used memory instead of a system to collect information about student. The classroom teacher did use pretests and student demonstrations, but did not use an organizational system to collect this information about students. Teacher one stated, "I try to group kids into kind of mentally my own little groupings." The use of a personalized learner profile was non-existent.

Participants shared a wide array of experiences with using what they know about students to personalize learning. Most student specific examples come from participant journals. One participant wrote about a shy female student. This particular classroom teacher gave a multiple intelligences questionnaire to learn about students at the beginning of the school year. This classroom teacher wrote about the student scoring high in numbers, picture, and self. The classroom teacher also used her observations to learn about the student; the teacher noticed the student liked anime. The classroom teacher reported making "authentic comments" about the student's talents. Teacher four reflected, "the learning profile helped me to distinguish a way to build a relationship of trust with the student. I will now begin creating options for her to express her science knowledge through an artist project that would allow her to capitalize on her strength for her to build more confidence in the classroom." This responsive teaching illustrates one of three of Strahan, Kronenberg, Burgner, Doherty, and Hedt's (2012) guiding propositions of responsive teaching in two classrooms, "Teachers create academic connections with students by learning more about them as individuals" (p.5). Classroom teachers see the positive correlation between knowing the student, and using the classroom teacher's experience with students to

build positive relationships which, as the teacher perceives, has a positive impact on the

classroom environment.

Lastly, to address the central research questions: How do middle level classroom teachers

use personalized learner profiles to personalize instruction in a Midwest middle school? Teacher

five described her instructional strategy to personalize learning for a wide variety of learners:

I like to use a variety of instructional techniques, not looking at the content, but the

technique itself. Whether we are getting up and going into the hallway to try to have

some flexible spacing, or whether I have provided them with a manipulative to let them

be doing a hands on activity. Sometimes students can work with me, or they can work

with a partner. I try to vary the type of modality. Like you have to read this to get the

content. You have to do this manipulative to get the content. And you have to solve this

puzzle to get the manipulative. Now let's all come back together to see that we've

received or gathered the same sort of information from three different types of activities.

Teacher two described a classroom activity and how she decided to group students based on

what she knew about them:

Personalizing instruction—it could even be like in our budget activity, it could even be

placing the kids where, I might do it strategically in two ways. One way could be a group

of four where I know two of the kids live in an apartment and two live in a home. So they

can share ideas, especially if they're searching for an apartment, the kids who live in an

apartment could be the experts versus the kids who have always lived in a home and

really haven't been by that apartment scenario.

The classroom teachers in this study shared a multitude of scenarios and experiences where they used what they knew about a student to personalize learning for either an individual student or group.

Summary

The findings in this chapter emerges from initial interviews, 'get to know you' surveys, participant journals, researcher's memos, and final interviews. The first section of this chapter described what experienced middle level classroom teachers choose to include in a learner profile. Participants were asked to provide a blank sample of the collection tool, as well as asked about how and what information is collected about the learner during the initial interview. The second section of this chapter reviewed the results of the initial interviews, participant journals, researcher memos, and final interviews conducted during this study. Finally, the last part of this chapter contained how the data was analyzed and the findings for each research question.

Chapter Five: Discussion and Summary

Introduction

The purpose of this grounded theory qualitative study was to examine how educators develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as their experiences with personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students within a Midwest middle school. As stated previously, the researcher has determined that little to no research has been conducted on personalized learner profiles (Bill & Melinda Gates Foundation, 2014; Sebba, Brown, Steward, Galton, & James, 2007). This research study attempted to shed light on one component of personalized learning: personalized learner profiles. This final chapter will interpret the results of the research questions, suggest implications for practice, discuss limitations of this study, as well as recommendations for future research.

Review of Research Questions with Interpretation of Results

The researcher not only works in the district and building in which the research was conducted, but is a member of the district's second personalized learning cohort for early adopters, has provided professional development for the district on personalized learning profiles, and is a member of a personalized learning profile focus group for the district. The researcher is invested in personalized learning and actively acknowledges how the researcher's view affects the interpretation of results. Charmaz insists the constructivist view of grounded theory "depends on the researcher's view; it does not and cannot stand outside of it" (p. 239). Grounded theorist Charmaz (2014) also believes "no researcher is neutral because language confers form and meaning on observed realities. Specific use of language reflects views and

values" (p. 114). Therefore, the researcher has taken a reflexive approach to the research process and results.

To address the central research question: How do middle level classroom teachers use personalized learner profiles to personalize instruction in a Midwest middle school? The research concludes that classroom teachers do not, in practice, distinguish between a personalized learner profile and a survey tool and the results of that tool. What the seven participants deemed a personalized learner profile is actually knowing about students. While knowing the learner is important and a concept of this study, it is the function of the personalized learner profile. One participant commented, "I know for me as kind of a learner profile, I learn well by discussion and presentations and so that is kind of what my general fallback always is to do a presentation." What the participant is actually talking about is his own learning preferences. Learning preferences can be part of a personalized learner profile, but it is not the profile itself. Throughout the data collection, it was revealed to the researcher that more professional development to clarify aspects of personalized learning needs to occur. Personalized learner profiles are one aspect of personalized learning. The participants in this study know what they want to know about students and how to collect information about students, but lack the formal organization, structure, and support from building and district administration to complete a formal personalized learner profile.

The participants revealed several needed aspects of personalized learner profiles. The classroom teachers wanted a personalized learner profile to be continuous and accessible. As one classroom teacher put it, "the learner profile is something that is easy for people to abandon. I feel like because it does take time and it does require commitment." As discussed in chapter four, limited time was a challenge for nearly all of the participants as they reflected on the use of

personalized learner profiles in their classroom. Classroom teachers have a limited amount of time not only with students, but also when it comes to planning, creating resources, and crafting opportunities for students.

The first sub-research question is "What is the process classroom teachers use when developing personalized learner profiles?" Most participants stated that data collected in the profiles was ideally gathered within the first few weeks of school, and participants found it helpful to sort data by class period. This was a common organizational structure and time frame mentioned across participants; however, from there the process widely differed. Some participants took the approach of wanting students to get to know the classroom teacher before forcing students to provide information about themselves. As one of the researcher's memos points out, "It seems that kids don't always know what they want their teachers to know or how to best communicate that. The process is one that is revealed through relationship building." This idea of building relationships with students is organic and is done out of a sincere desire to know students. All of the participants were genuine in their desire to know students.

Technology was cited as reason for not giving a survey the first week of school, as student laptops are typically distributed at the end of the first week. Even with distribution beginning, it does not mean all students have the appropriate paperwork in to receive their laptop at the time of mass distribution. One participant commented, "It would be very nice if the kids came in that first day with their laptops so that I could just do that Google form." This participant hand typed student responses on a Google sheet so that information was sortable. This ties back to grouping, as referenced by several other participants, and organizing student information by class period. This seems to be important to classroom teachers. As one participant put it, "It really helps in every aspect of teaching and just in relationship building between the teacher and

student to have those learner profiles available and readily accessible so they can be utilized their

fullest extent." The ease of use will play into the availability of information and time.

The second sub-research question is "What challenges do classroom teachers face when

using personalized learner profiles?" The common challenges were time and number of students.

Classroom teachers will never feel like they have enough time. Several participants had

comments like this, "I think it's just my biggest constraint is the time. It's the time and the

number of students." Other participants mentioned time as a factor regarding their content area,

"Social studies tends to be very content heavy. There's just a lot of content that is expected that

we get to." Another aspect of time being a challenge revolved around the development of

materials; one participant stated, "I would say that one of the challenges is not having enough

time to develop is one thing, or everything that is created or given is cookie cutter." All of these

demands on a classroom teacher's time will have a great impact on the fidelity in which they use

personalized learner profiles to personalize instruction for students. As one teacher put it, "it's

easy as a teacher to get caught up in the everyday stuff." The evolution of teaching has continued

to put more and more demands on the role of the classroom teacher.

One of those demands is that of non-academic needs of students, which is also another

challenge facing classroom teachers. All participants expressed at some point during data

collection about wanting or needing to know non-academic needs. When classroom teachers

know something about a student's personal life, such as a student's home situation or about

mental illness, a classroom teacher can respond to that student's needs. These needs are base

level needs on Maslow's Hierarchy of Needs (1954). One teacher did bring up her encounter

with a teacher from Chicago, "I was talking to teacher who teaches in Chicago and she was

saying that, you know, 'I have two kids. Like one kid, their challenge is just finding breakfast.

This student is actually living under a bridge with a parent and coming to school every day. The other kid is deciding like, well which breakfast cereal should I choose from? I've got four boxes on my table with my parents saying, 'Let me get the milk for you'." There are serious and legitimate struggles of classroom teachers and the institution of education. As discussed in Chapter 2, if the first layer of physical needs is not met, other functions are impaired, such as memory, emotions, and context of thinking (Maslow, 1954). Maslow (1954) mentions repeatedly the need to look at the whole person.

The final sub-research question is "What are classroom teachers' experiences with personalized learner profiles in relation to classroom instruction?" The most disappointing part of having information about students is not using the information. One participant wrote about an accidental experience, which can be cited as a negative case:

> In team we recently have been discussing M, whom we believe is using the bathroom to avoid class. We have observed her in isolation in the bathroom. The element project, ended up getting M super excited. I would like to say it was planned on purpose for her. However, it was a project for all students. She diligently researched her element and was given the option to present in front of the class. She made the choice to present in front of class about her element. The class was silent during her presentation. She gave them tons of information and had a huge smile.

Learning must be intentional. It is fantastic that this learning opportunity happened to work out for this particular student; however, because of the increasing demands on classroom teacher's time, opportunities like this are happenstance rather than a purposeful attempt to meet student needs. Whereas, the same participant wrote about a different student and how the classroom teacher planned to use information collected to personalize the student's learning:

Student S is a female who has been identified on the Universal Screener for

Internalizing. We are supposed to come up with strategies or a plan of support for each

student that has appeared on the universal screener. Looking at the Kagan MI, it

confirmed shy and withdrawn. She scored 0 for people smart (interpersonal). I plan on

implementing more opportunities for her to have interpersonal but tie to music smart

since she scored high. I will have to make sure she is in a group of two and have the

group be homogenous to ensure a positive experience.

Like the participant above seeking assistance from their interdisciplinary team, several other

participants sought outside resources to personalize learning experiences for students. One

participant wrote about seeking the help of the English-Language Learning teacher:

I currently have an ELL student in my class this is struggling with work completion.

After reaching out to his ELL teacher, we were able to come up some strategies to help

him be more organized in my class and complete work in on time. One strategy is to set

aside an individual time each class period to have a short conference with him about

being prepared for next class. We both fill out his planner and I sign my signature. This is

then checked at the end of the day by his ELL teacher and she reviews what he need to

complete before he has my class next.

This speaks to the need to know about students' soft skills. This entry was an October journal

entry. Had this classroom teacher known sooner that work completion was an issue for this

student, help could have been in place before waiting for the classroom teacher to notice work

completion was an issue for this student.

Implications for Practice

Classroom teachers are ready to distinguish the difference between differentiation and personalized learning. There are still several misconceptions as to what personalized learning is and can be or what is could look like in practice. Bray and McClaskey's (2015) chart compares personalization, differentiation, and individualization (see Appendix I). Several of the participant's comments align with differentiation and not personalization. Professional development to move classroom teachers from differentiation to personalization is one step this particular district could take to achieve their core strategy of implementing personalized learning. This would also alleviate some of the pressures involving time classroom teachers feel. When a classroom is truly personalized, the learning is learner driven (Bray & McClaskey, 2015).

Several participants reflected upon using information collected about students only when the there was a problem in the classroom. The information within a personalized learner profile might be helpful at a time when a Student Assistance Team (SAT) is assembled for a student struggling within the school setting. This is one way to gather administration and teacher buy-in with personalized learner profiles; however, the research cautions that this should not be the only time the personalized learner profile is utilized. To be worth a teacher's time and effort, as well as the student's time and effort, a personalized learner profile should be integrated daily. It is beneficial for the classroom teacher to know if students' basic needs are being met; if a student's basic needs are not met, they will not reach self-actualization (Maslow, 1954). Both classroom teachers and students should use what is known about the student to guide the creation of learning experiences, including personalized learning paths. The use of personalized learning profiles must be purposeful and intentional.

One way to make PLPs purposeful and intentional is by actually creating a PLP for your students. The researcher has experimented with Google Forms, Google Docs, and AutoCrat, a Google Add-on to create classroom personalized learner profiles. The researcher recommends for those interested in creating their own classroom PLP to begin with a mail merge, like AutoCrat. The researcher has refined questions on a Google Form asking for students to share information about their interests, how students access and engage with information; this as been adapted from Bray and McClasky's (2015) book *Make Learning Personal: The What, Who, WOW, Where, and Why*. The researcher adopted more middle level friendly language. Providing learners choices has also proved to be helpful when asking for student learning preferences. After learners complete the Google Form, AutoCrat creates an individual PLP for each student who has completed the form. The data is also sortable from the teacher's side on the Google Sheet that is created via the Google Form. There are tables on the profile for learners to fill in and create goals for district assessments, a growth mindset survey, and Habits of Mind survey given to learners at a later time. The initial survey cannot be too long or students will lose interest.

The collected information must be used. Classroom teachers can use the Google Sheet to sort student information. This information can then be taken to team or professional learning community. Classroom teachers can begin to purposefully look at learner provided data and upcoming units. These teams of teachers can then begin to intentionally plan for areas of confusion or areas where groups of students might be weak or strong based on the data. As classroom teachers become more comfortable with using student data, they can transition into true personalized learning where the teacher lets go of some of the control and makes the student a co-creator in their learning.

However, classroom teachers often have an issue giving up control. One participant stated, "my inclination is to kind of control it and say, here is what you are going to do, here's what path you are going to be on because here's what I think you should do." The researcher believes this is in part due to old ideology; this is what it should look like because it has always looked this way. The participants expressed a desire to grow and change by making comments like, "it's still a work in progress." One classroom teacher mentioned the fear involved in letting go of control, "not relinquishing all of the control, because that's one of the things I think is fearful about just diving right into the five elements of personalized learning is it feels like you letting go of things that are like, standards, and I've got to maintain control so I can make sure we meet benchmarks." Classroom teachers still feel a strong duty to maintain standards and hold students accountable for learning those state mandated standards.

Along the same vein of teacher control and sense of not enough time deals with the teacher feeling it is their responsibility to provide lots of choice. One participant wrote, "That's something I've always just kind of struggled with, with personalized learning and giving students kind of a myriad of choices that they could pick from. Sometimes when you give them so many choices, they have a really hard time how to get started, cause there's not as many models for them to look at in terms of a final product might look like." Classroom teachers feel that they are the ones designing and creating; the Bray and McClasky comparison chart would classify that as differentiation; the chart uses language like "learners are reliant" and "teachers create or adapt instruction." Whereas Bray and McClasky's comparison chart includes language like "learner selects" and "learners build" under personalization. It is recommended that the classroom teacher build the capacity of learners so that the classroom teacher can relinquish some control to students. When learners have voice and choice, they are more likely to be engaged (Bray &

McClaskey, 2015). Kallick and Zmuda (2017) discuss the co-creation piece of personalized learning as helping students to "clarify what is being measured (learning goals);" "envision the produce or performance (assessment);" and "outline an action plan" (p. 3). Rickabaugh (2016) talks about levers and one of the most underutilized levers in the classroom is the students themselves. Educators often forget that students have knowledge and skills to bring to the table.

   A few participants alluded to wanting to know where students were with their soft skills. In the initial interview, one classroom teacher stated, "Do you struggle with meeting deadlines? Do you struggle with time management?" He was not the only classroom teacher to want to know this. Here in lies a challenge; how is this measurable? How can this kind of data be collected with accuracy and fairness? This is also a middle level need to know. The research has only worked with secondary students, while these soft skills are important to know at the high school level, it is imperative to know at the middle level. Students that develop effective habits in middle school are more likely to carry those habits through high school and beyond (AMLE, n.d.). Again, building the capacity of students to utilize soft skills is important in a personalized learning classroom. It is recommended that teachers use learner profiles to identify weaknesses in soft skills and teach mini-lessons to build the capacity of learners.

   There is a need for further professional development. Not only did the researcher uncover misunderstandings, but also identified the need for classroom teachers to move beyond differentiation into personalization. One participant shared her experience:

> I think what would be really helpful is if the approach training with teams and with PLCs.
> Since we are doing it together, experiencing the training together, and then able to take
> that training back and begin to work together, I just noticed that I had some struggles
> when I initially brought up the idea with my PLC. Because their experience with

personalized learning and the training was much different than my experience. And I

think that there's a lot, you know it was different trainers, it was in a different time that

the district was in, in terms of personalized learning. I feel like I got a really good

foundation in the real thinking behind personalize learning and the philosophy. And it

was really, you know, we really worked through that for several days and had a lot of

people that I connected with that, but nobody that was in that initial training, nobody that

was in my 7th grade PLC. And so they, on the other hand, got a one day, you know quick

and just more like let's get that initial piece and let's just get into 'here's how you can

arrange the desks,' 'here's how you could…' so they came away with more like room

arrangement things more than anything else, and they kind of found it to be, maybe not as

worthwhile as I did. So that's really essentially how I feel it could of—it could be—and it

still could be, you know presented, but I'm just getting a little bit of pushback on things

that we can do together as a PLC.

This frustration and need for consistency is not uncommon. Most of the teachers in this study

participated in one of the early adopter cohorts for the district. The early adopter cohorts spent

days learning about the theory behind personalization. This theory may seem uninteresting, but is

key to teacher buy-in and consistency.

Lastly, it is recommended by the researcher that districts should conduct pilot tests of

personalized learner profile templates at each level, elementary, middle, and high school, with

consideration to the vital transition of information from each grade level, as well as each

building. Echoing teachers' concern for lack of time, no one wants to feel as if their time has

been wasted.

Limitations

The purpose of identifying limitations is to identify potential weaknesses of the study (Creswell, 2012). The first limitation of this study is generalizability. This study is not generalizable to the larger population due to the small sample size and the study was only conducted at one site. Seven classroom teachers participated from one middle school located in the Midwestern United States. Lastly, the generalizability of these findings are also limited by the participants themselves and their experiences with personalized learning and personalized learner profiles.

Additionally, bias of the researcher must be mentioned as a limitation of this study, as the research site is the researcher's place of employment. Bias, for the purpose of this study, will be defined as distortion of research data (Gay, Mills, & Airasian, 2009). This study relied on participants to self-report data and information about the use of personalized learner profiles.

Finally, the researcher attempted to saturate several concepts. While some concepts were saturated through the use of face-to-face interviews, participant bi-monthly journals, researcher memos, and participant provided blank 'get to know you' forms, the small number of participants limits the credibility of this study. The data collected was triangulated, but the researcher feels that a longer study involving more participants from different geographical locations would provide additional information on this phenomenon.

Future Research

More research is being conducted and has been conducted about personalized learning, but little has been conducted on the individual components of personalized learning (Bill & Melinda Gates Foundation, 2014; Sebba, Brown, Steward, Galton, & James, 2007). This research study focused on the specific component of personalized learner profiles. More research

needs to be conducted regarding the development of these profiles, components of the profile, the process used to create a profile, the implementation of the profile, the use of the profile from parent, teacher, administration, and student perspectives, as well as the continued maintenance of these profiles.

The development of learner profiles can include the components of the profile. This could include demographic information, but furthermore, the profile needs to include information that will aid in the learning of individual students. Both formal and informal learning inventories can be utilized to achieve this. Some studies concluded that knowing and teaching toward particular learning styles increases learning (Cassidy, 2004; Tully, Dunn, and Hlawaty, 2006; Powell and Kusuma-Powell, 2011), while other studies have concluded there is not statistical significance (Brunton, 2015). Digging into these studies will aid in the decision-making process when creating the components within learner profiles. Yet another consideration that should be made is base on grade level, a profile for a first grader should look different from that of a tenth grader.

Another facet of development of these learner profiles includes the process in which they are created. Which includes what teachers want to know, as well as how classroom teachers decide this is what they would like to know. Upon reflection of the initial interview, the researcher recognized that more research should be conducted on what information teachers want to know and how teachers decide on what they want to know about learners. Most participants responded that it was their experience that helps them to know what they want to know about students. It would be beneficial to the advancement of knowing the learner, what that information is and why it is important. This may also change as the learner ages.

The implementation of these profiles must consider how a learner profile for a primary grade learner will look different from that of a middle schooler, and high schooler. Districts will

need to consider how these profiles will be rolled out. Is this something that will start in kindergarten and follow that cohort of students or is this a massive implementation all at once? Pilot testing of various age groups is recommended. Teachers at each grade level need to be able to try out different features of a learner profile to see what elements are helpful or could be helpful in the future. Although the teacher and learner sides of the profile are most important, research should also be conducted on the parent or guardian perspective, as well as administrative side.

Exploring the several sides of a learner profile should also be researched. There are components of a learner profile that may only be useful to one perspective and a nice to know for another. An administrator will use a PLP differently than a parent or guardian. Further research studies should be conducted on each "side" or perspective of these learner profiles. It would also be interesting to examine school districts that only offer one or two "sides" of a profile as compared to one that allows parents or guardians to see aspects of a learner profile. This also relates to the ongoing maintenance that will eventually be needed for learner profiles to be sustainable.

Research regarding how these profiles will evolve as the student ages through the school system will be an important consideration. As previously mentioned, a PLP for a first grader should look different from a fifth grader's profile or an eighth grader's profile. A longitudinal study examining the evolution of the utility of a PLP would help to determine what information is being used and what is not. It is assumed these profiles will be house electronically. How does the platform evolve with the student? There will inevitably be tweaks that will be need to be made to the system.

Additional research on the design of the collection tools themselves should be explored. As addressed in Chapter 2, there are several 'get to know you' surveys and questionnaires available today ranging from learning style inventories (Dunn, Dunn, and Price, 1989; Kolb, 1984) to Howard Gardner's theory of multiple intelligences (Morgan, Kornhaber, & Gardner, 2006) to growth mindset (Dweck, 2010). Some 'get to know' forms are created by the classroom teacher. Some of the studies contradict themselves; therefore, a teacher or district must do its due diligence to assure the inventories given to learners will result in learning. How will that particular piece of information be used to help learners learn? Part of that will be determining what the classroom teacher finds helpful to know that would be important to the future development of personalized learner profiles. Further research is needed and could be conducted on the unique facets of personalized learner profiles.

Summary

This study contributes to the growing research on personalized learning, specifically the component of personalized learner profiles. The triangulation of data led to the discovery of two concepts: knowing the learner and teachers' unique experiences. This provided answers to the central research question: How do middle level classroom teachers use personalized learner profiles to personalize instruction in a Midwest middle school? While information was collected about students and 'get to know you' forms or surveys that were used, in this study, classroom teachers were unable to, in practice, distinguish between the 'get to know you' tool and a personalized learner profile. There is still much to be learned about personalized learner profiles and how these profiles can be leveraged for the benefit of individual learners in the middle level classroom.

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Appendix A: Participant Letter

Month Day, Year

Dear Participant,

You are being asked to participate in a qualitative research study that will investigate the development and use of personalized learner profiles in middle school classrooms. This study is voluntary and you may withdraw at any time. All participants and participant responses will remain anonymous.

In collaboration with ███████████████ Schools, I, as the primary researcher, seek to study how middle level classroom teachers develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as what classroom teacher's experiences are with personalized learner profiles in relation to classroom instruction. The research's aim is to generate a theory about the development of personalized learner profiles.

Participants will be asked to participate in an initial interview, a post interview, complete two journal entries every month for the duration of the study, and prepare blank hard copies or share blank electronic copies of "get to know you" worksheets or documents the participant has used or plans to use with students. The researcher may contact you periodically throughout the study to clarify or inquire about journal responses.

There are no risks associated with this study. The expected benefits associated with your participation include reflection of classroom practices, opportunity to participate in a qualitative research study, and access to research study results. If you decide not to participate in this study or deciding to withdraw, your decision will not affect your relationship with the researcher.

A participant consent form is attached to this letter. Please read it carefully and then sign and return a copy of the consent form to the researcher. A copy of the consent form will be provided to you.

Please contact me with any questions you might have. I appreciate your consideration to participate and look forward to working with you.

Sincerely,

Mikayla Baker
(402)850-4915
mbaker9505@csm.edu

Appendix B: Consent Form

COLLEGE OF SAINT MARY

ADULT CONSENT FORM

IRB#: 1710   Approval Date: Aug. 18, 2017   Expiration Date: Sept. 30, 2018

Title of this Research Study. LEARNER PROFILES IN MIDDLE SCHOOL CLASSROOMS

Invitation.

You are invited to take part in the this research study. The information in this form is meant to help you decide whether or not to take part. If you have any questions, please ask.

Why are you being asked to be in this research study?

You are being asked to be in this study because you are have been identified as participating in personalized learning professional development opportunities provided by Westside Community Schools.

What is the reason for doing this research study?

The purpose of this qualitative study will be to examine how educators develop personalized learner profiles, challenges associated with using personalized learner profiles, as well as their experiences with personalized learner profiles in relation to classroom instruction in middle school classrooms to personalize education for students within a Midwest middle school.

What will be done during this research study?

The participant will be asked to prepare blank hard copies any "get to know you" worksheets or document for the researcher to be discussed at the initial interview. Blank electronic copies may be shared with the researcher as well.

Participant Initials _____

The initial audio recorded interview is anticipated to last between 45 and 60 minutes. Notes will be taken during the interview. After which, the interviewee will have the opportunity to share "get to know you" worksheets and documents with the researcher. The interview will be transcribed with the researcher's analysis and returned to you for your review.

After the initial interview, the participant will be given instructions for and access granted to the bi-monthly journal entries via Google Docs. The participant may ask questions about the process or expectations at that time.

As part of this study, the researcher may need to clarify or follow-up on information revealed in the initial interview and/or journaling process. Notes will be taken during follow-up interviews. The interview will be transcribed with the researcher's analysis and returned to you for your review. Your consent gives the researcher permission to follow-up with you as needed.

The researcher will conduct a 45 to 60-minute final audio recorded interview toward the end of the semester. Notes will be taken during the interview. The interview will be transcribed with the researcher's analysis and returned to you for your review.

What are the possible risks of being in this research study?

There are no risks associated with this study.

What are the possible benefits to you?

The expected benefits associated with your participation include reflection of classroom practices, opportunity to participate in a qualitative research study, and access to research study results.

What are the possible benefits to other people?

The main benefit to other people is helping educators identify what information is most useful when getting to know students.

What are the alternatives to being in this research study?

You choose not to participate.

Participant Initials _____

ADULT Consent Form - PAGE THREE

What will being in this research study cost you?

There is no cost to you to be in this research study.

Will you be paid for being in this research study?

You will not be paid or compensated for being in this research study.

What should you do if you have a concern during this research study?

If you have a concern as a direct result of being in this study, you should contact one of the people listed at the end of this consent form.

How will information about you be protected?

Reasonable steps will be taken to protect your privacy and the confidentiality of your responses. A pseudonym will be used instead of your real name. Recordings, transcripts, memos, and artifacts will be kept on a password protected laptop and account.

The only persons who will have access to your research records are the study personnel, the Institutional Review Board (IRB), and any other person or agency required by law. The information from this study may be published in scientific journals or presented at scientific meetings but your identity will be kept strictly confidential.

What are your rights as a research participant?

You have rights as a research participant. These rights have been explained in this consent form and in *The Rights of Research Participants* that you have been given. If you have any questions concerning your rights, talk to the investigator or call the Institutional Review Board (IRB), telephone (402)-399-2400.

What will happen if you decide not to be in this research study or decide to stop participating once you start?

You can decide not to participate in this research study, or you can stop participating in this research study ("withdraw") at any time before, during, or after the research begins. Deciding not to participate in this research study or deciding to withdraw will not affect your relationship with the investigator or College of Saint Mary.

You will not lose any benefits to which you are entitled.

Participant Initials _____

ADULT Consent Form - PAGE FOUR

If the research team gets any new information during this research study that may affect whether you would want to continue being in the study, you will be informed promptly.

Documentation of informed consent.

You are freely making a decision whether to be in this research study. Signing this form means that (1) you have read and understood this consent form, (2) you have had the consent form explained to you, (3) you have had your questions answered and (4) you have decided to be in the research study.

If you have any questions during the study, you should talk to one of the investigators listed below. You will be given a copy of this consent form to keep.

If you are 19 years of age or older and agree with the above, please sign below.

Signature of Participant: Date: Time:

My signature certifies that all the elements of informed consent described on this consent form have been explained fully to the participant. In my judgment, the participant possesses the legal capacity to give informed consent to participate in this research and is voluntarily and knowingly giving informed consent to participate.

    Signature of Investigator: Date:

Authorized Study Personnel.

Principal Investigator: Mikayla Baker Phone: 402-850-4915

Secondary Investigator: Dr. Claudia Wickham   Phone: 402-399-2630

Appendix C: Definitions

Competency based progression. Competency based progression, as referred to as proficiency-based progress, is when learners demonstrate mastery of standards or content (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015; Rickabaugh, 2016).

Culturally Responsive Teaching. Culturally responsive teaching is the classroom teacher making learning experiences relevant and effective for all students via the use of cultural knowledge, previous experiences, points of view, and preference in learning styles (Debnam, Pas, Bottiani, Cash, & Bradshaw, 2015).

Differentiated Learning. Differentiated learning is a student-centered approach that accounts for student readiness and interests by differentiating content, product, and assessment of and for learning (Gregory & Chapman, 2002; Tomlinson, 2001; Tomlinson & Moon, 2013).

Flexible learning environments. Flexible learning environments include all functional elements of the school environment, which include: how spaces are utilized, staff and their roles, and the allocation of time, in order to response and adapt to the needs of students (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015).

Interdisciplinary Teaming. Teaming is a concept that refers to a core group of teachers, typically between two and four teachers in close proximity to one another, all of whom share and are responsible for the same set of students (Boyer & Bishop, 2004; Crow & Pounder, 2000; Echols, 2015; Wallace, 2007).

Learner-centered approach. A learner-centered approach, which can also be referred to as a student-centered approach, to learning is responsive to student needs by shifting classroom methods and strategies from the teacher as disseminator of information to the classroom teacher helping students create and use content in relevant ways (Blumberg, 2015; Bray & McClaskey,

2013; Ellerbock & Kiefer, 2014). Strategies and methods are typically hands-on and active (Ellerbock & Kiefer, 2014).

 Middle Level Teams. Middle level teams consist of two or more same grade level teachers from different content areas who share responsibility for the management of same grade students, behavioral interventions, communication with parents or guardians and various other administrative tasks (Crow & Pounder, 2000; Echols, 2015; Wilson, 2007). Middle level teams typically have a common planning time to accomplish the above mentioned responsibilities (AMLE, 2012; Ellerbock & Kiefer, 2014). These middle level team may or may not participate in interdisciplinary teaching (AMLE, 2012; Ellerbock & Kiefer, 2014).

 Personalized Learning. Personalized learning is a pedagogical approach that shifts the focus from teacher-centered to learner-centered pedagogy in schools (Ellen, O'Ferral, Henschell, & Roth, 2014). Within personalized learning, every aspect begins and ends with the learner, including their needs, interests, background and designs the educational environment to what, when, how, and where students learn best (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015; Rickabaugh, 2016).

 Personal learning paths. Personal learning paths are customized routes to achieve learning objectives; and are created by students and teachers as a way for students to take ownership of their learning and are individualized for the learner's learning progress, motivation, and goals (Bill & Melinda Gates Foundation, 2014; Rickabaugh, 2016).

 Personalized Learner Profile. A learner profile is a current record of a student's information, that could include the following: goals, strengths, interests, needs, motivators, demographic data, test scores, and dispositions (Bill & Melinda Gates Foundation, 2014; Bray & McClaskey, 2015; Rickabaugh, 2016).

       Scaffolding. Scaffolding is a "sliding scale" of supports for students to access

information and content within the student's zone of proximal development (Alberta Education,

2010; Fisher & Frey, 2014, p. 349; Manitoba Education, 2006; Morgan, 2014).

Appendix D: Initial Interview Protocol

(Creswell, 2013)

Time of Interview:

Date:

Place:

Interviewer: Mikayla Baker

Interviewee:

Questions:

1. How many years have you been a classroom teacher?

2. How many years have you been with this middle level school?

3. What district offered personalized learning professional development have you participated in?

4. What information is import to know about your students? Why?

5. How do you decide what you want to know about your students?

6. How do you gather information about your students?

7. How do you store information you have learned about your students?

8. Once you have the information, how do you use it to personalized instruction?

Appendix E: Subsequent Interview Protocol

(Creswell, 2013)

Time of Interview:

Date:

Place:

Interviewer: Mikayla Baker

Interviewee:

Questions:

1. Address participant and/or researcher questions regarding journal entries.

2. What do you find challenging about developing learner profiles?

3. What do you find challenging about using learner profiles to personalize learning?

4. In our previous interview, discussed (insert participants answers from #4 in initial interview) as import to know about your students, which of these have been the most useful when personalizing learning?

Appendix F: Participant Journal Template

Directions: Use this document at least twice a month to record your thoughts and experiences using information you know about your students to personalize learning. Please refrain from using student names. It is suggested that you use Student A or Student B to designate different students. Prompts are included below. You may or may not choose to use these prompts.

Length: There is no maximum length for each entry; however, the researcher does ask that you write a minimum of one paragraph per entry.

Optional Prompts:
1. Think about one student you know. How do you use what you know about that student to personalized his/ her learning?
2. What are you finding challenging about using the learner profiles?
3. What are you finding success with about using the learner profiles?

Month 1 Entry 1
Date:

Month 1 Entry 2
Date:

Month 2 Entry 1
Date:

Month 2 Entry 2
Date:

Month 3 Entry 1
Date:

Month 3 Entry 2
Date:

Appendix G: Request to Conduct Research

2235 R
Form 1

████████ ████████ SCHOOLS
REQUEST TO CONDUCT RESEARCH

List the name, title, address, contact information and affiliation for each researcher:

1. Mikayla Baker
2. _____
3. _____

Proposed beginning date: __08/14/17__   Planned completion date: ____05/25/18

Provide brief summary of proposed research, survey instruments, interview protocol, assessment and description of requested participants as described In Board Policy 2235R: _____
As part of a dissertation project at the College of Saint Mary, Middle school staff who have volunteered to be participants will take part in a series of interviews throughout the year. The interviews will, in turn, be used to develop a qualitative research paper. This process was thoroughly reviewed at a dissertation defense, which included members of the college and ██████ administration.

1. Obtain Approval by Sponsoring or Affiliating Entity/Organization

Upon review of the research proposal, I have determined the quality of this project will assist In improving educational practices and services.

Claudia Wickham _____

Name of Sponsoring Entity   Signature of Professor

2. Obtain Approval of Building Principal

I have reviewed the above Request to Conduct Research and recommend it for approval.

_____   Date: 8/23/17

Principal

3. Submit to Teaching & Learning Assistant Superintendent for Review

I have reviewed the above Request to Conduct Research and ██████ ████████ Schools hereby:

☑ Approves the above Request to Conduct Research
☐ Denies the above Request to Conduct Research

_____   Date: 8/20/17

Assistant Superintendent, Teaching & Learning

NOTE: "A summary of research results must be sent to the Assistant Superintendent for Teaching & Learning upon its completion and prior to publication or other dissemination. The researcher(s) must obtain permission from the Assistant Superintendent for Teaching & Learning or designee if ████████ will in any way be identified in released oral or written findings (such as in a research paper, thesis or dissertation conference presentation, or public media report), and the Assistant Superintendent for Teaching & Learning or designee must be provided with all documentation for review prior to release and/or publication to the public."

Appendix H: Rights of Research Participants

COLLEGE OF SAINT MARY

THE RIGHTS OF RESEARCH PARTICIPANTS*

AS A RESEARCH PARTICIPANT AT COLLEGE OF SAINT MARY
YOU HAVE THE RIGHT:

1. TO BE TOLD EVERYTHING YOU NEED TO KNOW ABOUT THE RESEARCH BEFORE YOU ARE ASKED TO DECIDE WHETHER OR NOT TO TAKE PART IN THE RESEARCH STUDY. The research will be explained to you in a way that assures you understand enough to decide whether or not to take part.

2. TO FREELY DECIDE WHETHER OR NOT TO TAKE PART IN THE RESEARCH.

3. TO DECIDE NOT TO BE IN THE RESEARCH, OR TO STOP PARTICIPATING IN THE RESEARCH AT ANY TIME. This will not affect your relationship with the investigator or College of Saint Mary.

4. TO ASK QUESTIONS ABOUT THE RESEARCH AT ANY TIME. The investigator will answer your questions honestly and completely.

5. TO KNOW THAT YOUR SAFETY AND WELFARE WILL ALWAYS COME FIRST. The investigator will display the highest possible degree of skill and care throughout this research. Any risks or discomforts will be minimized as much as possible.

6. TO PRIVACY AND CONFIDENTIALITY. The investigator will treat information about you carefully and will respect your privacy.

7. TO KEEP ALL THE LEGAL RIGHTS THAT YOU HAVE NOW. You are not giving up any of your legal rights by taking part in this research study.

8. TO BE TREATED WITH DIGNITY AND RESPECT AT ALL TIMES.

THE INSTITUTIONAL REVIEW BOARD IS responsible for assuring that your rights and welfare are protected. If you have any questions about your rights, contact the institutional review board chair at (402) 399-2400. *adapted from the University of Nebraska Medical Center, IRB with permission.

Appendix I: Bray and McClaskey's Personalization vs Differentiation vs Individualization Chart

Personalization vs Differentiation vs Individualization

There is a difference between personalization and differentiation and individualization. One is learner-centered; the others are teacher-centered.

Personalization	Differentiation	Individualization
starts with the learner	starts with groups of learners	starts with the needs of the individual learner
connects with interests, passions, and aspirations	adjusts to learning needs of groups of learners	accomodates learning needs of the individual
learners actively participate in the design of their learning	explicit instruction based upon the learning needs of groups of learners	explicit instruction based upon the learning needs of an individual learner
learners have a voice and choice on what they learn	teachers create or adapt instruction and choose roles for learners based on different needs of learners	teachers customize lessons and tasks for learners based on individual needs
different objectives for each learner	same objectives for groups of learners	same objectives for learners with specific objectives for individuals who receive one-on-one support
learner selects appropriate technology and resources to support their learning	technology and resources are selected to support the learning needs of groups of learner	technology and resources are selected to support the learning needs of an individual learner
learners build a network of peers, teachers, and others to guide and support their learning	learners are reliant on the guidance of teachers to support their learning	learners are dependent on individual teachers or para-professionals to support their learning
competency-based models where the learner demonstrates mastery	based on Carnegie unit (seat time), grade level	based on Carnegie unit (seat time), grade level
assessment AS learning	assessment FOR learning	assessment OF learning
teachers develop capacity to create independent learners who set goals, monitor progress, and reflect on learning	assessment involves time-based testing and teachers provide feedback to advance learning	summative assessment is grade-based and involves time-based testing which confirms what learners know and don't know

Barbara Bray barbara.bray@gmail.com   Website: barbarabray.net
Kathleen McClaskey kgmcclaskey@gmail.com   Website: edtech-associates.com

barbarabray
creative learning strategist

EdTech ®
Associates