

Features of Personalized Learning in Middle School

By

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Abstract

With the widespread implementation of personalized learning practices in our nation's schools, how students are grouped into learning cohorts within the model could be resurfacing old issues of inequitable practices. The literature regarding personalized learning offers two main paths for grouping within the model, student interest and student needs based on proficiency within the standards. How students are grouped within the model varies between districts and schools. With no consensus and the possibility for inequitable practices, I ask the questions: What are some of the main features of personalized learning at the middle school level? What are the grouping strategies being used in schools that have implemented personalized learning? What is the student perception of their experience of personalized learning in their school? A critical qualitative study was done to answer the previously stated questions. Participants were administrators, teachers, and students from schools that have implemented the personalized learning model. A baseline survey, observation, interviews, and academic identity measure survey produced the data that was reported to reflect the perceptions of everyone involved in the study. When trying to understand what is happening behind the numbers, it is important to ask the people directly involved.

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Chapter 1:

Introduction

Anyone working in the field of education during the last ten years has at least heard the term, “personalized learning.” Although there are many definitions to the term, experts agree that the pedagogy places the student at the center of their own learning (Halverson, 2015; Rickabaugh, 2016). Placing students at the center of their learning is not a new concept but school districts have been implementing the philosophy of personalized learning in many different ways. In a four-year study of twenty elementary, middle, and high schools, Halverson (2019) reported a notable distinction between schools that focused on learner interests vs. learner needs.

Focusing on learner needs typically involved adopting a standards-based approach. In these kinds of learning environments, educators positioned standards as the goals for the learner. Students were assessed on previous learning and skill-levels, then assigned to activities, often involving computer-adaptive learning tools, that could help learners work toward standards-based learning goals. Personalization in these schools, involved the creation of individualized learning pathways *for* students *by* educators. Educators that focused on learner interests, on the other hand typically invited students to take control of the means and/ or the goals of their learning. Personalization here involved the creation of learning pathways *by* students *with* educators (Halverson, 2019, p.3).

Some of the schools in this study (Halverson et al., 2016) also utilized the concept of multiage classrooms as a way to group students either by interest or current level of readiness based on the standards.

Multiage classrooms, ability grouping, project-based, and academic readiness are just some of the terms used by schools and educators when discussing how and why students are placed into more homogenous classes for the purpose of instruction and attempt to improve academic achievement (Abadzi, 1985; Gamoran et al., 1995; Hallinan, 1994; Klein, 2019; Oakes, 1983; Slavin, 1993). Over the decades school district leaders have made the decision to place students into classes or within class groups based on IQ, perceived intellect, results of standardized achievement tests, subjective measures, and many other isolating factors (Oakes, 1985). A concept of free-flowing grouping is highlighted in the model, but potential pitfalls may exist when students only flow to another group when they are ready according to the standards. The problem that can result is students that are placed in low ability groups in primary grades typically graduate from high school in general or vocational programs, demonstrating that the movement between levels tends to be stagnant (Oakes, 1983; Slavin, 1987b). As educators, we continue to search for ways to improve the educational experience for all our students. Often in this continual process, initiatives and thoughts are recycled from decades prior and renamed in an effort to be different. It is the job of educators to conduct consistent and constant research into the data. During this process, each new initiative must be evaluated through a critical lens that places students at the center of research efforts. “Without guidance or research-based understanding, personalized learning will be haphazardly referenced, partially implemented, eventually demonized, and then viewed as an unrealistic fad in education” (Basham et al., 2016). Both quantitative and qualitative studies must be conducted to ensure that students are not being harmed during the push to improve their educational experience.

Problem Statement

Educational policies like the No Child Left Behind Act and Every Student Succeeds Act have placed increased pressure and accountability on educators and school districts to meet the benchmarks established within these acts necessary to be considered a quality school. With the importance of each individual student score on standardized measures of assessment, districts have begun implementing school and district-wide personalized learning initiatives. Some districts have made the decision to take a standards-driven approach to their implementation of personalized learning, while others have decided to create environments with student interest driving the learning. Still involved in both formats is the question of assigning students to classrooms and learning cohorts.

For decades, schools have been experimenting with the proper way to group students into educational cohorts. The cause of this dilemma is the varying learning levels of same age students. At the same time, education researchers have been conducting studies into their methods and results. “Tracking” became a term used to describe the separation of students into different cohorts of learning based on assumed ability (Oakes, 1985). As the research into this method started to show inequities in a multitude of areas (Gamoran, 1992; Oakes, 1985; Roberts-Holmes & Kitto, 2019), the term seemed to fade away and even flip to an era of detracking (Slavin, 1990). It is through my review of the literature and personal experience with academic readiness grouping within the personalized learning pedagogy that its use is concealing an inequitable practice that is concerning to me. The fear I have is the same one Oakes (1985) discusses in her book.

Furthermore, a stigmatizing low-track level not only may adversely affect a student’s self-perceptions but is also likely to lower the expectations for his or her learning held by

peers, teachers, and school counselors. These lower expectations may result in a self-fulfilling prophecy, with students achieving only what is expected of them. As is well known, many of the teacher expectation studies have shown different outcomes for similar students resulting from teacher behaviors modified by their different expectations for them (Oakes, 1985, p. 176).

The possibility exists that as educators we are causing irreparable harm as students are forming their academic self. More important than demonstrating proficiency in a standard is the development of the belief that you can learn, even when it may be difficult.

Purpose Statement

The purpose of this study is to examine the features of personalized learning at the middle school level to continue the conversation in the literature of research for school administrators and educational researchers. (Main Question) What are some of the main features of personalized learning at the middle school level? (Sub Questions) What are the grouping strategies being used in these schools? What is the student perception of their experience of personalized learning in their school? In conducting my research, I reviewed three strands of literature: (a) evolution and characteristics of personalized learning, (b) multiage grouping, ability grouping, project-based learning, and (c) academic identity development.

Chapter Two:

Literature Review

Research Methods of the Literature Review

My initial search was conducted using the electronic databases of Education Research Complete, ERIC, and JSTOR for scholarly peer reviewed journal articles and studies. I used the search terms “personalized learning” and “academic readiness grouping” while limiting the publication dates to after the year 2000.

It was within this initial search that I came to realize the literature deemed “academic readiness grouping” the same way it viewed “ability grouping”. Much of the research under that initial search term resulted in articles on the use of ability grouping. As a result, I expanded my search using the same electronic databases while using the search term “ability grouping”. This search led to many articles that were centered around the use of tracking in schools. With many pieces of literature referencing authors and research from decades earlier, I also expanded the search parameters to include research from the 1980s and 1990s. This expanded search also led me to seek out books that were written by key research authors.

Academic readiness grouping was only part of my initial question, so I also used the electronic databases to search the term “personalized learning”. Once again, the search was limited to peer reviewed articles after the year 2000 and expanded to include earlier pieces if deemed necessary to gain complete insight. I also contacted UW-Madison Professor, Dr. Richard Halverson, for suggestions on which experts needed to be included during the review of this strand.

As I continued to review the literature surrounding the ways students are grouped based on competencies like academic readiness, ability grouping, and multiage classrooms, I also

began to search interest-based strategies for grouping students into cohorts. Project-based learning became another piece to the puzzle that allows student interest to create groups. My journey through all the literature led me to wonder how this was shaping the academic identity of the individual student. This inquiry led to the final search of the literature to include academic identity.

The review starts by discussing the evolution of personalized learning to demonstrate that the term “personalized learning” might be a newer term in education, but the philosophy has been around for more than a century. Next, I explain the characteristics of current practices within personalized learning. These current practices include the idea of grouping based on standards and interest. Both practices allow for multiage classrooms and groups to form. This then leads to another strand of the literature review regarding the use and function of multiage classrooms. Ability grouping is then reviewed due to the connection the term has with academic readiness grouping and its use within some schools implementing personalized learning driven by standards. Next, project-based learning is reviewed due to the connection it has with personalized learning driven by student interest. Finally, student academic identity development is discussed.

Evolution of Personalized Learning

Personalized learning can be traced back to John Dewey and his expansion of Rousseau’s ideas of the native powers inside individuals. Rousseau states (as cited by Dewey, 1916)

Each individual is born with a distinctive temperament. We indiscriminately employ children of different bents on the same exercises; their education the special bent and leaves a dull uniformity. Therefore after we have wasted our efforts in stunting the true

gifts of nature we see the short-lived and illusionary brilliance we have substituted die away, while the natural abilities have crushed do not revive (p.69).

Dewey (1916) continues to develop this idea while incorporating the importance of interest in education.

One who recognizes the importance of interest will not assume that all minds work in the same way because they happen to have the same teacher and textbook. Attitudes and methods of approach and response vary with the specific appeal the same material makes, this appeal itself varying with difference of natural aptitude, of past experience, of plan of life, and so on (p.77).

Both Rousseau and Dewey begin to make the educational argument that the individual student needs to be at the center of teaching and learning. This constructivist theory of learning continues to be developed and researched throughout the 20th century.

In the mid-1960s individually guided education (IGE) was first being conceptualized by Herbert J. Klausmeier at the University of Wisconsin-Madison. In IGE all aspects of education were varied to meet the needs of each student (Klausmeier, 1976). Klausmeier's paper (1968) provides estimations on the current status of educational practices and the future shift to IGE practices. Table 1 highlights a few of the components Klausmeier (1968) included in his guidelines for implementing IGE.

Table 1

Guidelines for Implementing IGE (Klausmeier, 1968)

<u>Today</u>	<u>Future</u>
Entering behaviors and characteristics are not seriously considered.	Entering behaviors and characteristics are given primary consideration in relation to each set of learning tasks.
The instructional staff accepts content and sequence recommended by others.	The instructional staff of the building, with expert consultation and within local and state regulations, selects content.
Global statements of broad educational goals, developed by outside groups are accepted as the school's objectives.	Educational objectives are developed in sufficient detail to guide program development within the school building
Standardized and teacher-developed tests and procedures are infrequently used to assess a child's present level and readiness for a learning task.	Standardized and teacher-developed tests and procedures are used to assess the child's readiness related to each set of learning tasks so that each child may be properly placed.
The use of standardized and teacher-developed tests is limited to evaluation and the assignment of grades.	The use of standardized and teacher-developed tests are used to assess each child's progress, to provide informative feedback, and information to the teacher.
Measurement tools are infrequently used for evaluating the effectiveness of the system.	Measurement tools are used continuously to improve the instructional system.

Basic textbooks and supplementary textbooks are adopted system-wide and little additional information is available in a school building.

The principal usually does not assume leadership for instructional improvement.

All teachers are expected to be equally competent in all subject fields.

Students are involved mostly in age-graded, class-size group activities and perform many assignments common to the group

Children in class-size groups encounter the same amount of material in a certain period of time.

Most effort is directed toward the mastery of skills and the acquisition and recall of facts.

Age-graded, self-contained classrooms of 20-40 children are typical; occasional teams and nongrading are found.

A large variety of printed material, supplementary textbooks, programmed material, and library books is adopted system-wide.

The principal's first responsibility is instructional leadership.

Teachers have a specialty in one broad field of elementary education.

Students participate in 1:1, small group, class-size, and large group activities to achieve clearly specified school goals and individual objectives.

Children in groups of varying size encounter varying amounts of material.

Much emphasis is on concept formation, the application of skills and concepts, creativity, and the evaluation of information.

Large nongraded instruction and research units of 75-150 children, a unit leader, other certified teachers, interns, and paraprofessionals constitute the instructional unit. The nongraded vertical organization

facilitates continuous progression of each student. The horizontal organization permits maximum flexibility in placing each child in the appropriate learning activity and also capitalizes upon the capabilities of each member of the instructional staff.

All children spend about equal time daily in connection with the various broad subject fields.

Each child's time is allocated in terms of his instructional objectives.

Equal-sized, box-like classrooms have fixed walls and accommodate about 30 children.

Pods of varying size and shape accommodate 100-200 children and permit 1:1, small group, class size, and total unit activities.

Principal communication between the school and home is through report cards and parent-teacher conferences.

Unit leaders and teachers develop a systematic program of parent-school, teacher-home visits. Reporting involves teacher, parent, and child.

This shift from the traditional model of schools was derailed in the mid-1970s due to a lack of funding for the initiative (Klausmeier, 1992). The back-to-basics movement of the late 1970s also contributed to a shift away from individualization.

Attention to providing a quality education to each individual re-emerged with the concern surrounding *A Nation At Risk*, published by the National Commission of Excellence in Education (1983). Politics in education continued to push the thought of individual students with the No Child Left Behind Act and Every Student Succeeds Act. This level of political involvement and accountability to public education has led districts to seek out programs that will help each student grow and achieve at a level above the standardized level set by their state government. As districts have searched, personalized learning has grown in popularity and importance.

Characteristics of Personalized Learning

Even though personalized learning has become one of the hottest education buzz words, it can be defined by those in the field differently, which can lead to misconceptions as to what is precisely taking place within the model. The literature on personalized learning is consistent with the idea that within the model the student becomes the center of the educational experience (Bishop et al., 2020; Bray & McClasky, 2013; Halverson, 2019; Halverson et al., 2015; Kallio & Halverson, 2020; McHugh et al., 2019; Nelson, 2021; Netcoh, 2017; Rickabaugh, 2016; Pane et al., 2015; Zhang et al., 2020). Pane et al. (2015) lists: learner profiles, personal learning paths, competency-based progression, flexible learning environments, and an emphasis on college and career readiness as the five key characteristics of personalized learning. Although there still is no consistent definition, Pane et al. (2015) does offer their working definition of personalized learning as:

Personalized learning prioritizes a clear understanding of the needs and goals of each individual student and the tailoring of instruction to address those needs and goals. These needs and goals, and progress toward meeting them, are highly visible and easily accessible to teachers as well as students and their families, are frequently discussed among these parties, and are updated accordingly. (p.6)

These five characteristics are similar to the key components James Rickabaugh includes in his definition of personalized learning. In Rickabaugh's (2016) definition there are twelve key factors to personalized learning:

1. Purposeful learning
2. Learner efficacy
3. Ownership for learning
4. Flexible pace
5. Learner voice infused
6. Learner choice presented
7. Learners serve as resources for learning
8. Space for learning flexibility
9. Commitment focus
10. Collaboration
11. Technology supported
12. Growing learner independence (p. 63-72)

It is within Rickabaugh's (2016) defining factors that he also clears up a misconception that personalized learning means students learn 1:1 with a computer program. Rickabaugh (2016) explains that educators can personalize the learning without technology but using it as a tool

within the process of learning elevates the student's potential for growth. Basham et al. (2016) agrees that personalized learning is comprised of various interactions between humans and machines within the systems design. These interactions rely heavily on students' self-regulating behaviors.

In addition to the changes in teaching and learning, Mr. Rickabaugh believes that to effectively implement the strategy, schools need to use multi-age grouping (Klein, 2019). Rickabaugh is not alone in thinking multi-age groupings are needed to successfully implement personalized learning. In 2010, at the Symposium on Personalized Learning, a group of more than 150 educational leaders and experts came to the same conclusion (*District Administration*, 2011). The prevailing thought is that students should be able to progress through the standards and competencies at their own pace (Pane et al., 2017; Rickabaugh, 2016), while being unhindered by grade or age (*District Administration*, 2011). This sounds good in theory, but the practical application often leads to ability grouping and possible inequitable outcomes for some populations (Oakes, 2008).

Halverson (2019) defines personalized learning as an emerging strategy that places students at the center and typically includes four components:

1. Competency-based progression that defines trajectory of content for learners and provide ongoing, formative assessment toward learning;
2. Flexible learning environments organized around the needs of students;
3. Personal learning paths that customize activities to learner motivations and goals; and
4. Learner profiles to capture the progress students make toward learning goals. (p. 1)

Halverson et al. (2015) also presents findings from a qualitative study of schools implementing personalized learning in two distinct ways. The first focuses on learner interest and the second focuses on student needs. Halverson et al. (2015) defines interest-driven grouping as:

In traditional progressive school models, learning is organized around student interests. Students participate with similarly interested learners, or “affinity groups,” in order to master the ways of the “discourse communities,” in which competent actors think, speak, and interact. Interest-based learning expands this by exposing learners to new discourse communities to master, inviting learners to acquire new interests and opportunities for mastery (p.9).

The other defining factor of how schools implement personalized learning is standards-driven (Halverson et al., 2015).

Standards-driven learning, on the other hand, is organized in terms of what schools, professional organizations, policy makers and others think that students “ought” to know. Schools are held accountable for the degree to which learners master the content guided by standards. Students typically have little input in the development of what is considered worth learning in a standards-driven environment. The work of educators is to develop learning environments and practices that persuade students that the standards-based learning is really in their interests (p.9-10).

Halverson et al. (2015) also explains the difference between personalized learning, individualized learning, and differentiation as learning *by* the student and learning *for* the student. Table 2 further illustrates the difference between personalized, individualized, and differentiated learning.

Table 2

Distinctions between Personalized Learning, Individualization, and Differentiation (Zmuda et.al. 2015)

<u>Delivery Model</u>	<u>How Student Owns the Learning Experience</u>	<u>Teacher's Role</u>	<u>Illustrative Examples</u>
Personalized Learning	Student actively pursues authentic problems that inspire cocreation in the inquiry, analysis, and final product	Teacher facilitates learning through questions, conferences, and feedback	<ul style="list-style-type: none"> • Student develops and uses playlists (e.g., curation of texts, experiences) to inform. • Student leads teacher-parent conferences to evaluate performance and determine next steps. • Student moves through learning experiences at his own pace to demonstrate desired outcomes or competencies in ways designed by him.
Individualization	Student controls the pace of the topic as	Teacher drives instruction through	<ul style="list-style-type: none"> • Teacher develops playlists.

	well as when to demonstrate mastery	teacher-created tasks and related lesson plans	<ul style="list-style-type: none"> • Teacher assigns or student independently uses a digital tool to focus on fluency (e.g., Khan Academy). • Teacher assigns online independent study or intervention program (e.g., Dreambox or Compass Learning).
Differentiation	Student Assesses and chooses instruction around content, process, product, and learning environment.	Teacher tailors instruction based on individual student need and preference.	<ul style="list-style-type: none"> • Teacher creates literature circles around different texts but same theme. • Student develops a learning contract with the teacher. • Teacher develops choice board or menu to provide student choice.

For the instruction to be considered personalized learning the learner has to be at the center of all aspects. The teacher becomes the guide, offering feedback, encouragement, and suggestions. The personalized learning experience is “personal” for each student. The ability to create learning opportunities by connecting what needs to be learned with what is important and interesting to the individual is what makes it “personal-ized” (O’Connell, 2022).

Role of the Teacher in Personalized Learning

The role of teacher in American schools has traditionally been “Sage on a Stage”, “The holder of all Knowledge”, and “Lead Instructor”. In schools that have implemented personalized learning strategies, the role of teacher becomes that of facilitator (Bishop et al., 2020; Bray & McClaskey, 2013; McHugh et al., 2020). Bishop et al. (2020) described the new role for teachers serving in a personalized learning environment as one that empowers students, scouts their interests while supplying them with needed resources, scaffolds projects, and assesses a variety of student work. In Bray and McClaskey’s (2013) first phase of moving to a personalized learning environment the teacher is still at the center, but students are given voice and choice. Once a student has been empowered and the teacher has shifted their role to being that of facilitator, learners become more self-directed by setting their own goals, monitoring their own learning, and self-reflection (Bray & McClaskey, 2013). With the student at the center of their own learning the teacher becomes a partner on that student’s journey through academic competencies (Halverson, 2015). When personalized learning has reached the peak, teachers and students are learning together.

Role of the Student in Personalized Learning

With the student at the center of their own learning and the teacher acting as facilitator, personalized learning flips the traditional model of school (Bray & McClaskey, 2013; McHugh et al., 2020, Saunders-Stewart et al., 2015). The level of student inquiry is incredibly important to the success students obtain within a personalized learning environment. In a qualitative study with interviews as the primary data collection, Saunders-Stewart et al. (2015) found that students who were exposed to inquiry-based learning developed a strong sense of ownership for their own learning. Along with owning their learning, the students in the study believed they were

developing critical thinking skills. When students were asked more general questions regarding their experience with personalized learning, they spoke more about technology and tools (McHugh et al., 2020). However, both Sauders-Stewart et al. (2015) and McHugh et al. (2020) reported that students engaged in a personalized inquiry environment gave more thoughtful responses around the ideas of outcomes and experience with the subjects they were studying. Both inquiry-based learning and technology for support appear in Rickabaugh's (2016) twelve key factors of personalized learning.

Multiage Classrooms

Rickabaugh's personal belief (Klein, 2019) and schools in Halverson et al.'s study (2016) utilize multiage grouping within the implementation of personalized learning. Schools have had to decide how to group students into learning cohorts since they grew to more than one classroom. For most Americans, the experience in K-12 education was one that had students grouped by age. Depending on the size of the school, that group might have stayed the exact same all the way through thirteen years of education. Students might have come and gone as families moved in and out of the district, but they were always grouped with similar-aged students and progressed at the same yearly pace through the content and levels. Even though this might have been the typical experience within school, it does not reflect the conflict that exists in the literature as to the best way to group students. Multiage grouping places students in cohorts of more than one age, ability level, or interest while acknowledging age is not an accurate indicator of readiness (Katz, 1995; Nye, 1993). Nye (1993) explains that the goal of multiage grouping is to bring together students of different interests and skill levels in an environment that promotes growth without fear of failing. If there was a consensus within the literature, schools in the U.S. and all over the world would be using it.

My review of the literature included multiage grouping not as a reflection of determined best practice, but as an examination of a key implementation strategy of personalized learning (*District Administration*, 2011; Klein, 2019). In the description of the sample, Kallio and Halverson (2020) label four of the eleven schools involved in the study as multiage programs. Each of the schools also varied in how the multiage groups were formed. The concept of multiage classrooms is not a new one and can be found in literature dating back to the post-industrial age (Kappler & Roellke, 2002). In a review of literature detailing the use of nongraded (multiage) systems, Gutierrez and Slavin (1992) concluded that nongraded schools positively impacted achievement when instruction was not paired with individualized instruction. Their findings within the literature are in direct conflict with the thoughts and ideas of current experts in the field of personalized learning.

Social emotional development is another concern when grouping students outside of specific age ranges. In an exceedingly small study, Smith (1993), found that as students got older, they had more negative thoughts towards being in multiage classrooms. This would indicate the rationale for using multiage grouping to alleviate the stigma that comes with retention, ability grouping, and tracking (Kappler & Roellke, 2002; Katz, 1995; Nye, 1993; Pratt, 1986; Ronksley-Pavia et al., 2019) does not work in all circumstances.

Ability Grouping

Ability grouping is one method schools have used to group students into multiage learning cohorts while utilizing the concept of personalized learning driven by student needs. Standardized test scores and computer-adapted assessments (ex. STAR & MAP) are often used to determine student placements in classes, regardless of age. Previous research on the use of ability grouping pointed to the overrepresentation of marginalized students in the lower sets that

are created intentionally or by accident when determining groups (Gamoran et al., 1995; Oakes, 1983; Oakes, 1996; McGillicuddy & Devine, 2020; VanderHart, 2006). The problem is the use of ability grouping has not led to the desired effect of increasing academic achievement levels of the lowest groups (Gamoran, 1997; Slavin, 1987). Both quantitative and qualitative studies have determined that the curriculum, expectations, and teacher quality/expectations are not equal between high-level and low-level groups (Ansalone & Biafora, 2010; Gamoran, et al., 1995; Roberts-Holmes & Kitto, 2019).

Brown v. Board of Education (1954) determined that “separate-but-equal” was not equal. Could schools that are using academic ability to group students be at risk of a lawsuit? To date, the only successful challenges in court have been in cases where racial inequities have been determined based on the grouping (Oakes, 1983; Welner & Oakes, 1993). The small number of successful lawsuits may be due in part to research describing situations where the higher-level group has also dropped in their achievement scores (Abadzi, 1985), condemning the entire idea.

To add even more uncertainty on the issue of achievement in ability groups, other studies have challenged that the group students are assigned to has little to do with the level of success students obtain (Gamoran, 1992; Slavin, 1987). Ellison and Hallinan (2004) asserted that the controlling factor in these cases is the teacher’s perception of the ability of their classes. A quantitative research study by Gamoran et al. (1995) also suggested that achievement gaps could be closed within ability group models if instructional content and instructional discourse were improved in the middle and lower tracked courses, but then went on to conclude that more research is necessary on the behaviors of low-achieving students in heterogenous classes. Another quantitative study by Gamoran (1997) determined that low-achieving students have so much more potential for learning than that which is demanded of them.

With the argument against tracking focused not only on achievement but also on equity, (Oakes, 2008) proponents of tracking must clearly prove that homogenous grouping is more effective than heterogenous grouping (Slavin, 1993). In a meta-analysis of twenty-seven studies, Slavin (1993) reported that the effect of ability grouping on student achievement was close to zero. He continued to say that, “the differences between heterogenous and homogeneous groups was near zero for grade levels 6-9” (p.539). Gamoran (1987) does not dispute Slavin’s findings, but he does point out that Slavin did not account for how ability grouping impacted student achievement.

Another quantitative study by Abadzi (1984) was in close agreement with Slavin’s (1987) review. Abadzi (1984) discussed that past academic performance predicted future academic performance and ability grouping capitalized on this tendency. “The achievement of the high-level and low-level students were unaffected by their placement” (p.290-291). In comparison, Marks (2014) discovered that students placed in a remedial group with a smaller student-to-teacher ratio, made lower gains than the other groups in the study. These findings are similar to most of the research that produce evidence of positive effects for the high achievers and typical achievers, while having a detrimental impact on the achievement of the struggling learners (Preckel et al., 2019). Low-achieving students disproportionately suffer the costs of ability grouping (Domina et al., 2019). However, Gamoran (1993) does find evidence of situations where low-track students are able to be successful. He concludes that there are five characteristics in these situations: first, there are high expectations, second, there is a rigorous curriculum, third, students and teachers engage in oral discourse, fourth, the teacher believes the students can meet the high standard and works tirelessly to help the students obtain success, fifth,

there is no system that places the least experienced teachers in the low-track classrooms (Gamoran, 1993).

The use of multiage, homogeneous grouping also assumes that the learning process is linear (Park & Datnow, 2017). To think that learning is linear defeats the idea within personalized learning that gives students a voice and choice in the process. A linear education would restrict a student from doing some activities because that student has yet to show proficiency in previous learning targets.

If the empirical research demonstrated that ability grouping and tracking show very little evidence that this form of grouping supported increased learning, then educators must detrack based on the inequities that were caused intentionally or unintentionally by the grouping methods.

Students' Experiences

Student perceptions about the ways that educational policies shaped their academic experience is often lacking in research and local evaluations. However, Boaler et al. (2000) reported on a four-year longitudinal study that examined student attitudes and achievements in mathematics who had been grouped by ability. Interview data from students reported that the classrooms being grouped by ability negatively affected their learning of mathematics and attitude towards it (Boaler, et al., 2000). Sadly, it is typically the adults that make all the decisions regarding the education of children with little or no input from the students and to some extent parents, too (Gamoran, 1992). Many times, the district communicates to the parents that their child's group has been determined through "objective" data and it was in the best interest of the student to meet them at their academic readiness.

In Boaler's (1997) study comparing traditional and progressive approaches to teaching, the impact of ability grouping emerged as a key factor. The results showed that nearly one-third of the highest ability grouped students suffered from their placement because the expectations were too high and the pace was too fast (Boaler, 1997). Students in the low-tracked classes felt the exact opposite as they believed the teacher set exceptionally low expectations for them, which was why students in the low groups believed there was little hope in changing groups during the year or from year to year (Boaler, et al., 2000). In a 2020 qualitative study that included students and teachers, McGillicuddy and Devine reported that two-thirds of the students in the study stated they had not changed ability levels. Two-thirds of the teachers in this same study (McGillicuddy & Devine, 2020) contradict this sentiment made by the students. The teachers believed that there was movement between ability groups, but they were unable to provide evidence of the movement occurring (McGillicuddy & Devine, 2020). This brought back into question if the way students are grouped determines their success or the perceived ability of the students by the teacher and their level of expectations as a result of those presumptions.

Oakes (1987) presents a figure that depicts the consequences of tracking based on ability and the subsequent experiences and attitudes of students. These students, that are often separated by small differences, trend in a negative or positive direction leading to the respective sense of self and future aspirations of academic achievement (Oakes (1987). Self-esteem was also lowest among students in the lower track (Byers, 1961; Oakes, 1983). The low expectations and low self-esteem have supported findings that students in lower tracks have had frustrating effects to their college plans, more so than intellect and grades (Oakes, 1983).

Perceptions and Attitudes of Parents

Parents can influence a lot of what goes on in a district. Often, a few parents will serve as board members on the district school board. This allows for direct influence over the administration and policy setting within a district. As a result, their influence can shape many aspects of what a school district decides to do in terms of curriculum, policy, programs, etc.

Parents want what is best for their child in every situation. In school, if that means placing them into a high achieving math class where their intellect will be pushed and they will be surrounded by other students just like them, most will not argue the placement. In these types of circumstances, parents of students grouped in the high-level track supported the use of ability grouping because they believed it was in the best interest of their child (Ansalone & Biafora, 2010). Ansalone and Biafora (2010) asked parents if the practice of ability grouping should be stopped and an overwhelming majority (81.6%) of the responses disagreed or strongly disagreed with this idea. This is an unexpected finding considering the survey included parents who as children were in lower-tracked groups themselves, reported this experience had a lasting negative consequence on their life (Ansalone & Biafora, 2010). Proponents of ability grouping asserted that this allowed for efficient student learning (Ellison & Hallinan, 2004; Robinson, 2008). In fact, parents in Ansalone and Biafora's (2010) study believed that ability grouping was beneficial to their student no matter into which group they were placed.

The two guiding questions explored here were: 1) Do you believe your child has been helped or hindered by ability grouping; and 2) Do you as a parent prefer classroom environments where your child is are placed with peers of equal ability or mixed ability? The data demonstrate, unequivocally, that parents in this study view ability grouping for their child in a positive light regardless of track level placement. When asked whether

tracking has helped or hindered, 81% of the parents with children placed in special education classes report tracking has been “helpful.” An even higher percentage (90.3%) of parents with children in remedial coursework stated such a placement has been helpful. And, nearly all (98.6%) of the parents whose children were placed in gifted/ honors/ talented programs responded “helpful” (Ansalone & Biafora, 2010, p.235).

In a qualitative study, Gamoran (1992) reports that in every case parents signed the registration form, but rarely exercised discretion when doing so. In this limited case, the administration and district would believe that they are meeting the needs of their constituents with great success.

Why Schools Group by Ability

Schools from across the country and world have gone back and forth for decades regarding ability grouping in their schools. In 1950, almost every school in the UK was grouped by ability, stemming from the idea that students had fixed levels of ability (Boaler, et al., 2000). Public schools in the United States have been ability grouping for much of the twentieth century and into the twenty-first century (Ellison & Hallinan, 2004; Oakes, 2008). But why would schools still consider ability grouping today? Most research suggests that ability grouping only supported the development of the high-level groups and was detrimental to the low-level groups (Ansalone & Biafora, 2010; Burriss & Welner, 2005; Ellison & Hallinan, 2004; Gamoran, et al., 1995; Oakes, 1983, 1985, 1994, 1996, 2008).

Strong-willed parents have significant influence on what policies are created and supported within a school district. Those with economic or political power within a district sometimes forced the direction schools took on the issue of ability grouping (VanderHart, 2006). As a result, the powerful elite whose students are likely to benefit from this policy had no issue with a program that may not support all students. Therefore Oakes (1994) refutes Hallinan’s

(1994) conclusion that tracking's failure is the result of poor assessments and failure to account for students' rates of growth, while ignoring the political power of parents. In some cases, it was this political pressure on schools and administrators that created an appearance of heterogeneous groupings.

When a status preference exists, savvy parents of high socioeconomic status (SES) will use their considerable political capital on behalf of their children. Lower SES and minority students, whose ascribed characteristics work against them in their initial track placements, tend to have families who are precluded from such political maneuvering by their ignorance of schools' frequent acquiescence to parental pressure or by their timidity about exercising such pressure (Oakes, 1994, p.88).

Gamoran's (1992) mixed method study of course assignment during the middle school to high school transition period agrees with Oakes (1994) that parent SES plays a role in the group students are placed in. High-SES students were able to overcome the use of test scores easier than average or lower-SES students when used to determine course track (Gamoran, 1992). One reason for this ability to overcome test scores was that some high-SES parents would demand placement in the higher track course regardless of test scores (Gamoran 1992). This then suggests that school administrators must choose between what research has shown to be an ineffective policy and playing politics within their position or doing what is right for all students.

Ansalone and Biafora (2010) argued that even with the knowledge of negative research findings, principals chose to use the practice of tracking to deal with declining enrollments and the disparity of learners in their schools. In some states, open enrollment has led some administrators and schools to offer ability grouped courses or classes just to stop the flow of

high-level students to neighboring districts that may be deemed more academically rigorous or have received a better rating on the school report card (Ansalone & Biafora, 2010).

Project-based Learning

On the other end of the spectrum, some personalized learning schools have chosen to utilize the concept of project-based learning when assigning students to multiage learning cohorts while implementing personalized learning driven by student interest. Bishop et al. (2019) argue that project-based learning is a promising pedagogy through which learning can be personalized. Project-based learning (PBL) utilizes complex tasks that center around questions or problems students must solve while working relatively autonomously toward a solution or realistic product (Thomas, 2000). Project-based learning also affords teachers the opportunity to teach beyond the textbook by engaging in real-world activities (Carrabba & Farmer, 2018).

Thomas (2000) sets the criteria for defining PBL as projects that are central to the curriculum, focused on questions or problems that drive students to encounter (and struggle with) the central concepts, involve students in a constructive investigation, student-driven to some degree, and realistic (not school like). An obstacle for some implementing project-based learning is that the pedagogy requires simultaneous changes to curriculum, instruction, and assessment practices that are often foreign to students and teachers (Barron et al., 1998). Barron et al. (1998) also identifies four design principles that appear to be important in successful project-based learning programs: (a) defining learning-appropriate goals that lead to deeper understanding; (b) provide scaffolds and starting with problem-based learning activities before beginning projects; (c) provide opportunities for self-assessment and revision; (d) develop social structures that promote participation and a sense of agency.

In the absence of these key principles critics argue that project-based learning often leads to doing for the sake of doing (Barron et al., 1998). Too often, the question that drives a project is not formulated to make connections between activities and the conceptual knowledge teachers hope to foster (Barron et al., 1998). Another hurdle for teachers and schools implementing project-based learning is learning to teach to the standards through projects and not just adding a project at the end of a lesson (Jacobs, 2017). Johnson and Cuevas (2016) believe that inquiry-based learning programs can create situations where only the best students succeed while others become frustrated, the achievement gap increases, and students may discover incorrect information that leads to misconceptions.

Grossman et al. (2019) believe project-based learning could interrupt the regime of rote memorization and test prep that permeates too many schools in low socioeconomic areas. To be successful, teachers need to stay engaged with their students, push them to analyze data, synthesize information, evaluate their work, and justify their claims (Grossman et al., 2019). “In its most developed form, PBL provides students with rich opportunities to practice working together on worthwhile, meaningful, and complex tasks” (Grossman et al., 2019).

Student Experience

Chen et al. (2015) report that authentic activities, multiple perspectives, social support, and collaborative construction of knowledge were considered positive experiences by students engaged in a project-based learning course. In another qualitative study, Scogin et al. (2017), discovered students’ fondness with the program were related to: (a) outdoor connection; (b) hands-on approach; (c) relevance of the material; (d) chance to excel. Scogin et al. (2017) also created a conceptual model to illustrate the positive and negative experiences of students in the experiential learning environment (Figure 2.1). In a quantitative study involving middle school

science students, Carrabba and Farmer (2017) concluded that from the data that both motivation levels and engagement levels of students were higher with project-based learning than with direct instruction. Students often use words like “choice” and “freedom” when describing their experience in a project-based learning course (DeMink-Carthew & Olofson, 2020). Students also believe the choices they were allowed to make led to important learning connected to topics of interest (DeMink-Carthew & Olofson, 2020). However, DeMink-Carthew and Olofson (2020) discovered a problematic assumption if personalization only includes choice in what students research and create, but did not also include personalization of the learning process. These situations left students feeling compelled to complete the project in a uniform manner (DeMink-Carthew & Olofson, 2020). Students who are allowed to choose what and how to learn often choose things that they are already proficient in and are reluctant to take risks with challenging new skills (Johnson & Cuevas, 2016).

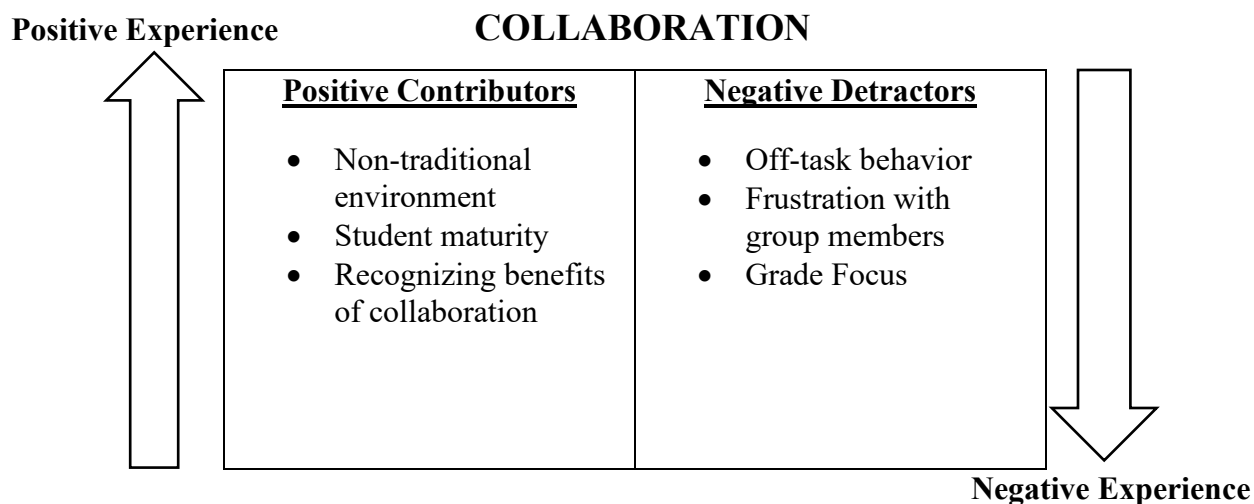


Figure 2.1 Conceptual model derived from Scogin et al. (2017) study, illustrating the positive or negative experiences reported by students.

Academic Identity

Students in the formative years can be impacted by many thoughts and experiences. In school, the class students are assigned to, the teacher they encounter, and the groups they associate with can influence their perception of who they believe they are. A child's academic identity can be shaped by the hidden curriculum that students experience every day at school. The identity-based motivation model includes the current and future identity a student could imagine becoming (Elmore & Oyserman, 2012). If students believe they are "stupid" because they are placed in a class with younger students (within the context of multiage grouping strategies) while their same age peers are placed in classes deemed "smart", this future self will be developed with a fixed mindset (Hatt, 2012). This fixed mindset may contribute to students generally continuing in the same ability group throughout their school career (Abadzi, 1985; McGillicuddy & Devine, 2020). In a quantitative study, Gamoran (1992) concluded that track immobility led to greater inequality in both math and verbal achievement.

Placing individuals into groups and the subsequent treatment they receive from being a part of that group has always impacted how that person perceives themselves. Students placed in higher ability groups often achieve higher social standing among their peers (McGillicuddy & Devine, 2020). Hatt (2012) defines academic identity as, "the ways we come to understand ourselves within and in relation to the institution of schooling and how this identity shapes our own self-perceptions of efficacy, ability, and success in relation to academic potential, performance, and achievement" (p.439). For many children, they begin their educational careers full of optimism and wonder, wanting to be one of many great professions, only to have this optimism decrease as they get older (Wigfield et al., 2015). A student's adult life is shaped by the academic path they take during their formative years of education. Without direct

conversations with any adult, students begin to develop their academic identity from their personal experiences at school.

Self-efficacy beliefs affect the quality of human functioning through cognitive, motivational, affective, and decisional processes. Specifically, people's beliefs in their efficacy influence whether they think pessimistically or optimistically, in self-enabling or self-debilitating ways. Self-efficacy beliefs influence how well people motivate themselves and persevere in the face of difficulties through the goals they set for themselves, their outcome expectations, and causal attributions for their successes and failures. People's beliefs in their coping capabilities play a pivotal role in their self-regulation of emotional states. This affects the quality of their emotional life and their vulnerability to stress and depression. The final way in which self-beliefs of efficacy contribute to self-development and change concerns choice processes. Such beliefs affect the slate of options people consider and the choices they make at important decisional points. By their choices of activities and environments, people set the course of their life paths and what they become (Bandura, 2012, p.13).

The spoken and unspoken feedback offered to students builds their self-efficacy and their academic identity. Students who believe they are smart or good at school will continue to develop a positive self-efficacy, while the opposite can be said about students that believe they are not smart or bad at school. Students who begin to develop a negative academic identity start to feel helpless and attribute their failures to a lack of ability (Wigfield et al., 2015).

Students are continually evaluating their place in the world and how they fit in it. Hatt (2012) suggests that students evaluate whether school is a place they belong and want to invest in from the direct and indirect feedback they receive from their educational experiences. How they

have been placed into groups is one of the indirect ways students evaluate their place in the social construct of school. For marginalized students the use of different grouping strategies (e.g., ability, tracking, multiage) can also reinforce negative stereotypes (Legette, 2018). In Legette's (2018) study, students in the non-honors group believed that those in the honors courses saw them as "slow" and intellectually challenged. Due to this thought and the perception of self that resulted, these students felt that changing classrooms was impossible (Legette, 2018). Teachers' words also play a major role in how students' perception of self is formed when their school uses ability measures to track students (Legette, 2018). Honor students participating in Legette's (2018) interviews reported that their teachers often made comments about how good they were and the potential they had to do great things in the future. The opposite was stated when students from the non-honors group were interviewed.

Gap in the Literature

One gap that exists within the literature is whether the narrative surrounding ability grouping and identity development changes at all when it is coupled with personalized learning pedagogy. Within the personalized learning model, Jim Rickabaugh, an advocate of personalized learning and former director of the Institute for Personalized Learning, believes this type of multiage grouping based on ability is an essential component of the strategy (Klein, 2019). The two concepts have been tied together as the spread of this teaching philosophy has been popularized in the past ten years. Could the use of multiage classrooms, grouped by academic readiness, within a personalized learning model simply be a reiteration of tracking and ability grouping that is sending the nation's schools down a path of inequitable practices previously proven to be ineffective and detrimental to marginalized populations of students? Many researchers believe that students stuck in the low group begin to view themselves as

failures, while lowering their own personal expectations for future success (Gamoran, 1986; McGillicuddy & Devine, 2020; Oakes, 1987; Slavin, 1987a). Gamoran (1987) questioned if students held on to these feelings despite teachers' instructional efforts. Personalized learning is the latest instructional effort made by districts and teachers to improve educational outcomes for all students, but also uses grouping strategies that could lead to negative academic identities. Gamoran (1987) also thought it was important for researchers studying the effects of grouping strategies to consider the students' attitudes and expectations.

Another gap in the literature is the absence of a comparison of student experiences of those grouped by need and those that are grouped by interest while functioning under a model of personalized learning. Halverson's (2019) study reported a notable distinction between schools that focused on learner interests vs. learner needs. With the increased interest in personalized learning McHugh et al. (2020) suggests examining teachers' and students' perception and experience with the strategy to understand overall outcomes.

Summary

Schools that utilize the personalized learning model of instruction place the student at the center of their own learning. The difference is how students are grouped into learning cohorts. In the world of personalized learning there are two distinct directions schools can decide to go; schools can go in a direction that prioritizes student needs or they can go in the direction of prioritizing student interest (Halverson, 2019). In schools that decide to prioritize student needs, students are often grouped into homogenous cohorts based on current levels of ability. This philosophy provides instruction at the student's readiness level and does not force them to move at a predetermined speed. In schools that decide to prioritize student interest, project-based learning methods are often used to allow students full control of the "what" and "how" pieces of

their learning. This philosophy provides more autonomy to each student. Both extremes may create potential pitfalls in the student's education. Student academic identity can be influenced by a hidden curriculum of experiences at school. It is important to research and study trends in education that will ultimately impact a generation of students.

Framework

With the primary purpose of personalized learning being that students become the center of their own learning, it is important to capture their true experience within the practice. In order to capture the student's experience and the ideas of other stakeholders participating in a personalized learning educational environment, I have created an analytical framework focused on three areas. The three constructs are: administrative goals and purpose for personalized instruction, teacher perception of student ability and personalized learning, and student experience (thoughts about self as a student). Findings in the literature review have informed my conceptual framework. The three constructs will become the focus of analysis when examining the transcripts from administrator, teacher, and student interviews.

Chapter 3:

Methods

Within this section I detail the methods that were used in the study. First, I will explain the research design, followed by an overview of the selection process for participants. The section also discusses the procedures, instruments, and analysis of the data. I conclude with a statement of my positionality and ethical considerations.

Research Design

To answer the research question: what are the various strategies utilized by schools when implementing the personalized learning pedagogy, I used a critical qualitative design for my study. Marshall and Rossman (2016) described qualitative researchers as being intrigued by complex social interaction and the meanings formed by the participants, thus requiring research to happen in natural settings. They went on to say, “it is a broad approach to the study of social phenomena” (p.3). Roller and Lavrakas (2015) listed ten unique attributes of qualitative research:

- Absence of “Truth”
- Importance of Context
- Importance of Meaning
- Researcher-as-Instrument
- Participant-Researcher Relationship
- Skill Set Required of the Researcher
- Flexibility of the Research Design
- Types of Issues or Questions Effectively Addressed by Qualitative Research
- Messy Analysis and Inductive Approach

- Unique Capabilities of Online and Mobile Qualitative Research

Understanding someone's perceived academic identity cannot be understood by looking at test scores. It is only through talking with the individual and those around them that one can try to understand who they believe they are as a learner.

Critical theory as defined by Capper's (2019) tenets of critical theory also drove the study:

- Acknowledge and relieve suffering and oppression
- Critique education's perpetuation and disruption of power
- Reunite facts with values with a goal of social justice praxis
- Power between the oppressor and oppressed
- Power disrupted via communication from equal participation

The main purpose of the study is to determine if, from the perspectives of stakeholders, certain strategies within personalized learning present potential pitfalls that may negatively impact the students. The critical lens will explain the phenomena through the people involved at multiple locations while uncovering possible systems of inequitable educational practices.

Sites and Participants

Creswell (2009) states, "the idea behind qualitative research is to purposefully select participants or sites that will best help the researcher understand the problem and the research question" (p. 178). Research that contains information regarding the selection of participants is crucial for soundness (Marshall & Rossman, 2016). Merriam and Tisdell (2016) believe two types of sampling are necessary for qualitative studies. First, the researcher must establish the

criteria that will guide selection and then select participants that meet the criteria (Merriam & Tisdell, 2016).

The main characteristic of each school included in the study was that they identified themselves as a school using personalized learning and have implemented multiage grouping strategies. I consulted with the Wisconsin Center for Educational Research at UW-Madison, primarily Dr. Richard Halverson. In 2016, the group conducted research that included participants from the area that were currently applying personalized learning pedagogy at their respective schools. Dr. Halverson suggested a few schools he thought would be good for this study. Next, I contacted leaders at the Institute for Personalized Learning and asked if they could supply me with a list of schools they have worked with that would fit the characteristics I was looking for in participating schools or districts. The purposeful sampling lists obtained from Dr. Halverson and the Institute for Personalized Learning provided a start to developing relationships with specific schools that fit the desired characteristics of the study.

Site Selection

From the list of schools, four middle schools were chosen and agreed to participate in the study. For the purpose of this study the four schools have been given the names: Cedar Ridge, Christensen Academy, Mountain Valley Middle School, and Kobe Middle School. These four schools were selected because they all have implemented personalized learning and multiage grouping. The four schools also provided a variety of expertise and classification. The selected schools ranged from twenty years to four years of utilizing the model of personalized learning. The schools also represented two public charter options and two public schools serving their local population. The community population of the schools ranged from upper middle class to poverty. I choose middle schools because of the age of students at this level. Students in middle

school are old enough to have thoughts about themselves as a student and these thoughts will put them on a path for the remainder of their K-12 experience. Having all four schools at the same level also allows for easier comparison between sites. Table 3 contains the demographics of each school.

Table 3

Site Demographics

<u>2020-21 Data</u>	<u>Cedar Ridge</u>	<u>Christensen Academy</u>	<u>Kobe MS</u>	<u>Mountain Valley MS</u>
Enrollment	66	704	887	827
Location	Suburban	Suburban	Suburban	Suburban
Grade levels	7-12	K-8	6-8	6-8
School Types	Public Charter	Public Charter	Public School	Public School
White	91%	73.6%	52.6%	87.4%
Hispanic	1.5%	10.5%	25.8%	6.5%
Black	1.5%	1.4%	8.6%	1.1%
American Indian	1.5%	0.7%	0.5%	0.2%
Asian	1.5%	9.9%	2.3%	1%
Two or more races	3.0%	3.8%	9.9%	3.7%
Economically Disadvantaged	25.4%	21.6%	63.1%	13.8%
Students with Disabilities	6.0%	11.5%	13.2%	9.3%
English Learners	3.0%	2.4%	4.2%	1%
State Report Card Score	Exceeds Expectations	Significantly Exceeds Expectations	Meets Expectations	Significantly Exceeds Expectations

Cedar Ridge

Cedar Ridge is a 7-12 charter school that serves a large suburban area in the Midwest. Any student that completes all aspects of the application process is welcome to attend. One hundred percent of Cedar Ridge students are accepted into post-secondary schools. The Cedar Ridge school operates in a businesslike atmosphere. A majority of the school day is devoted to individual and small group research projects.

Christensen Academy

Students wishing to attend Christensen Academy must apply to the charter school. If more students apply than the school has open spots, a lottery is held to determine which students are accepted. Christensen Academy believes that students should work at their academic readiness level according to demonstrated proficiencies instead of levels determined by birthdays. Students here are allowed to maintain the pace of education that fits their learning needs. The goal at Christensen Academy is for students to own their education.

Kobe Middle School

Kobe Middle School is a large public school in a suburban area in the Midwest. Students at Kobe Middle School consist of local children along with some open enrolled children. Kobe Middle School strives to make sure all classrooms are academically and physically safe, seek personal connections with each student and their family, and they believe that all students can and will learn to live life on their own terms. Each student at Kobe Middle School, placed into one of four communities, receives a personalized learning experience.

Mountain Valley Middle School

Mountain Valley Middle School is a large public middle school located in an affluent suburb. The middle school is split into three different sections. For the purpose of this study, I focused on the section that had implemented a personalized learning model of instruction and utilizes the multiage classroom. Research based teaching is the driving force at Mountain Valley Middle School.

Participants

Two levels of participants will complete the baseline survey. Administration and teachers at each site will first participate in the Comprehensive Assessment of Leadership for Learning (CALL-PL) survey developed by Gerald Dryer and Richard Halverson at UW-Madison.

“CALL-PL is a survey instrument with 74 items asking teachers and administrators about their current practices. The responses are on a four-point scale representing the level of choice or control students have in eight different areas of classroom routines within personalized learning. CALL-PL is undergoing validation, and this was part of that process” (Dryer, n.d.). Upon completion of the survey each school, administrator, and teacher receive data regarding eight key practices (Conferring, Profiles, Student Choice, Grouping, Technology, Learning Spaces, Authentic Assessment, Competency Based) of personalized learning. This data can be used by participating schools and educators to reflect on their current practices and develop future professional development.

Three levels of participants will be included in the interview portion of the study. At each school the administrator in charge of the scheduling process or the administrator in charge

of leading the personalization of learning was interviewed. My goal was to seek clarification and understanding of the determining factors as to why the school uses the personalized learning model and particular grouping strategy. Using the administrator as a resource along with self-selected volunteers from the survey I also interviewed teachers from each school. When talking with the teachers I determined the extent to which further grouping happens at the classroom level. I also clarified the teacher's personal views about those grouping strategies and the standards they set for the groups within their control. Finally, with the assistance of administrators and teachers I interviewed focus groups of students. Each focus group contained four to six students and each school had at least one focus group. As part of the interview process students also completed a self-report measure of academic identity (AIM) based on the work of Was and Isaacson (2008). The students are my primary focus for the study. It is important to understand their perceptions of self as a result of strategies implemented by their school.

Table 4

Site Participants

<u>School</u>	<u>Administrator</u>	<u>Teacher</u>	<u>Student</u>
Cedar Ridge	1	3	8
Christensen Academy	1	3	4
Kobe Middle School	1	4	22
Mountain Valley MS	1	3	16
Total	4	13	50

Procedure

To address the research questions, I conducted a qualitative study that includes the use of survey tools, site observations, and personal interviews with administrators, teachers, and students. Each participating school completed the CALL-PL survey to obtain baseline information. The survey was given to administration and faculty at each participating school. This survey tool is a main component in the work of Gerald Dryer. Gerald Dryer assisted in the delivery and informational session of the survey at each school. I followed up at each school with observations and interviews. During the observation I collected general notes regarding what I saw and heard during my time at each school. The interviews were conducted in person and via video conference (Zoom). The determining factor was convenience and comfort of the participant. As part of the CALL-PL survey participants had the opportunity to volunteer for continued participation in the form of an interview. From this list, I randomly selected teachers to be interviewed.

Teacher interviews were once again conducted in person and determined by the convenience and comfort of each participant.

Teachers and administrators assisted in the formation of student focus groups. Student interviews were conducted as a focus group at the school. The Academic Identity Measure (AIM) was issued in person on paper during the focus group time.

I followed all Institutional Review Board (IRB) protocols when conducting the survey, interviews, and focus groups. Each school and individual received a label to ensure confidentiality and to protect them from any comments made during the interview.

Instrumentation

The instruments used in this study include the CALL-PL survey (Appendix A), the administrator interview protocol (Appendix B), the teacher interview protocol (Appendix C), the student focus group protocol (Appendix D), and a self-report survey measure based on Was and Isaacson's (2008) Academic Identity Measure (AIM) (Appendix E). The survey tool being used was developed and will be administered by Gerald Dryer in collaboration with the CALL for Personalized Learning organization.

I used the survey results to create a baseline of information about each participating school. The survey was created to support districts utilizing the personalized learning model of education. Information from the survey can be used by the participants to develop professional development and highlight program successes. The survey assesses four main domains within personalized learning: Building Relationships for Learning, Creating Flexible Learning Pathways, Assessing for Learning, and Developing Flexible Learning Environments. Although all four domains will be included, I will be analyzing the Creating Flexible Learning Pathways domain, in particular the subdomain 2.2, Grouping for Student Needs and Interest. The data collected from the survey helped place each school on the quadrant of "needs" and "interest" focused personalized learning. This placement helped in the comparison of schools and any future research.

I used the administrator interview protocol when interviewing the administrator at each school. The protocol begins with simple demographic information about the individual. Next, a few easy warm-up questions were asked to help get the participant talking freely. The interview questions then moved to a personalized learning focus and the part administration plays in the implementation and monitoring.

I used the teacher interview protocol when interviewing teachers that have been randomly chosen from a list of willing participants post CALL-PL survey. The protocol begins with simple demographic information about the individual. Next a few easy warm-up questions were asked to help get the participant talking freely. The interview questions then moved to a personalized learning focus and the part teachers play in the day-to-day instructional decisions and their personal beliefs.

I used the student focus group protocol when interviewing students at each school. The protocol begins with simple demographic information about the individual. Next a few easy warm-up questions were asked to help get the participant talking freely. The questions then moved to a personalized learning focus and the experience each student or group of students is having within the model of instruction.

Following the interviews students completed a modified version of the Academic Identity Measure (AIM). The tool was modified to fit the age level of the participants in the study. AIM is a survey tool developed by Was and Isaacson (2008), from the perspective of Ericson's theory of identity development. The survey tool helped identify personal feelings about self and the relationship with school. The data collected here can remain private and may not have been present in the focus group.

Pilot Study

Each of the instruments and set of interview protocols were piloted with each category of participant at a school not included in the study. The pilot school completed the CALL-PL survey and included participation from three administrators and fifteen teachers. An interview was conducted with one administrator, one teacher, and three students (one focus group). The student focus group also completed the academic identity measure. The results of the pilot study

confirmed I would be able to obtain the data necessary to answer the research question. Only slight variations were made to the wording of some interview questions.

Data

Data was collected in the form of a thorough explanation from all participants as to the process in which students were placed in groups for instruction, the level of perceived rigor within the groups, and personal narratives from students in the groups. Interviews with school administrators and teachers as well as small focus groups of students were utilized to obtain the data necessary to answer the proposed study's question of, what are the strategies being used in schools that have implemented personalized learning? In total, four administrators (representing the four schools involved), thirteen teachers, and fifty students (eleven focus groups) were interviewed for the study. Students also completed a self-reported survey measure of academic identity status (AIM).

Data Analysis

I recorded the sessions and used an online software program to transcribe the audio into a word document. I then adjusted for any errors in the translation process. The use of a recording device allowed me to stay engaged with the interview process, while not diverting attention to note taking. Remaining in the moment also helped alleviate any nerves the participant may have had. After each interview concluded, I began my interpretation of the data, allowing in vivo codes to emerge from the actual interview data (Marshall & Rossman, 2016). Data collection and analysis blend together as a coherent structure emerges; guided by concepts, the researcher's understanding shifts and modifies as more data is collected and analyzed (Marshall & Rossman, 2016). Winkle-Wagner (ELPA 940, 2020) explained the steps of this process as:

1. Read through the entire transcript.

2. Go back through the transcript, reading each sentence or paragraph a chunk at a time.
3. After reading each sentence or paragraph, assign a 2-3 word phrase of code to the sentence/statement.
4. Compile the codes into categories.
 - a. Typically, in another document (by hand or in a Word document).
 - i. Write the in vivo codes underneath categories.
5. Compile the categories into groups called themes or sub-themes.
6. Go back through the document and attach category/themes/sub-theme labels to the in vivo codes.
7. Once you have done this process on multiple transcripts, compare at the category/theme level and create higher levels of categories/themes that connect across transcripts. This is the beginning of starting to develop a codebook.

The data was analyzed by utilizing the previously outlined seven step process of coding qualitative data from interviews. The data was presented according to the themes that came through during the analysis. The findings contain direct quotes from the interviews that highlight the theme. The data was also associated back to the literature review to compare it to what research has come before. The CALL-PL survey data obtained was compared to the national average of the survey as well as between the four schools involved in this study. AIM survey data collected from the participating students was evaluated by the 1-5 Likert Scale. Comparisons were made among the participants at each school and between the participating schools.

Data Validity

Creswell (2009) suggests, “qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures” (p.190). Within qualitative research the participants perception of reality becomes the collection of data through observations or interviews (Merriam & Tisdell, 2016). Direct connection to the participants involved in the phenomenon of interest uncovers the complexity of behavior and presents a holistic interpretation of what is happening (Merriam & Tisdell, 2016).

Creswell and Miller (2000) list procedures to ensure the validity and rigor of qualitative studies:

- Triangulation
- Searching for disconfirming evidence
- Engaging in reflexivity
- Member checking
- Prolonged engagement in the field
- Collaboration with participants
- Developing an audit trail
- Peer debriefing

Upon request, I shared transcripts with the individuals interviewed. Triangulation occurred by gathering information from three different levels at each school (administration, teachers, students). I cross checked coding with a peer in the field of education that had knowledge of student grouping and personalized learning. I also searched for disconfirming evidence within the interview data of participants from the same school.

Ethical Considerations

Marshall and Rossman (2016) highlight, “the potential trustworthiness and goodness of a study should be judged both only by how competently it is designed but also by the stipulated plan for how the researcher will be ethically engaged” (p.50). Ethics require the researcher to be concerned with the relationships that are built during the study and focus on the participants, stakeholders, peers, and larger community (Marshall & Rossman, 2016). This type of practice is grounded in the moral principles of respect for persons, beneficence, and justice (Marshall & Rossman, 2016).

After completing my Collaborative Institutional Training Initiative (CITI) modules in June of 2021, I was added to an existing approval from the IRB of the University of Wisconsin-Madison. The existing approval was for the study using the survey tool that I will also be using this study. The addition of interviews was added to cover the data obtained in this study. All participants were given an oral explanation of the study and its purpose. Along with this explanation, participants were made aware of the voluntary nature of their participation and the procedure to protect their identity. Informed consent forms were signed prior to survey completion and any interview. In the case of student participation, parents and students provided consent.

Positionality

Marshall and Rossman (2016) believe that it is important for the researcher to reflect on their own identity and bias within the research. Being open with their positionality allows the reader to fully assess how the role, access, and analysis could have affected the study (Marshall & Rossman, 2016). By bracketing off the researchers experience from that of the participants,

readers can separate or compare the lived experience of everyone involved (Marshall & Rossman, 2016).

As a student I often found myself to be unmotivated by worksheets and the regurgitation of information supplied to the class by the perceived expert. I was not at risk of failing due to an inability or skill deficit within the standards; I was at risk of failing because of a system that rewarded compliance. Once I was beyond my American comprehensive K-16 (I have included my undergraduate education into this idea) education, I found myself beginning to be challenged by my own intrigue. Driven by what interested me and what I wanted to learn at a deeper level finally motivated me to reach my potential as a learner. It was during this time that I really began to reflect on my earlier education and what would have been a better situation. Interest in what one is learning resonated with me and I often wondered why K-16 education was so focused on the “what” we are learning, instead of the “why” we were learning.

I am now the principal of a combined middle school and high school serving students in grades 5-12. The district has been implementing personalized learning strategies for over a decade. When I first came to my current district I was introduced to the term, “academic readiness.” At first, it seemed like a great philosophy and a major part of the district approach to personalized learning. As a teacher I worked with students that had been labeled “at-risk” and spent a great amount of time and effort differentiating the instruction to help students get from where they were to where they needed to be academically. Academic readiness grouping assigns students to teachers and classes (K-8) based on their current levels when compared to the standards. At first, I thought that this was a forward-thinking idea, but after a short time in the district, I have started to believe that this is ability grouping masked under a different title. Over the years it has somehow connected itself to be a function of “personalized learning” and even

necessary for this style of teaching and learning to occur. One caveat of academic readiness grouping is that students can move freely between sections as they improve or develop gaps. The problem is that I have not seen this happening on a regular basis and most students do not change their current levels at an increased pace. If theory does not transfer into practice, a large number of schools and districts are back to tracking students and denying them an equal education. On the other end of the spectrum there are many schools that have implemented personalized learning using student interest as a way to group them into cohorts. I also wonder if basing the education solely on student interest could create gaps in basic concepts that might be missed in this environment. What is between the two extremes? Is there a happy medium that results in unlimited success for students? I have not set out to prove personalized learning is wrong or damaging, but bring to light a possible issue that may be occurring within its implementation and use.

Chapter 4:

Cedar Ridge

Schools

Data was collected with the use of survey tools, interviews, and observations at four middle schools from the same state in the midwestern region of the United States. Each school had classified themselves as using a personalized learning model of instruction. All four schools also used multiage learning environments, where academic grade was not used for grouping purposes. All four schools resided in fairly large school districts with two being charter schools of the district (Cedar Ridge and Christensen Academy). Each of the four schools have spent at least four years working towards a personalized learning model of instruction.

Cedar Ridge

The moment you enter the door at Cedar Ridge you can feel the warmth from a welcoming environment. From the secretary that lets you in, to the students that invite you into their learning space, the school makes a visitor feel like they belong. Everyone is greeted by name and if they do not know you, they introduce themselves and ask who you are. The area is wide open with individual workspaces spread throughout the large open concept. At first sight you may think that you have just entered an office of some kind. Tucked away in the corners you will find specialty spaces designed to accommodate small groups, art, technology, science, etc. There is no place to really hide but many places to find comfort. Each student has a cubical area for when they need individual space and isolation to do their work, but they also have the freedom of movement to meet in small groups if needed.

Students that enroll at Cedar Ridge are carefully placed into small multiage advisories that will remain constant through their years at Cedar Ridge. Student placement is based on

interests, personality, variation within the groups, being separated from siblings, and overall fit. Nothing about the placement is tied to academic needs. Younger students are also assigned an older student within the advisory to serve as a mentor. Cedar Ridge students struck me as people that might have been disenfranchised from the larger public school system and were seeking a place that would allow them to be themselves and grow in a way that was important in their minds.

Primarily, all of the academic work that students engage with comes from ideas they create. The project-based learning process established at Cedar Ridge mimics many phases of a dissertation. Students establish a topic that is very interesting to them. They then create a written proposal, including timelines, product, and what standards it will demonstrate. The proposal is read and discussed by the student's advisor and one other advisor at the school. Together, the group fine tunes the proposal and makes any necessary changes. Once the proposal is approved, the student dedicates a large portion of their day to the project. One student told me, "We can literally just explain what we want to do and the advisors will let us do it. Someone actually got to keep track of their sleeping." Whether the students at Cedar Ridge are tracking their sleeping patterns or designing cheat codes for Mario Cart, everyone I saw appeared to be highly engaged in what they were working on during my visit.

Call-PL

At Cedar Ridge all four of the advisors completed the CALL-PL survey. Although this is a very small number of responses, it does reflect 100% of the total staff at the school. Overall, Cedar Ridge is more developed in the eight key personalized learning practices when compared to the survey's averages. In fact, Cedar Ridge scored higher than the survey average in seven of the eight subdomains assessed by the survey. The only practice in which Cedar Ridge scored

below the average was in grouping students by needs and interests. When asked, “How frequently do you set up instructional groups based on academic need?” The majority of the staff responded by stating they used this strategy for less than half of their class activities and one staff member responded that they rarely used this strategy. For this specific question Cedar Ridge received a 1.67 rating compared to the CALL-PL average of 2.72. This was the lowest rating Cedar Ridge received in area on the survey.

Cedar Ridge’s strengths were in the subdomains of Designing for Student Choice (3.97 rating), Conferring for Learning (3.25 rating), and Designing Learning Spaces (3.81 rating). The key strengths in the area of Designing for Student Choice are teachers can design learning pathways, teachers help students choose activities that will meet learning standards, and students are frequently able to choose the order in which they learn things. Key areas of strength in the Conferring for Learning sub domain are conferring is scheduled and occurs regularly, teachers work with students to develop the conferring agenda, and student learning needs are frequently discussed during conferring. The survey also identified teachers co-develop norms of classroom conduct with students, students can seek help from any peers or adults as needed, and students can meet their physical needs independently as areas of strength within the Designing Learning Spaces subdomain.

Table 5

Cedar Ridge's Areas of Strength as Assessed by CALL-PL

Sub Domain	CALL-PL Rating	CALL-PL Average
Designing For Student Choice	3.97	2.57
Conferring for Learning	3.25	2.5
Designing Learning Spaces	3.81	2.96

Note. The CALL-PL Survey uses a four-point scale from system driven (1) to student led (4).

Administrator

For the purpose of my research, I determined the most senior advisor to be labeled the administrator for Cedar Ridge. The school itself does not have anyone that functions in the traditional role of principal. Each of the four advisors share responsibility and work collaboratively to tackle any issues. The administrator at Cedar Ridge is one of the founding individuals of the school and has been an advisor there for nineteen years. Twenty years ago, in the basement staff lounge the administrator and three other teacher friends were dreaming of what teaching and learning could be if they had the freedom to create something transformational for students. Their dreams led to plans, which led to a grant, which led to partnering with a school in another state that had established a school like they envisioned. From this partnership they gained the knowledge necessary to start their school.

During my interview with the administrator, I attempted to have the administrator talk about the “why” behind the instructional model at Cedar Ridge. In this section I will highlight portions of the data that was collected through the use of a semi-structured interview.

What goals do you have for the school?

The purpose of this question was to create a moment of reflection for the administrator and an opportunity for them to articulate their mission/ goals. Each administrator across all schools in the study spoke about goals that aligned with ideas related to personalized learning, but one leader focused more on the students' wellbeing.

The goal at Cedar Ridge, as explained by the administrator, is to develop lifelong learners that graduate with the idea that they can do anything. Students that enter at the age of thirteen begin a journey of learning how to learn instead of what to learn.

I hope that they have a transformative experience in their youth. ...that they really become purposeful, self-driven people in their time here. ...because when you come when you are 13 and leave when you are 18, that can happen and they can be changed forever. ...if they can become a positive, lifelong students, personalized learner, you could do anything you want. (Cedar Ridge Admin)

The transformative experience the administrator is hoping for is one that allows the students to take control of their education. The structure at Cedar Ridge gives students the opportunity to be the leaders of their learning and not be driven by standards and tests of proficiency. The goal is for each student to have an understanding of how to learn about anything they are interested in and pursue the necessary knowledge to apply it to their lives.

How would you define personalized learning?

With a multitude of working definitions of personalized learning, this question was asked to inform the researcher of how each administrator viewed personalized learning and gain insight into the base of each participating school's idea of personalized learning. Each school

administrator had a slightly different definition of personalized learning, but all of them placed students at the center of their own learning. At Cedar Ridge the administrator defined personalized learning as, “Personalized learning is when yourself is the curriculum”.

The presented definition further expresses the mission of Cedar Ridge. Students are truly at the center of their own learning; inquiry-based learning facilitated by the advisors is present every day.

What led you to choose the personalized learning model at this school?

This question is meant to get at the “why” behind the choice to implement personalized learning. The administrator might have been the driving force, a supportive influence, or following a directive from a superior administrator.

The “why” behind the choice to use a personalized learning model at Cedar Ridge is to give students true agency over their learning. The project-based learning aspect of the model only becomes a mechanism for this to happen.

People go out looking for project-based learning. They think that is the answer. Projects are a vehicle for personalization. ...yeah, kids are doing projects, but the main thing is people are running themselves. I don't have to police the environment; I just support the environment. (Cedar Ridge Administrator)

The driving force is to create an environment that allows the students to be learners and not consumers of information delivered by the perceived expert. Projects become the means to accomplish the mission of Cedar Ridge.

...but I can be like, Owen can you help me? Or can you help her with that? I have no clue. I mean, that is like the biggest payoff. It's like it's boundless potential. If every person here feels that they have the same agency to contribute and to grow themselves. Teaching is way easier now, still has its challenges of course, but they're real instead of self-imposed fake ones. (Cedar Ridge Admin)

Anyone that visits Cedar Ridge can see for themselves the culture that has been established over time. Students and teachers interact with one another, and each other, with respect and without fear of being inadequate. Teachers no longer feel the need to know everything and students are empowered.

How are students grouped into classes?

Each administrator was asked this very direct question about how students are grouped into classes or learning cohorts at the larger level.

Academic standing plays no part in how students are placed into their advisories at Cedar Ridge. Due to the nature of their model the time outside of advisory is determined at the microlevel, so the advisory placement is the one controlled grouping at the school.

...the advisory is like, there is no sorting hat, but there very well could be as far as any advisories, it has to be it's a draft. Some like collaboratively in that like a lot of it has to do with how many spots do you have open. How many boys and girls do you have, how many middle schoolers do you have? High schoolers? Like who can't be put together a lot of like logistical drafting, you know. (Cedar Ridge Administrator)

At Cedar Ridge, putting students into advisories is really about fit and the creation of balanced demographics. They are attempting to build school families that will become a safe

space for students to be themselves. Cedar Ridge's administrator explained that in the nearly two decades the school has existed, there has only been two trades between advisories.

...there have been a couple parents' requests, more than a couple parent requests or somebody knows somebody or like really wants the sibling in this one and the other one in this one and the beauty of it is statistically students the graduation and satisfaction rate at the end of the experience is the same across the advisories there's no change. My kids are not graduating any better than John's kids. It's proof that it doesn't matter which advisory you are in. (Cedar Ridge Administrator)

Here is an example of the power afforded to parents in the placement of their child within groups. In this case there is no reported difference among the results students achieve when placed into specific advisories or from teacher to teacher. At Cedar Ridge it does not appear that the parent requests are due to perceived academic outcomes but more so about personal comfort.

I do want to mention for the sake of the greater good that Dustin proved already that you can, when focusing on the process of the math, take a multi-skilled multi-course group of kids together and create math learning deep math learning without grouping by anything. I think that's so wild and awesome. (Cedar Ridge Administrator)

During my visit I was able to observe this lesson, referred to as the problem of the week. Students from many different levels of math knowledge worked through the problem of the week individually, in small groups, and finally in the larger group. During the large group, students were able to discuss their thinking and why they did what they did. The teacher continually pushed the group to the next level of thinking as a mathematician. What started as simple counting of squares, ended with one student explaining the calculus expression he created to

represent the process of solving the problem. The utilization of a single problem that each level student could understand during early analyzation, but providing the space to continually elevate, left no student confused at the finish. What I witnessed was an example of the importance of allowing students of different abilities and skills the opportunity to listen and work with each other during the learning process. Separation limits the ability to grow beyond the current level.

Teachers

The teachers at Cedar Ridge ranged from first year to nineteen years at the school. Even though one of the teachers was in her first year at Cedar Ridge it was not her first year in education. Like the founders of Cedar Ridge, the current staff was looking for something that would allow them the flexibility to teach kids in a meaningful way.

What do you believe to be the most important characteristic of personalized learning?

The intent of this question was to reveal the personalized learning characteristic that was most prevalent inside that teacher's classroom. What part of the model does this particular teacher implement with fidelity.

Cedar Ridge Teacher 2 believes the most important part of the model is, "probably that there's some voice and choice." While Cedar Ridge Teacher 3 describes an aspect of the overall goal for the school. "I think process, students process in personalizing their learning. If they can personalize the process of how to learn and really develop that, I think that it benefits them greatly in all aspects of their life" (Cedar Ridge Teacher 3). Cedar Ridge Teacher 1 also gets at the heart of the mission of the school and the goal to create lifelong learners that through perseverance can do anything.

I see personalized learning as the student getting what they need and showing growth. Everyone is gonna come in at a different level of where they're at. And so just getting the students to show growth over time, having a growth mindset, and pushing that student outside of the comfort zone of that to get that growth to occur is what I would say. So, I don't know that every kid leaves a space at the same. But hopefully, the same growth.

(Cedar Ridge Teacher 1)

Each teacher places emphasis on the role of the student in the learning process. Voice and choice, understanding how to learn, and demonstrating perseverance in their personal growth are the main ideas. Although Teacher 1 mentions levels and abilities, it is the desire to develop a growth mindset that is the focus. Creating an academic identity that centers around the self and perseverance.

Do you believe all students can achieve at a high level?

A teacher's belief in their student is one of the highest predictors of student success. John Hattie's (2021) meta-analysis places teacher estimates of achievement third highest, with an effect size of 1.46. Previous research on the topic of ability grouping has discussed the negative impacts variants in teacher belief can have on students in the lower levels (Boaler, et al., 2000).

High level varies in the mind of Cedar Ridge Teacher 2. There is a belief that the model Cedar Ridge has designed creates a rigorous environment for each student, regardless of ability or academic potential.

...for one student is not the same as success for another student. So, for some students just getting here every day is a high level expectation for them, for some it is nothing getting to school you come here every day, it's what you do. I think that we've designed

the graduation requirements in a way that they are challenging for every person. (Cedar Ridge Teacher 2)

Teacher 2 begins to differentiate the students within the idea of high level, creating exceptions to a single “high standard”. The exceptions actually lead one to assume that they do not believe all students can achieve at a high level.

Student agency is not just a part of what and how the students at Cedar Ridge learn, but it is to what level and depth. Cedar Ridge Teacher 3 explains how each student can achieve at a high level but that they control if they do or not.

I believe all students can achieve at a high level or a higher level than they might first expect. I think a lot of times those things are determined by their outlook themselves. ...I do think all the students here can achieve to the advanced level on the rubric in any or all of the marks to see that advanced through all the levels of the rubric is really, really difficult to do. And not say they're all going to do that. But they all could. (Cedar Ridge Teacher 3)

Teacher 3 did begin their answer with affirmation of the belief that all students can achieve at a high level, but the response came after an extremely long pause when compared to other responses during the interview. Teacher 3 also highlights the importance of students' belief in their own ability to achieve at a high level or even beyond. This idea is further developed with the thought that even though every student is capable of achieving at a high level, some may not as a result of personal choice.

How are classes assigned each year?

This question was asked during all interviews to check for level of understanding between roles at the school. The goal is to determine if the teachers understood the process the same way the administrator understands the process.

The teachers at Cedar Ridge are indeed in line with the process of grouping students. They also explained the process nearly identical to each other and the administrator. Fit and balance are the central to the process without the influence of academic standing or test scores.

We get a general idea of who these kids are. And then we sit down at the end of bootcamp, the four of us and decide who fits best where and that can be things as basic as you know, like I don't have any more seniors in my advisory I need a senior or something like that, you know, I'm low on seventh graders I need a seventh grader, that kind of thing. (Cedar Ridge Teacher 1)

After the first day, the advisors we meet and we talk about individual students in our open spots, basically, in our advisory, and then we'll talk about how to best balance those things out, versus in knowing what we know about the students knowing what we know about the makeup, our current advisory, where we think those students will fit in best. (Cedar Ridge Teacher 3)

Teacher 1 and 3 have verified a very cohesive approach between all levels during the process of grouping students for the year. Both teachers and then administrator speak to the process of balancing demographics between groups and no one discusses student ability levels or current levels of proficiency in standards.

The teachers do, however, mention the use of student interests and personal connections as a determining factor in the placement of students. "...and so there was a connection made. That student is in my advisory because there was already a connection made" (Cedar Ridge Teacher 1). "...but then also we're working with the kids in their first project and get to see their personalities what they're like, what their interests are. And we're looking for ways, perhaps we'll connect with the kids at that point" (Cedar Ridge Teacher 3). "...also have them fill out some self-inventories of their interest about how they think they learn, about how clean they like their desk things" (Cedar Ridge Teacher 2),

Besides demographics, the use of surveys and relationships help determine the advisory groups that will remain consistent for a four-to-six-year period. The process Cedar Ridge has established is further evidence of the culture of learning they are maintaining. Students as people, as the curriculum, is the most important factor.

How do you know the model is working?

What types of data is each school looking at to evaluate different aspects of their school's programming? Do they analyze state standardized tests? Are other assessments utilized for determining success? Is it observational data collected by teachers?

It is suggested that the evaluation of the model's success and the school is through the use of observational data collection. "At this point, it is observational data" (Cedar Ridge Teacher 1). "...seeing success after graduation and seeing students go out into usually initially things that they're really interested in. And some cases finding really cool other paths along the way, too" (Cedar Ridge Teacher 2).

Teachers 1 and 2 discuss data that they collect through observations and interactions with their students. During my informal conversations with the administrator at Cedar Ridge, I was given the impression that traditional accountability data was not really a concern at all. When asked if the state report card and standardized tests had any influence on the school's structure, the administrator commented, "Zero. Are students happy? Are they learning about things that interest them? Are they helping them obtain future goals and aspirations they have for themselves?" That was the vision for Cedar Ridge.

...we're not only seeing the work that they're doing, but we're seeing the growth in our rubric. And, you know, those aspects of the rubric are universal, of course. And when you see continuous growth, you know it is working. But then also, you see honest reflection on when it's not working students are understanding, you know, why they're at a spot in the rubric that they're at, it's not about just one high mark, it's about here's where I'm honestly at, to me that honest reflection and understanding of where one is at, and then understanding that the goal is growth not a mark. (Cedar Ridge Teacher 3)

Once again, Teacher 3 talks about the importance of individual growth. In this statement it is the growth the student obtains in relation to the rubric Cedar Ridge uses to assess the students. Academic identity is also discussed in this quote. Honest reflection in one's current level of knowledge and understanding what it takes to improve that standing is how teacher 3 determines systems success at Cedar Ridge.

Students

At Cedar Ridge I conducted two focus groups consisting of four students in each group. The students were in 7th or 8th grade and were either in their first or second year at the school.

The students did not appear to be nervous during our discussion and freely expressed their thoughts and ideas. Seven of the eight students identified as white, and one student identified as Asian. Six students identified as female and two identified as male.

Can you describe what going to school here is like?

Student perception of their learning environment is an important aspect of their overall sense of self while at school. The students at Cedar Ridge felt comfortable being themselves at school. “I would say that it's very comfortable for me personally. And you get to learn at your own pace for you” (Cedar Ridge Student 1). They also felt a personal connection to the work they were able to do while at school. “We get to do like the work we choose. And it's our, our like, plan for ourselves” (Cedar Ridge Student 7).

How would you define personalized learning?

This question was asked of students to compare it to how the administrator at the school defined it and was it line with the most important characteristics of personalized learning teachers discussed.

Through the eyes of students at Cedar Ridge, personalized learning is very much pathways created by them with their advisors. “It would just be learning at your own pace with guidance if you need it” (Cedar Ridge Student 3). “You get to choose your path. And you can choose how you how you learn, like where you learn. And if you need help the advisors will guide you and if they feel like you might need to like switch it up a little bit. They'll give you some suggestions, but they'll mostly just let you go your own way and stuff” (Cedar Ridge Student 5). Projects become the mechanism for the personalization to occur. “Making a plan and schedule for a project. Thinking of your own products and what projects you can choose”

(Cedar Ridge Student 4). Students also realize that the work they are doing is setting them up for future learning success. “Not only like, school, kind of stuff, it also helps with like life skills, personalized learning in your life plan for future” (Cedar Ridge Student 2).

Cedar Ridge students defined personalized learning in a way that demonstrates cohesion with the mission of the school and the work that their advisors do every day. There is a belief that the way they are learning will benefit them long after their school aged years.

Are you aware of how students are placed into specific classes?

This question was also asked of administrators and teachers. The goal is to determine the level of clarity in the process. What role do students play in determining their placement?

Throughout the interview process everyone involved from administrator to teachers to students answered the question regarding grouping in similar fashion. Students from both focus groups continued this narrative. The students at Cedar Ridge also explain how they are part of this process.

At the beginning of the year, we have two days where there is a camp and you come in during the morning. You come in and you talk to people about the school a little bit and on the second day for the pairing you write stuff about yourself, and the mentor does too, and you get paired. (Cedar Ridge Student 1)

...they kind of place you in each advisory based on like, what your personality traits are, what, what your interests are, like, say you like, I like writing a lot. So, I think that might be part of the reason why I’m in my advisory. (Cedar Ridge Student 5)

In both focus groups, students continued to state the process of grouping at Cedar Ridge by telling the same story of bootcamp and how students are paired with advisors and advisories. Students 1 and 5 highlight the use of personalities and interest as major factors in determining group placement.

...and then for like math and literature, you get to choose for literature, like what book you want to read. Or if you want to see a book or poetry or something or do research ...like I'm writing a book because I like writing a lot. So, I get to do that instead of like, you're required to be in a literature or in like math, you get to like, you can either choose to do an online course, or you can go to a class. ...you can choose to get a tutor if you want to. So, it's not like you can basically do anything but like, it's just a lot of options.
(Cedar Ridge Student 7)

Only student 7 approached specific content areas and student placement and requirements. Grouping in the areas of math and literature continue to be student driven. Interest and preference of platform still drive instruction, with the student completely at the center.

What motivates you to complete schoolwork?

Something has to motivate people do anything. This question searches for differences among students from the four schools involved in the study. Is there a difference in motivation to do well in school across the participating schools?

Student motivation is a product of the amount of agency Cedar Ridge offers their students. They get to pick what they learn, how they learn, and how it applies to credit obtainment. "I enjoy some schoolwork and also trying to reach my goal for credit at the end of the year" (Cedar Ridge Student 2). The ability to pick topics of interest keep students connected

to their own learning. “Usually if I pick a topic that I like that's what motivates me to keep learning about it” (Cedar Ridge Student 3).

Student interest in topics is the driving force that motivates Cedar Ridge students. The freedom to develop their own learning opportunities inspire the desire to learn more. Student 2 does mention a traditional high school ideal of credit obtainment. Cedar Ridge may fight the ideology of traditional schools, but they still have established a credit system as a means to determine completion of standards and high school graduation.

What are your thoughts about being in classes with younger or older peers?

Adults may believe that there are benefits to grouping students of different ages, but how do the students feel about this strategy? What is their experience and how does that affect them at school?

Although somewhat intimidating at first student two moves past the fear and now sees the benefit of the experience of a multiage classroom.

A little intimidating at first. But then, like, you get to connect with older people, like friends and peers as well. You get to ask for help, and you can pretty much get it. It's just an experience and I think that's good also to be able to work with other ages. (Cedar Ridge Student 2)

Students three and seven from focus group one and two, also viewed the multiage classroom environment as a positive. “I think it helps because you get like an older students view of things, and it makes it more diverse” (Cedar Ridge Student 3). “I feel like the seniors, like the older people, even seniors, like they just like, it seems like they look past that and just see me as a person” (Cedar Ridge Student 7).

Although student 2 felt intimidated at first, the family-like culture and environment at Cedar Ridge has allowed for students to experience the benefits of multiage grouping. Because I only interviewed 7th and 8th graders at the 7-12 school, the feeling of being academically inadequate would not have presented itself.

What do you think your teachers believe about you as a student?

Teachers can say they believe all students can achieve at a high level, but perception is reality. Does the belief teachers state they have in their students transfer to how each student feels?

The students at Cedar Ridge had a belief that their teachers would describe them in a positive way. “My advisor thinks about all of us in the most positive way” (Cedar Ridge Student 6). Cedar Ridge Student 7 not only describes the belief they feel their teacher has of them but the personal relationship they have, “I’m trying to work really hard because she knows where I want to be.” Students eight and one continue to describe their teachers’ belief in a personal way. “Like, I’m pretty outgoing slash like a people person and also pretty, like smart and hardworking” (Cedar Ridge Student 8). “Probably would say I’m a perfectionist” (Cedar Ridge Student 1).

It is not shocking that the students of Cedar Ridge believed their teachers/ advisors viewed each of them in a positive way. Students at the center of their own learning may be the academic focus but maintaining an environment that stresses the importance of relationships is how Cedar Ridge accomplishes their goals.

Students at Cedar Ridge also completed the Academic Identity Measure (AIM). Table 5 shows the results of the achievement related questions from the student survey. Students

answered statements on a 1-5 Likert scale ranging from “nothing like me” to “very much like me”. All of the statements from the survey can be found in Appendix E and the individual answers from each student at Cedar Ridge can be found in Appendix F. The statements pertaining to achievement are highlighted within Appendix F. The average score for the achievement statements lands closer to “like me” than “not like me.” The highest average, with a score of 4.43, was “I feel comfortable being responsible for my education and learning” (Statement 18).

Table 6

Academic Identity Measure

School	Avg.	SD
Cedar Ridge	3.539	0.964

The use of project-based learning lends itself nicely to the mission and vision of Cedar Ridge, where learning is a shared process between teacher and student. The goal is to develop students that are leaders of their own learning. Student voice and choice guide each step in the project-based model. It is their interest in topics that is the basis for study. There is a belief from students that they are learning how to learn and that understanding the process of learning will allow them to apply it to anything in their life. Assigned student mentors help to continue an already established positive culture among the student body and create a sense of belonging. Cedar Ridge considers each individual student for the person they are when deciding placement into their advisories. Student interest, personalities, and established relationships determine how they are grouped.

Chapter 5:

Kobe Middle School

My first impression of Kobe Middle School was that it is a typical older building in a large suburban district. What stood out right away was the enthusiasm students and staff were greeted with by the principal and assistant principal. I also came to realize during my multiple visits that this is an everyday occurrence.

Kobe Middle School, although large in terms of enrollment, has established a smaller community system throughout the building. The communities that have established a personalized approach and multiage environment, have also removed the walls that would have created three smaller spaces and made it one large space. Throughout my visit I observed multiple communities, with each one being slightly different due to the amount of teacher agency afforded to them by the principal.

With the walls removed, one community struggled trying to maintain a traditional classroom. In one area of the room, the teacher restarts three times because students are talking and not engaging with the teacher or the group. During classroom transitions, the teacher gives a countdown timer for the completion of the task. The environment seems to be more about management and a heavy teacher driven instruction approach to learning. A different community had established a more comfortable learning environment with soft furniture flex spaces. In the third community three teachers are teaching different subjects in three different areas of the same space. In every community, the continuity between teachers seemed erratic and disjointed at times. In some cases, teachers were completing prep work and not assisting or working with students. As someone who needs a quiet place when reading, I can believe that this open environment with so many stimulating activities happening, may not be an effective space for all

students. At one point I heard a teacher say, “The class can’t stop because you are having an issue.”

CALL-PL

At Kobe MS fourteen of a possible sixteen teachers completed the CALL-PL survey (87.5%). Overall, Kobe MS only scored higher than the survey average in three of the eight subdomains assessed by the survey. Kobe Middle School’s strengths were in the subdomains of Grouping for Student Needs and Interest (3.06 rating), Conferring for Learning (2.71 rating), and Using Authentic Assessments (2.76 rating). The key strengths in the area of Grouping for Student Needs and Interest are using customized learning plans reduces special education pullouts and interventions, teachers regularly teach and work in teams together, and students are frequently grouped by academic need. Key areas of strength in the Conferring for Learning subdomain are conferring is frequently used as a time for coaching and the development of learning skills, social and emotional health are frequently discussed during conferring, and teachers work with students to develop the conferring agenda. The survey also identified teachers and students use formative feedback to improve learning until mastery is achieved, assessments encourage students to produce complex products, and students are assessed for sustained conversations about learning as areas of strength within the Designing Learning Spaces subdomain.

Table 7

Kobe Middle School's Areas of Strength as Assessed by CALL-PL

Sub Domain	CALL-PL Rating	CALL-PL Average
Grouping for Student Needs & Interest	3.06	2.79
Conferring for Learning	2.71	2.5
Using Authentic Assessments	2.76	2.61

Note. The CALL-PL Survey uses a four-point scale from system driven (1) to student led (4).

The above-mentioned subdomains may have been Kobe Middle School's areas of strength but two of the three still rated between 2 and 3 on the four-point scale. In the other five subdomains of the survey Kobe MS fell below the CALL-PL average. The three lowest areas are Using Competency Based Progression (2.3 rating), Using Learner Profiles (2.43 rating), and Designing for Student Choice (2.51 rating).

Administrator

The administrator at Kobe MS exuded positivity each time we met and when I observed his interactions with students and staff at the school. This is the sixth year at the school and fourth as principal for the Kobe MS administrator. The mission to create a positive and welcoming environment at the school was evident during my visits.

During my interview with the administrator, I attempted to have the administrator talk about the "why" behind the instructional model at Kobe MS. In this section I will highlight portions of the data that was collected through the use of a semi-structured interview.

What goals do you have for the school?

The purpose of this question was to create a moment of reflection for the administrator and an opportunity for them to articulate their mission/ goals. Each administrator across all schools in the study spoke about goals that aligned with ideas related to personalized learning, but one leader focused more on the students' wellbeing.

The focus at Kobe MS is the student's wellbeing. The students at Kobe MS are viewed first as people that carry many different burdens. It is the mission of the educators at Kobe MS to eliminate as many barriers as possible so students can find their own success in life and school.

...equity ...so our biggest piece here, I think is keeping a solid, equitable basis for all of our kids. I mean, we understand right away, we have many of our students that are lacking in many basic needs in academics, and we want to make sure that all kids get the same opportunity. ...I think our number one goal there is making sure that academically and everything our kids have a fair shake. ...also goals of all kids can learn ...are we creating a place for kids to learn. ...a big piece for me is relationships, I expect all of our kids to have at least one trusted adult in this building. Whether it's me, the secretary, obviously our teachers, I think it's important that when kids like to be here they will learn, because they have a lot of cards stacked against them. ...but we want the kids to take control of their own learning. (Kobe MS Administrator)

The administration at Kobe MS is trying to eliminate any and all barriers that stand in the way of students. Kobe is located in a suburban area that has seen a decline in the socioeconomic status of its residents during the last few decades. Students at Kobe MS carry many burdens with

them to school each day and the mission is to help students get to the point that allows them to just be a student during the time they are at school. Social emotional learning and skills are in place first and create the path to deeper academic learning. The principal believes that all students can learn, and they will learn because of what they do as a school. The passion for educating the whole student and concern for their wellbeing was expressed during my time with the principal at Kobe MS.

How would you define personalized learning?

With a multitude of working definitions of personalized learning, this question was asked to inform the researcher of how each administrator viewed personalized learning and gain insight into the base of each participating school's idea of personalized learning. Each school administrator had a slightly different definition of personalized learning, but all of them placed students at the center of their own learning. The administrator from Kobe MS believed personalized learning was, "...when kids take control of their own learning and can see the growth. Kids understanding how they got from 'A' to 'B'." Student growth and the personal understanding of how that growth occurred is what Kobe MS desires in their pursuit of personalizing the learning experience for students.

What led you to choose the personalized learning model at this school?

This question is meant to get at the "why" behind the choice to implement personalized learning. The administrator might have been the driving force, a supportive influence, or following a directive from a superior administrator.

Personal connections with an adult is the “why” behind Kobe Middle School’s implementation of personalized learning. It is also the “why” behind the use of multiage classrooms.

I want the teachers to be with the kids for multiple years. ...and now that we've worked many years into this, when our teachers have their sixth graders, and then they enter seventh, by the time they're eighth graders, man they know it, at a really critical age.

(Kobe MS Administrator)

The principal understands that middle school can be a transformational time in a student’s academic development. It is very important that kids begin to see themselves as capable students that can accomplish their goals. It is through these connections with teachers that supports the belief in self as a student.

Building a staff and faculty that believes in the goals of personalized learning becomes a key element in the implementation process.

The hard piece is making the staff, you have to have the right staff to do this, that's where we're kind of struggling a little bit. The scores match, test scores to me are bogus. But there's more to it, just because you have higher test scores doesn't mean you are going to be more successful. There's more pieces to the puzzle. Our whole deeper learning is literally about taking the time with the kids to teach more than just whatever's on the paper. (Kobe MS Administrator)

Buy-in is key to the implementation of any initiative. If your people do not believe in what you are trying to do, they will not be able to obtain the desired goal. Part of the buy-in is a belief that standardized test scores are not the “why” behind what they are doing. Better test

scores become a residual effect of what they are doing. The “why” is to help students grow as people.

Their teachers know that, hey, let's make sure the learning is on the kids. You know, they got all the items. If you want to do something, let's try it, if it doesn't work fine. And then the learning that comes through over time, I think it's just what is working. We've proven that in the community that eighth graders can help sixth graders. If you got teachers willing to do it. We'll teach them at a level that they can understand. There's just more of a hey we can learn together shift. (Kobe MS Administrator)

Personalized learning attempts to place the student at the center of their own learning. Once again, the principal highlights the importance of having buy-in from the teachers in order to create an environment that gives students agency and builds on the idea of learning as a partnership.

How are students grouped into classes?

Each administrator was asked this very direct question about how students are grouped into classes or learning cohorts at the larger level.

Outside of known conflicts between students the process of placing students into one of four learning communities at Kobe MS is described by the administrator as “pretty random.”

...lately, we've been getting a lot of parents that have older siblings that have been in a community requesting and we honor that absolutely. The other kids, ...if there is a student that, you know, hey, probably be better off in a smaller environment versus a big their counselor will let us know and we'll honor that. ...otherwise pretty random, to get into any of these communities. My long-term vision is that when these other

communities are as strong as these two, then we're going to start saying, here's our options, and to the parents. But at the same token, I also think I don't want to give the parents too much choice because they don't know. ...we got to have certain kids in these communities. (Kobe MS Administrator)

Kobe's principal expresses a belief that the personalized learning and community model is only appropriate for "certain kids". There is also a concern with giving parents too much control in the group placement of their child. Control of the decision of student placement wants to be expanded, but only to individuals that understand the mission. It is evident that the mission is to create a supportive family structure for students that may carry more burdens than others in an attempt to eliminate learning barriers. Students not needing this level of social-emotional support are then considered able to navigate school through the traditional model of education.

Teachers

The teachers at Kobe MS were by far the most welcoming and supportive group involved in my research. Each one was very supportive of the process and willing to share their experiences as a teacher at Kobe MS. Teacher 2 has been in her role at the school for three years, Teacher 1 and 3 have been at Kobe MS for four years, and Teacher 4 is in their fifth year.

What do you believe to be the most important characteristic of personalized learning?

The intent of this question was to reveal the personalized learning characteristic that was most prevalent inside that teacher's classroom. What part of the model does this particular teacher implement with fidelity?

Kobe MS Teacher 4 describes the most important aspect of personalized learning as, "...the student voice, and choice is super important." Along with voice and choice teachers one,

two, and three believe without student buy-in and connecting learning to interest the model cannot succeed. “Number one is the buy-in. Because if the students are not buying in, then they're not going to do it or they're not going to do it well” (Kobe MS Teacher 1). “Being motivated and driven to do so. Also, students knowing what they want to get out of their learning. I think that's a really big part” (Kobe MS Teacher 2). “Definitely interest level, that is huge. If they're not willing to buy-in, it's not worth any of our time. So, we always find some way to personalize” (Kobe MS Teacher 3). “Number one is the buy-in. Because if the students are not buying in, then they're not going to do it or they're not going to do it well” (Kobe MS Teacher 1).

The teachers universally agreed that students being motivated and interested in this style of learning and what they were doing was the most important aspect of personalized learning. Voice and choice was a key factor in the process to obtain the level of student interest necessary to motivate students and create buy-in.

Do you believe all students can achieve at a high level?

A teacher's belief in their student is one of the highest predictors of student success. John Hattie's (2021) meta-analysis places teacher estimates of achievement third highest, with an effect size of 1.46. Previous research on the topic of ability grouping has discussed the negative impacts variants in teacher belief can have on students in the lower levels (Boaler, et al., 2000).

Getting all students to actually achieve at a high level is hard. All students are capable of it but teacher one believes that it is necessary to change things up for it to be easier. “I mean, given the right tools and like the right direction, I'm sure that all students could learn. I think it's just easier when you do change things up” (Kobe MS Teacher 1).

As the idea of “high level” varies so does the expectations of teachers.

Yes, they can achieve a high level. I don't know if it's like what I expect to be their high level. It's like they can achieve great things here. But like the student this morning who just wanted to draw. It's like, well, is she ever going to be a prolific writer, probably not.
(Kobe MS Teacher 3)

Differentiation of the curriculum and varying levels of expectations appear to be part of the teacher belief system at Kobe MS. Two of the teachers interviewed agreed that all students can achieve at a high level, but then contradict that sentiment with an example of how that really doesn't mean “all” students. Each affirmation of the idea that all students can achieve at a high level is explained with an exception to that idea.

How are classes assigned each year?

This question was asked during all interviews to check for level of understanding between roles at the school. The goal is to determine if the teachers understood the process the same way the administrator understands the process.

The assignment of students to learning communities at Kobe MS might have been primarily random selection while being cognizant of fit and personalities, the grouping that occurred within the community could best be described as ability grouping for the purpose of teacher ease.

...and then the way we did it was we took sixth grade, seventh grade, eighth grade and split each grade into three groups. An A group, B group, and a C group we by default put most of our SPED kids in the B group just so that way because we only have two SPED

teachers so they can be in one place at once and they don't have to pull their selves apart.

(Kobe MS Teacher 1)

I am concerned by the element of stacking one of the groups with all of the special education students in an attempt to make the jobs of teachers easier. This comment leads me to believe that even though placement into the "community" is random, placement into groups at the class level by teachers is more in line with academic ability.

Teacher 3 also describes the difficulty some students had being placed in a multiage classroom structure. "... so eighth graders were really tough to get to buy into just the community feel in general, they hated sixth graders but now we've created this sense of community" (Kobe MS Teacher 3).

Middle school can be a time of social grouping by students as they determine who is "cool" and who is not. For some, age matters as the higher grades start to believe they are mature and the younger grades are not on their level. Creating the right atmosphere and culture is an important aspect to accomplish the goal of multiage groups during this important development stage of adolescence.

How do you know the model is working?

What types of data is each school looking at to evaluate different aspects of their school's programming? Do they analyze state standardized tests? Are other assessments utilized for determining success? Is it observational data collected by teachers?

A lot of the information used to determine success at Kobe MS discussed the use of observational data. "Most of it is on engagement. We do, of course, have to take a grade. But having kids who just come and are willing to learn and are willing to take risks with us" (Kobe

MS Teacher 3). The biggest risk may be no objective data in a system of trial and error. “I think it's honestly just like all trial and error” (Kobe MS Teacher 1). The teachers at Kobe MS also described how the students perceive their experience as being an important indicator of program success. “At this point, we look at our successes, our success rate is based on the students themselves. Some of them, some of it is academic and some of it's not. The success is based on some of the academics but also whether or not they feel as though they have been successful this year” (Kobe MS Teacher 2). “I think by checking in with the kids. I think that's like the main thing if the kids are able to articulate what they like about being in school and, and are excited about what their learning” (Kobe MS Teacher 4).

With such an emphasis on connecting with each student on a personal level to create relationships it is not shocking that the teachers at Kobe MS all attributed success to how the students felt about school. None of the teachers articulated exactly how they obtained objective information regarding student perceptions, but all of them gain the information from their interactions with students.

Teachers 3 and 4 do get into the idea of competencies and differentiating assessments as part of their success measures. “Deeper learning competencies where we're seeing that they're able to stand up and communicate and are able to effectively collaborate with other people in all those ways. You know, competencies” (Kobe MS Teacher 4). “So, we'll assess it that way based on certain criteria, and obviously sixth grade will be graded more leniently than our eighth graders” (Kobe MS Teacher 3).

Competencies and differentiation are expressed by Teacher 3 and 4. Assessing each student is determined by the use of a rubric of competencies in the content areas. Expectations vary based on the grade level of student. With sixth graders being assessed more leniently, I

question if the teachers are just working off of 8th grade standards/ competencies or if their mere age is why they are not as strict with grading the younger students.

Students

The students at Kobe MS were the most talkative of the groups, and I found myself having to pull us back on topic. Twenty-two students participated in one of five focus groups, comprised of five to six students in each group. Students in 6th, 7th, and 8th grade participated in each of the focus groups. Fifteen students identified as white, five students identified as black, and two students identified as Hispanic. Eighteen students identified as female, and four students identified as male. One student self-identified as receiving special education services.

Can you describe what going to school here is like?

Student perception of their learning environment is an important aspect of their overall sense of self while at school. Most of the students at Kobe MS describe their experience at school as fun and that seeing their friends was the biggest part of what made it fun. “I think the school has a pretty welcoming environment, especially in the communities. You get to see your teachers every day and the same students” (Kobe MS Student 1). “The thing about community is like you're all like family in school” (Kobe MS Student 2). However, some students did point out that middle school was hard and that it wasn't always easy to fit in. “Sometimes it's hard on people. Because it's in like middle school it's really judgmental” (Kobe MS Student 17).

How would you define personalized learning?

The students at Kobe MS were not able to answer this question as originally asked. No one in any of the focus groups had heard this term at school before. For the students at Kobe MS, I rephrased the question to reflect their use of the word community and the way learning and

instruction happened within their community. “In community you get to know your teachers very well and they get to know you, which helps your learning, I guess, in a way because they know what learning style helps you learn” (Kobe MS Student 3). “It's different for everyone like we're all in one example is ALEKS we're all at different levels based on how you learn and stuff” (Kobe MS Student 14). “Our community is very good about doing what kids want to learn about. Like they at least do like one or two projects each year about what we want to learn about. (Kobe MS Student 16).

Without knowledge of the term personalized learning, Kobe MS students described their learning environment as one that placed an emphasis on building relationships, the utilization of computer programs to meet the needs of individual students, and some student agency through the use of student selected projects.

Are you aware of how students are placed into specific classes?

This question was also asked of administrators and teachers. I am seeking to understand the level of clarity in the process. What role do students play in determining their placement?

Two students offered an explanation of the process of student placement into the communities, but neither could say for sure what the process was.

I think it's really based off of like how you were in elementary school, or how you're learning? Because a lot of my friends that were different for me, they got into other communities and a lot of my other smarter friends. They got into this community. I think it's just how you acted in elementary school. (Kobe MS Student 1)

I think maybe the district or my family felt like oh, hey, we have these calm demeanor teachers let's put our special ed kid in that. Which I don't really like the term special ed, because then if you're like, I'll add more pressure being different.” (Kobe MS Student 2)

A majority of the students at Kobe MS offered the simple explanation of group placement as not having any direct knowledge as to the process. “No, not really” (Kobe MS Student 5). “No clue” (Kobe MS Student 6). “I do not know how I got in my community” (Kobe MS Student 12). “We don't know how we got here” (Kobe MS Student 14).

I was able to gain the sense from all of the focus groups that students at Kobe MS have no idea how their assignment to their community came to be. Some had ideas, but many of the students expressed they had no idea why they were in any specific community or not a part of the traditional grouping of middle school students at Kobe.

What motivates you to complete schoolwork?

Something has to motivate people do anything. This question searches for differences among students from the four schools involved in the study. Is there a difference in motivation to do well in school across the schools?

The idea of learning about things that matter to them was not discussed by any student in any of the focus groups. Motivation to complete schoolwork was a task rewarded by grades, money, or other incentives. “My grades, definitely my grades” (Kobe MS Student 2). “My grades and having free time when I am done” (Kobe MS Student 3). “We get an incentive on Friday if all of our work is done” (Kobe MS Student 1). “I think, grades motivate me. ...do better and like high school and maybe get a scholarship for college” (Kobe MS Student 8). “Our grandpa, if we get straight A's he will give us like \$100” (Kobe MS Student 7). “Just to get a

good grade on it or just complete it so I don't have to worry about anything” (Kobe MS Student 18). Student 21 describes the fact that emotional state of being really controls the amount of work that is completed. “Honestly, it just depends on my mood. If I am like having a bad day, I don't want to do it. But I'm having like an okay day, I kind of want to, and if I'm having a good day I'll just go to work” (Kobe MS Student 21).

Across all of the focus groups, student after student expressed their motivation to complete schoolwork was linked to grades and external motivators. Outside of grades the motivator to complete schoolwork was just to have it done and not have to worry about it. This sentiment does not express the thoughts of someone that is attached to their learning process. Students that desire deeper learning experiences and have authentic interest in the topic, typically are invested in the process and the obtained knowledge. It may however, speak, to the desire for positive feedback from their teachers. If the only feedback to their work and experience is in the form of grades it could be a form of communicating belief in students and their ability. The negative could be inflated grades due varied levels of expectations by teachers.

What are your thoughts about being in classes with younger or older peers?

Adults may believe that there are benefits to grouping students of different ages, but how do the students feel about this strategy? What is their experience and how does that affect them at school?

Some students at Kobe MS were scared or worried about being in classrooms with younger or older peers. “Older people intimidate me” (Kobe MS Student 17). While others were worried they were not getting access to the appropriate grade level curriculum. “Sometimes I don't like it. Because I feel like we all learn the same thing. Because they're mixed

classes. And every class I have is usually with sixth or eighth graders. And then I just feel like we're learning the same thing as sixth graders. And it's not really helping our learning and getting us anywhere” (Kobe MS Student 1). “If you're learning sixth grade stuff, or you're learning seventh or eighth. How do you know you're learning like the same thing? It could be a sixth-grade lesson and seventh graders could be learning it” (Kobe MS Student 8). One student very directly stated, “I don't like it that much (Kobe MS Student 18).

Students within most of the focus groups spoke about their concern that they were learning the same thing as younger students. Without an understanding of why they were placed in the community, where they are in terms of grade level standards, and a culture that is still developing, students at Kobe MS are left to make their own assumptions about what is happening and who they are as a student.

Even though some students did not like being in classes with multiage peers, some were happy with what the environment provided. “I can always like ask one of them or ask whoever or someone and I have like other choices other than a teacher” (Kobe MS Student 21). “I think you can help other people and you feel like you're doing something good” (Kobe MS Student 20). One student also expressed liking being in the middle of grades. “Being in the middle will be helping the younger ones and getting help from the older ones. You're setting the example and getting the example” (Kobe MS Student 22).

All of the positive perceptions of multiage classrooms came from the same focus group.

What do you think your teachers believe about you as a student?

Teachers can say they believe all students can achieve at a high level, but perception is reality. Does the belief teachers state they have in their students transfer to how each student feels?

Student perception of the belief their teachers had in them varied among the students at Kobe MS. Some students just saw themselves as good, complaint students. “We just get our work done when we are told” (Kobe MS Students 2, 3, 4). “That I’m a hard worker and I care about school” (Kobe MS Student 7).

Other students had a belief that their teachers saw more potential in them than they might have in themselves. “I think that they believe in us and that we can push ourselves more than we actually do” (Kobe MS Student 22). “That they believe that you can do a lot but some students including myself don't push themselves as far as the as they know that they can go but teachers help us get further in life and not always just be in like one spot and right now on that growth and fixed mindset so like we're not just fixated on one thing in life we're learning as we go and they can help us out with that so it's not us working for ourselves” (Kobe MS Student 20).

Student 18 expressed the feeling of support they felt from their teachers. “They help. I feel like they understand a lot more. They understand a lot more than other teachers” (Kobe MS Student 18).

There were also students that believed their teachers saw them in a negative way. “I think I have more of a negative impression on my teachers” (Kobe MS Student 12). “I just have social problems” (Kobe MS Student 17).

Student belief in how their teachers perceive them as learners ranged from positive to negative. The variation within the students involved in the focus groups could be the result of

the differentiation and the waffling that was described by the teachers interviewed in this research. Students having different thoughts about their teachers is nothing new, but it does have an impact on their education and something Kobe MS administration is trying to eliminate from the traditional process of school and the mission of the “community”.

Students at Kobe Middle School also completed the Academic Identity Measure (AIM). Table 6 shows the results of the achievement related questions from the student survey. Students responded to statements on a 1-5 Likert scale ranging from “nothing like me” to “very much like me”. All the statements from the survey can be found in Appendix E and the individual answers from each student at Kobe Middle School can be found in Appendix G. The statements pertaining to achievement are highlighted within Appendix G. The average score for the achievement statements lands closer to “like me” than “not like me.” The highest average, with a score of 4.29, was “A college education is important to me” (Statement 4).

Table 8

Academic Identity Measure-Kobe Middle School

School	Avg.	SD
Kobe Middle School	3.704	1.029

Kobe Middle School has emphasized the importance of students’ wellbeing while eliminating external barriers that could negatively impact their learning. As the program continues to develop it is important to get the right teachers on board with the community philosophy and personalized instruction. Student interest in class activities is seen as the most important aspect of creating a successful personalized learning program. For the moment,

student placement into specific communities is random but there are plans to implement some student/ family choice in the future. Within the community, teachers use their agency to create sections that tend to be grouped by ability. The practice in one community goes as far as putting the majority of students receiving special education services into the same section to accommodate staffing. Students at Kobe Middle School appreciated the family like environment created by each community, but they were not sure why they were chosen for the program. This uncertainty also created concerns from some students that the curriculum was limited or remedial by being in multiage classes.

Chapter 6:

Christensen Academy

The Christensen Academy is considered a K-8 school but the grades are split between two separate buildings a few city blocks apart from each other. For my study, I visited the 6-8 grade building. The building looks like many schools in this area of the country. Long hallways with classrooms on either side fill the building. In some areas it is evident that walls have been removed to create more open spaces. The classrooms vary in size and can accommodate 20-40 students, sitting at tables depending on space. During a literacy class, teachers and students interacted and engaged together in the lesson. Three teachers moved around the room from group to group assisting when needed. One teacher had many 1:1 conversations with students regarding their learning. No bell signaled a change between class periods. When it was time to go to their next class, students and teachers all changed spaces.

At one point in the day all students are engaged in a STEAM project. The students had a choice in what project they did but they were limited to a few set options. During the all-school STEAM time, students and staff are all over the building. Students have freedom of movement and self-selected groups for the project. Some groups appeared to be very engaged and worked the entire time, while others appeared to be disengaged and found ways to fool around.

CALL-PL

At Christensen Academy twenty-two staff members (96%) completed the CALL-PL survey. Overall, Christensen Academy is more developed in the eight key personalized learning practices when compared to the survey's averages. In fact, Christensen Academy scored at the survey average or higher in all eight subdomains assessed by the survey.

Christensen Academy's strengths were in the subdomains of Using Learner Profiles (3.0 rating), Conferring for Learning (2.96 rating), and Designing Learning Spaces (3.31 rating). The key strengths in the area of Using Learner Profiles are classroom assessment data is used to plan learning, examples of student work are used to plan for continued learning, and a student progress dashboard is used to plan learning. Key areas of strength in the Conferring for Learning sub domain are conferring is frequently used as a time for coaching and the development of learning skills, social and emotional health are frequently discussed during conferring, and conferring is frequently used as a form of assessment. The survey also identified students can engage in movement when they choose, students can seek help from any peers or adults as needed, and students can access tools and materials independently as areas of strength within the Designing Learning Spaces subdomain.

Table 9

Christensen Academy's Areas of Strength as Assessed by CALL-PL

Sub Domain	CALL-PL Rating	CALL-PL Average
Using Learner Profiles	3.0	2.53
Conferring for Learning	2.96	2.5
Designing Learning Spaces	3.31	2.96

Note. The CALL-PL Survey uses a four-point scale from system driven (1) to student led (4).

The survey results point to two areas Christensen Academy may want to consider improving upon. Using Competency Based Progressions (2.49 rating) and Designing for Student Choice (2.64 rating) are the two subdomains in which Christensen Academy scored right at the survey average. Key improvement needs identified in Competency Based Progressions are

computer-adaptive assessments are routinely used to help learning, students can choose from a menu of assessments, and students can meet learning standards with out of school activities.

Within Designing for Student Choice Christensen Academy could look to improve on students can frequently choose or design their own learning activities, learning activities invite students to draw on their cultural identities, and students are frequently able to choose the topics of learning.

Administrator

This is the twelfth year at the school for the Christensen Academy administrator. During my time with the administrator, they impressed upon me a need to always be improving the system. If something wasn't great, they were looking to new ways to fix it. Each fit was directly linked to the student(s).

During my interview with the administrator, I attempted to have the administrator talk about the "why" behind the instructional model at Christensen Academy. In this section I will highlight portions of the data that was collected through the use of a semi-structured interview.

What goals do you have for the school?

The purpose of this question was to create a moment of reflection for the administrator and an opportunity for them to articulate their mission/ goals. Each administrator across all schools in the study spoke about goals that aligned with ideas related to personalized learning, but one leader focused more on the students' wellbeing.

After more than a decade after the initial implementation of personalized learning, Christensen Academy is still trying to infuse more student agency into the day-to-day instruction.

...continue to increase student agency voice and choice. ...continue to just let everything here that's a lever to help drive personalized learning continue to foster the transition more to the students, than ever before. ...I think now it's probably a 50/50 split, where students and teachers are sharing that build. I think eventually it will get to 60/40, 70/30, and 80/20. I think 80/20 is a healthy balance where teachers are the 20% and they help facilitate the students learning. (Christensen Academy Administrator)

Not only placing students at the center of learning but allowing the students to be in full control of their learning is the goal at Christensen Academy. How they operate at Christensen Academy is ever changing. If something is working well, they continue to search for ways to make it better or great. Even though this small, successful charter school has existed for many years, the administration and faculty continue to invent new ways to help students own their education.

How would you define personalized learning?

With a multitude of working definitions of personalized learning, this question was asked to inform the researcher of how each administrator viewed personalized learning and gain insight into the base of each participating school's idea of personalized learning. Each school administrator had a slightly different definition of personalized learning, but all of them placed students at the center of their own learning. The administrator at Christensen Academy described it as, "...allow students to determine how they show you what they know. ...get rid of the standardized approach." The elimination of the standardized approach to education was what many people I spoke with at Christensen Academy expressed.

What led you to choose the personalized learning model at this school?

This question is meant to get at the “why” behind the choice to implement personalized learning. The administrator might have been the driving force, a supportive influence, or following a directive from a superior administrator.

Christensen Academy made a big shift after an attempt to move to an online method of instructional delivery failed to move the students forward in a way that was envisioned.

I didn't stop to take pause and talk to the owners of the learning. The biggest part of that whole process is to step back and ask your clients, customers are your students. That was one of the biggest lessons I had to learn the hard way.

Including students in the process and having real discussions with them has become a key aspect of changes that are now made at Christensen Academy. Being included in the decision making process is another way students have been given agency at the school.

How are students grouped into classes?

Each administrator was asked this very direct question about how students are grouped into classes or learning cohorts at the larger level.

Math and music emerge as two areas that may be grouped more so on readiness when evaluated by the common core state standards and previous learning.

...yeah it's different based on each content. I say math and music are probably the closest group of ages together. Historically what they've gone through in learning from being in 4th grade, 5th grade, 6th grade math they've been so close based on common core. Those

are the only two courses that quite honestly that are truly somewhat centered around age based on readiness. (Christensen Academy Administrator)

The concept of readiness becomes attached to math courses, which have historically been tracked in education and assumed to be a linear process that cannot skip steps. The thought that students are closely grouped with same aged peers as a result of previous math instruction tied to common core state standards suggests that students at Christensen Academy are also performing on grade level or above.

Outside of math and music students at Christensen Academy are offered a variety of elective and core classes and placed into a schedule according to fit. This is their attempt at not suffering from the pitfall of tracking.

The rest of our classes there's no born-on date, it's all heterogenous, really all our electives are choice. You could be sitting next to an eighth grader and not know it. ...we went from graded grade level based to proficiency based. ...now that was like figure out who was in what group and then like logically you think well, we want to put these kids together based on where they are at, so then this is tracking, you might as well leave them in grades. And so we said lets just put them where they fit as far as their schedule is concerned. But then also keeping an eye on the personalities you have, what the fit is, what the spaces are like, what the flow of the literacy classes are like too. (Christensen Academy Administrator)

Math is the only course of study that appears to follow the ability grouping process. The administrator speaks to the idea of tracking and how they are staying away from it by utilizing

fit, space, and personalities to determine group/ class placement. The idea being expressed sounds like the high school model of scheduling based on student requests and course sequence.

Teachers

The teachers at Christensen Academy were very happy to share their story with me. There was a sense of pride in the work they were doing as a school and more importantly as a team, including their students. Creating an environment of student ownership in their learning was important to each teacher. All of the participating teachers had served in their current role at the school for nearly a decade. Teacher 1 was in year eight, Teacher 2 has been at Christensen Academy since the doors opened (twelve years), and Teacher 3 has been there for nine years.

What do you believe to be the most important characteristic of personalized learning?

The intent of this question was to reveal the personalized learning characteristic that was most prevalent inside that teacher's classroom. What part of the model does this particular teacher implement with fidelity?

Each teacher at Christensen Academy stressed the importance of very different characteristics of personalized learning. "You have to figure out are they going to be excited because they're challenged and grouped with like-minded peers, or are they getting excited about learning because of interests?" (Christensen Academy Teacher 1). "Flexibility, it absolutely is so critical that you're willing to like, it doesn't have to be done a certain way" (Christensen Academy Teacher 2). "Community. So there's a community relationship and trust that is needed" (Christensen Academy Teacher 3).

Teachers at Christensen Academy outlined three different influential factors in the success of their personalized learning model. The first is navigating the needs-based vs. interest-

based approach. Teacher 1 discussed a process of figuring out which approach would work best for students in her classroom at Christensen Academy. The second characteristic was that there needed to be flexibility. This is an attempt to fight the urge of being traditional. The flexibility allows for student and teacher agency in the day-to-day instruction. The last key to success was to create a culture that focused on the development of relationships and a sense of community.

Do you believe all students can achieve at a high level?

A teacher's belief in their student is one of the highest predictors of student success. John Hattie's (2021) meta-analysis places teacher estimates of achievement third highest, with an effect size of 1.46. Previous research on the topic of ability grouping has discussed the negative impacts, variants in teacher belief, can have on students in the lower levels (Boaler, et al., 2000).

Each teacher at Christensen Academy believed high level learning was attainable with the right supports in place. "I think with the right supports they can find success...yah" (Christensen Academy Teacher 3). The support system the teachers felt is vital to the high-level success of their students is also built into the school's daily schedule.

Yeah, some of them need a little more motivation than others. There are some that, you know, they need more supports in place than other students. So, it's nice to have a teacher having that connection, flex time within our building. Because if I had to meet with them outside of school, due to their schedule and my schedule, there's no way many of these kids would be able to stay after for extra help. So having that built right into the school day, four and a half hours every week is a nice chunk of time to be able to get a little more one on one. (Christensen Academy Teacher 1)

With the systems in place to support each student teachers continually push each student to their next level academic success.

As you know, there are so many kids in this building that are not getting the ten services that they need. But I really am confident in the staff because they just try to pull everybody up. They're meeting them where they are. It's nice to start there as far as that expectation. But it just keeps rising as soon as they get anything they're pulling that bar up. More writing to get more reading. But again, there's just so much flexibility. So I think that for sure, it is a universal thing that that bar keeps getting raised. (Christensen Academy Teacher 2)

At Christensen Academy, the students are always being pushed to reach the next level or the next standard. Regardless of academic level or ability to create new knowledge, the teachers work hard to make sure growth is continually happening for each and every student. Flexibility and dedicated time in the day for intervention appear to be critical for the model's success.

How are classes assigned each year?

This question was asked during all interviews to check for level of understanding between roles at the school. The goal is to determine if the teachers understood the process the same way the administrator understands the process.

For a school trying to eliminate a standardized system of education, math seems to still fall into traditional ideals. The one difference is that students can work through the material at a faster pace and be moved into a different class mid-year. The system of grouping and pacing for math courses at Christensen Academy is very much a needs-based model of personalized learning. Test scores and proficiency determine the speed of the track students are on.

And then, as far as math goes, I do have the high school level math class. So it's based on proficiencies, from the year before, as well as MAP score. We also look at how far they got and completing their ALEKS pie. The sixth graders coming in from other buildings, we focus primarily on MAP score, because we don't have much other data to pull from at that stage of the game. So we're pretty, we're pretty fluid team in terms of okay, they've mastered everything here. We're gonna transition them over to the next class.

(Christensen Academy Teacher 1)

... so they're recommended for an accelerated track. There's 6A and 7A. The 6 grade accelerated those are the kids they all stick together the 6A and 7A and you branch off and those kids not recommended for accelerated those become the regular 6th grade math class. And those kids typically stay within 7th grade math unless they are recommended to test out but then can do the work over the summer. (Christensen Academy Teacher 3)

As described by the administrator and Teacher 1, with the exception of math, students are grouped into classes based on a combination of interest and random placement.

So, every trimester, we put out a new Google form with the offerings that each teacher kind of has generated and created theme projects around, and students will vote and we try to get them into their first choice. So, every trimester, those are regrouped.

(Christensen Academy Teacher 1)

This part of the process is in line with the free-flow idea of allowing student interest to drive placement into groups and classes. The request like feature of the Google form is again similar to the process at the traditional high school. Later, I will discuss the findings obtained

from student focus group interviews that further outlines the process and the aspect of prerequisites in order to select certain courses.

How do you know the model is working?

What types of data is each school looking at to evaluate different aspects of their school's programming? Do they analyze state standardized tests? Are other assessments utilized for determining success? Is it observational data collected by teachers?

Data collection in the form of observation is the process used to determine success utilized by teacher 3.

...engagement with the kids, how much are they owning their process? And their willingness for feedback. When you walk in, you see the buzz. You see the independence or like the co teaching. How it's working? This is a complex question because there's so many ways to answer it. Independent learners, amount of communication, collaboration, the buzz that you're seeing, the willingness to move forward, and the acceptance kids who know that they're a little bit behind but are not afraid. (Christensen Academy Teacher 3)

The evaluation of the model's success in the eyes of Teacher 3 is through individual observation data. No mention of data-driven decision making, MAPS scores, or proficiencies was presented in the answer to this question. The use of these assessments was mentioned by others interviewed at Christensen Academy.

Teacher 1 does explain their use of assessment data in determining success and when intervention is needed for students. "I mean, we look at the data too. MAP data is definitely those are definitely numbers we look at to see progression throughout the year. And that's how we

determine interventions” (Christensen Academy Teacher 1). This statement was made in accordance with math courses at Christensen Academy.

Students

I truly enjoyed my time talking with the students of Christensen Academy. Each one was articulate and able to express their thoughts about personalized learning at the school. Through are discussion I am able to conclude that all four were high achieving students and were working beyond the standards of their academic age. Two students identified as white females, and two students identified as white males.

Can you describe what going to school here is like?

Student perception of their learning environment is an important aspect of their overall sense of self while at school. Students at Christensen Academy really appreciated the opportunities the school provided them. “I like that this school has definitely provided me with a lot of opportunities that I would not have had if I were to go to a different school” (Christensen Academy Student 4). “I think the school does a good job of if you're like more advanced, they have a good like range of like classes. But I know like at (another school in the district) they don't have that like range of classes” (Christensen Academy Student 2).

How would you define personalized learning?

Being able to work at your own pace was part of every students’ definition of personalized learning. “Being able to work at your own pace” (Christensen Academy Student 1). “Being able to work at your own pace, doing the things that you need to do and not necessarily your age group. You just learn your content at your own pace and that type of curriculum” (Christensen Academy Student 3). The thought of being advanced and the ability to move faster

through the curriculum was of major importance to the four students interviewed at Christensen Academy. The students in the focus group exuded pride that they were all working on high school level material while in middle school and friends at other schools in the same district did not have that opportunity in the same way they did.

Are you aware of how students are placed into specific classes?

This question was also asked of administrators and teachers. I am seeking to understand the level of clarity in the process. What role do students play in determining their placement?

Each student at Christensen Academy made statements about being placed in class based on teacher recommendation, previous course work, and normed assessments. “They generally take it off your MAPS test and your test scores” (Christensen Academy Student 1). “Yeah, same general thing for me. I've been in the advanced stuff in elementary and kind of just translated on” (Christensen Academy Student 3). “The only thing I know is that my fifth-grade teacher recommended me for like the eighth-grade math class, because of how I did I guess, in fifth grade. And then once I was placed in the eighth-grade class, I passed that, I got into the algebra class, passed that and I'm a geometry” (Christensen Academy Student 2).

Student 4 brings in the thought that other classes outside of math are also available to those students that are deemed ready by normed assessments.

For example, like for biology, they take your reading MAP scores and they like, you do a test. And you get, you can get recommendations from teachers who say like you know, hey, this person is doing pretty good in my class. I kind of think they excel in like, a higher-level class or they would do well in a higher-level class. (Christensen Academy Student 4)

None of the students at Christensen Academy mentioned being able to select classes that are of interest to them. Each response focused on MAPS scores or teacher recommendations and ability level placement. Even for a science class like biology, the student highlighted needing both a test score and/ or teacher recommendation to enroll in the course.

What motivates you to complete schoolwork?

Something has to motivate people do anything. This question searches for differences among students from the four schools involved in the study. Is there a difference in motivation to do well in school across the schools?

Obtaining the requisite courses and advanced courses necessary to stand out when applying to elite level universities is a motivator for Student 2 and 3 to do good in school.

I personally, I want to get into (the state university). And that's like my biggest motivation ever. Like I really want to get (the state university) so I'm like, pushing myself to like do all these advanced courses. So in high school, I can take I can have like a really big like class like rigorous course load. (Christensen Academy Student 2)

Do well in school and get to college, I haven't decided where yet. But I want to do that and having the flex and connect time, which is the study hall, to work on that stuff definitely helps so I have to put less time aside at home. I know it enables me to do that work, that motivates me. (Christensen Academy Student 3)

Student 4 adds the idea of generally liking school to the idea of wanting to continue their education at the college level.

I personally enjoy school. And I would like to get a career in the field of business and engineering or like entrepreneurship. So, I'd like to go to college I don't really know where yet and get like degrees in business, entrepreneurship and engineering.

(Christensen Academy Student 4)

Students participating in the study from Christensen Academy all expressed an interest to go to college. This was the main motivator for them to complete schoolwork and do well. Student 2 also appears to be motivated by moving through the curriculum at a fast pace in order to meet rigorous entrance requirements for the state university. Student 4 expressed a general appreciation for school and mentioned personal expectations for going to college as the current driving force in their education.

What are your thoughts about being in classes with younger or older peers?

Adults may believe that there are benefits to grouping students of different ages, but how do the students feel about this strategy? What is their experience and how does that affect them at school?

Even if math is the only course grouped by ability the students at Christensen Academy are well aware of the difference between students. "I didn't like how they like they made it blatantly obvious that they were smarter than the other people" (Christensen Academy Student 1). Student 4 even draws from their experience in Christensen Academy's elementary school.

Well, I mean, in elementary school, at least my elementary school anyway, we had like the advanced group in certain classes, and we had like the normal group. So that was kind of like, you know, like, oh, hey, we got these more advanced kids that are and then there's the Gifted and Talented program as well, too. Yeah, but here there's like, you're just like

everyone who said, obviously, you're grouped with who is like at your level so you can kind of work with them and collaborate with them to so you guys can understand each other and help each other grow further, which is very helpful for me. (Christensen Academy Student 4)

The students at Christensen Academy are well aware of the ability levels of each student based on what classes they are in. Student 4 was enrolled at the feeder school to Christensen Academy that also utilizes the personalized model of learning with similar approaches to instruction. Student 4 also infers that being grouped with other students of the same ability afforded them the benefit of better collaboration and the ability to obtain greater academic growth. No student addressed the age difference, but each student addressed the aspect of ability differences.

What do you think your teachers believe about you as a student?

Teachers can say they believe all students can achieve at a high level, but perception is reality. Does the belief teachers state they have in their students transfer to how each student feels?

The students at Christensen Academy associated teacher belief in them as a student with the consistency of work completion.

I could get the work done, I always have missing assignment in science, always. And I have yet to have a unit I don't have any missing work in. Okay, so if I have a class then I don't get the thing done. I'm like, I don't want to do this and I don't go back to it until like last two days before the test. (Christensen Academy Student 1)

So, I'm kind of the same way I'd say I'm not super like motivated to do each individual assignment. I'm motivated to do the class and stuff but doing those assignments is like procrastinate and never do it. If I'm interested in something, then I'll definitely get it done like right away. But if I'm not completely interested, then it'll definitely take me a while. (Christensen Academy Student 3)

Although the question was about how they thought their teachers perceived them as students, the answers described personal work habits. Both Student 1 and 3 talked about how important motivation was in determining if they completed the schoolwork or not. Both students appeared to be giving a self-reflection as neither mentioned the idea of “this is what the teacher thinks of me”.

Students at Christensen Academy also completed the Academic Identity Measure (AIM). Table 7 shows the results of the achievement related questions from the student survey. Students responded to statements on a 1-5 Likert scale ranging from “nothing like me” to “very much like me”. All of the statements from the survey can be found in Appendix E and the individual answers from each student at Christensen Academy can be found in Appendix H. The statements pertaining to achievement are highlighted within Appendix H. The average score for the achievement statements lands closer to “like me” than “not like me.” The largest average, with a score of 4.25, was “When I do poorly on a test, I think of what I did wrong and try to solve the problem” (Statement 25).

Table 10

Academic Identity Measure-Christensen Academy

School	Avg.	SD
Christensen Academy	3.6	1.060

Christensen Academy is in a constant state of innovation and seeking new ways to do what they do better. It is their goal to create a system of learning where the student is in control of eighty percent and the teacher has control of twenty percent. Teachers at the school stress the need to challenge each student while remaining flexible to their needs. Math courses at the school are assigned by readiness but pacing is very much up to the individual student. The small group of students I met with each enjoyed the ability to move faster than the normal scope and sequence of the course. Students also highlighted the use of MAP scores and teacher recommendations as the gateway for certain courses at the school. Although standardized and normed assessments are utilized for student placement, teachers did not believe these assessments determined program success.

Chapter 7:

Mountain Valley Middle School

It was evident upon entering that Mountain Valley Middle School had been recently built or renovated. From the walls to the furniture, everything seemed very new. Any student, parent, or staff member that comes into Mountain Valley should feel a sense of pride in the appearance of their school. The space I observed was a large open room broken into smaller sections with the placement of a breakout room and changes in elevation defining the areas. The large space was also bordered by more traditional classrooms.

Students moved from space to space when needed without the signal of bells or loudspeaker announcements. Most students appeared to be actively engaged in their work without direction of teachers. The noise level was low and did not feel distracting to students or teachers. It was my impression that students knew the expectations and wanted to meet the expectations of their teachers and peers.

CALL-PL

At Mountain Valley twelve staff members (100%) completed the CALL-PL survey. Overall, Mountain Valley only scored higher than the survey average in three of the eight subdomains assessed by the survey. Mountain Valley's strengths were in the subdomains of Grouping for Student Needs and Interest (2.92 rating), Conferring for Learning (2.72 rating), and Using Learner Profiles (2.69 rating). The key strengths in the area of Grouping for Student Needs and Interest are using customized learning plans reduces special education pullouts and interventions, students are frequently grouped by interest, and students are frequently grouped to support social learning. Key areas of strength in the Conferring for Learning sub domain are students often lead conferring sessions, conferring is scheduled and occurs regularly, and student

learning needs are frequently discussed during conferring. The survey also identified school-wide assessment data is used to plan learning, classroom assessment data is used to plan learning, and teachers use learner profiles to plan for learning as areas of strength within the Designing Learning Spaces subdomain.

Table 11

Mountain Valley's Areas of Strength as Assessed by CALL-PL

Sub Domain	CALL_PL Rating	CALL-PL Average
Grouping for Student Needs & Interest	2.92	2.79
Conferring for Learning	2.72	2.5
Using Learner Profiles	2.69	2.53

Note. The CALL-PL Survey uses a four-point scale from system driven (1) to student led (4).

In the five subdomains that Mountain Valley scored lower than the survey average a few were highlighted as areas for improvement. Using Digital Tools and Media for Learning, Using Authentic Assessment, and Designing for Student Choice are suggested as areas Mountain Valley could look to improve as they continue to develop their personalized model of learning. In each one of these areas the school had the largest gap between their rating and the CALL-PL average rating.

Administrator

The administrator at Mountain Valley Middle School is in their ninth year at the school and was part of the creation and implementation of the multiage, personalized program that I

observed. Education was a second career for the administrator after spending seventeen years working with computer systems in the field of business.

During my interview with the administrator, I attempted to have the administrator talk about the “why” behind the instructional model at Mountain Valley Middle School. In this section I will highlight portions of the data that was collected through the use of a semi-structured interview.

What goals do you have for the school?

The purpose of this question was to create a moment of reflection for the administrator and an opportunity for them to articulate their mission/ goals. Each administrator across all schools in the study spoke about goals that aligned with ideas related to personalized learning, but one leader focused more on the students’ wellbeing.

Similar to each of the other three schools, the Mountain Valley MS leader talked about their hopes to create an environment that increases student agency and increases their opportunities to own their educational experiences.

...So really, student agency and independence is another way to say it, and we're looking to provide opportunities for our students to engage and practice that and be a part of that.

(Mountain Valley MS Administrator)

Along with student agency the leader at Mountain View talked about how educators are trying to provide quality feedback to receive and to provide the flexibility for students to demonstrate competency.

One is an emphasis on a competency-based structure for academic feedback. ...So it's like a cognitive skills rubric that goes from grade four through grade twelve. So you could say, alright, I can identify the theme of a literature piece, or I can close read, or I can do a presentation or I know what a good resource is, there's 30 some skills. And part of what we're working on in our core subject areas, is trying to get to a consolidated set of skills, that a student would get feedback on across core subjects. (Mountain Valley MS Admin)

Mountain Valley has recently created a system that outlines competencies across core classes. Students could demonstrate proficiency in one class and have it universally accepted in all classes. Having a faculty that communicates well and has all bought into the idea is critical for success of this initiative.

In the math department, our feedback, our, our utilization of this structure is more about the math practices. Because math is so content heavy, we didn't do anything more broad than that. (Mountain Valley MS Administrator)

Math continues to be isolated from the characteristics trying to be implemented in other core areas. There was an opportunity to connect math and science, math and technology, math and shop classes, etc.

How would you define personalized learning?

With a multitude of working definitions of personalized learning, this question was asked to inform the researcher of how each administrator viewed personalized learning and gain insight into the base of each participating school's idea of personalized learning. Each school administrator had a slightly different definition of personalized learning, but all of them placed

students at the center of their own learning. The Mountain Valley MS administrator simply stated, "...meeting each student's academic and learning needs---student agency." This definition leans to a system of needs-based personalized learning vs. interest-based.

What led you to choose the personalized learning model at this school?

This question is meant to get at the "why" behind the choice to implement personalized learning. The administrator might have been the driving force, a supportive influence, or following a directive from a superior administrator.

A multiage, mixed ability, interest-based model worked at the high school level in Mountain Valley, so the system was replicated at the middle school level.

...Freshmen and sophomores are in classes all the time. That's not a big deal. And we felt like the notion that students who had differing abilities can be served in the same place, just because they're different ages doesn't matter. Also, in terms of physical space and staffing, it wasn't like we wanted to create three houses that did the same thing or have like a sixth grade separate than a seventh grade, I mean, that would have been kind of silly. And probably end up creating a bunch of little lighthouse classrooms, and not necessarily anything that has much scale or influence. (Mountain Valley MS Administrator)

At the heart of the implementation of a multiage, personalized model of learning at the middle school level was the success the district was having with charter high schools focused on career interest paths. The creation of this program was an attempt to offer students and families something different than the traditional model of school. It gave students another option and one

that gave them opportunities to explore their interest and be pushed by giving them agency over their learning.

How are students grouped into classes?

Each administrator was asked this very direct question about how students are grouped into classes or learning cohorts at the larger level.

The Mountain Valley MS administrator first explained the assignment of classes as, “completely random with the exception of like, well, those two kids had some serious conflict in fourth grade. So, separate them, that kind of stuff, of course” (Mountain Valley MS Administrator).

Here the administrator explains that the process is completely random, but later goes into more detail about how random isn't really a true explanation of how students are grouped or assigned.

But um, but we don't have any tracking within a house structure. Now, I will share with you and you could go watch this on our school board meeting. So it's public knowledge. But like we've effectively created a tracking system because within the more traditional house, the overall achievement levels walking in the door is lower than the second house, and is also lower than the third house. So what we basically did was took their average MAP percentile, so that average MAP percentile in the third house is in the 70s. In the second house, it's in the mid-60s. And in the first house it's in the high 50s, low 60s. So there definitely differences and the teachers notice it and complain about it too. Like we got all the dumb kids. I mean, they don't say it that bluntly. But yeah, it has been happening consistently, like we can see it in the data. (Mountain Valley MS Admin)

What is missing from this quote is the fact that this ability grouping has actually occurred at the hands of parents. The school's part in the system is allowing parents to select which one of three houses students are assigned to when they enter middle school. Over time, each house has gained a reputation as to what type of kid is part of which house. Now Mountain Valley MS can see the results of this selection process in their data. The house that has implemented the multiage, personalized learning model is the one that welcomes the top students each year and is now performing better than the other two houses in the larger middle school.

Teachers

There were not many teacher volunteers to be interviewed at Mountain Valley. I was able to schedule interviews with two teachers and a teacher coach at the school. The teachers were very proud of the system they had created and the tools that they had recently implemented to support the goals they had established.

What do you believe to be the most important characteristic of personalized learning?

The intent of this question was to reveal the personalized learning characteristic that was most prevalent inside that teacher's classroom. What part of the model does this particular teacher implement with fidelity?

Teachers at Mountain Valley MS discussed the importance of placing students at the center of their learning through a system that valued their experience and needs.

I would say one of the things that really opens up the door is asking learners for feedback on their experience and having learner feedback drive what we do from a standpoint instructionally. ...and the choice that we offer and hope that we get to that point where

they're not only engaged in our classrooms but kind of empowered and see the impact of their voice through our teaching. (Mountain Valley Teacher 2)

I think it's really the kid, like really knowing the kid, like the whole child. Because once you know, more of that core aspect of who the kid is, then you can better meet their needs. So every year we try to change what it is we need to do and how we respond in this space based on the learners in front of us. It's really looking at, you know, the children in front of us and what their basic general needs are, and then kind of building off of that. (Mountain Valley Teacher 1)

The first quote expresses the idea of student agency and communication with the student to determine the direction of instruction. The second quote places more agency with the teacher and keeping to a more traditional sense of learning and instruction being on the teacher. With this level of teacher control in the classroom, differentiation is more likely to occur and not the student directed personalized learning the school is trying to implement. The variation between teachers is demonstration of the difficulty some teachers have in giving up their control.

Do you believe all students can achieve at a high level?

A teacher's belief in their student is one of the highest predictors of student success. John Hattie's (2021) meta-analysis places teacher estimates of achievement third highest, with an effect size of 1.46. Previous research on the topic of ability grouping has discussed the negative impacts variants in teacher belief can have on students in the lower levels (Boaler, et al., 2000).

Teachers at Mountain Valley MS considered a high level of achievement as being at grade level or above.

Absolutely. ...however, for one student it might be achieving at a sixth-grade level and a high level for another can be achieving at a high school level. ... I think that it depends on the kid. (Mountain Valley Teacher 3)

I sensed that teachers wanted to maintain control of student pacing as they moved on to higher levels of learning. It is through their assessments that students are able to move forward and advance through the curriculum or attend different seminars.

Definitely. Definitely. I definitely do. I definitely believe it. I think, you know, for some kids, it's trickier. These days, I don't know, there's lots of different dynamics that come into play with that. One of the things though, that, that I was talking to my colleagues about when you were coming, and like you have to talk about the entitlements. We have some eighth graders this year that 'I know everything, I'll tell you what I'm doing, because this is personalized.' And you know, 'I don't need to be in your seminar because I already know how to do this, like that part of it, that entitlement part of it.' (Mountain Valley Teacher 1)

Both teachers agreed that all students can achieve at high level, but both also offered exceptions. I was confused by Teacher 1 stating that there is a belief that some students have a sense of entitlement. With a focus on creating a personalized environment and school goals to give students more opportunities and agency in their learning, this comment seems disconnected with the mission. The comment also highlights the necessity for communication and conferring between teachers and students in determining when the student has demonstrated proficiency.

How are classes assigned each year?

This question was asked during all interviews to check for level of understanding between roles at the school. The goal is to determine if the teachers understood the process the same way the administrator understands the process.

Teacher 1 explains their process of selecting students that meet the readiness for an advanced literacy course but also expresses that this type of selection process is not something they like to do. Teacher 1 goes on to state that the benefits of courses that incorporate a multiage component give students a perspective of other ways of thinking during class.

...we have a lot of really high performing kids in literacy. So, I look at your data and depend on the type of learner that they are. And I offered an advanced literacy class. So those kids were chosen for that class, so we can do some of that. Typically, we don't like to. The beauty of this is like having that multiage, because it's really one of the benefits, I think is, you know, even if you have both high performing eighth graders, same class with a sixth graders, when kids are practicing the formative work or having discussions about the work. I think our other kids really benefit from seeing the perspective of how an eighth grader thinks, and the work that they show, I think just naturally kind of helps those kind of learners. (Mountain Valley Teacher 1)

The second teacher at Mountain Valley MS first highlights the fact that parents have opted into this model of education. They then go on to discuss how teachers create the calendar of instructional seminars students can sign up to attend. This is how they believe they are creating an environment of student choice.

...parents have opted into participating and then from there as teachers create a calendar schedule or outline of the year in the chunk of time that they're going to provide for seminars. But in an ideal situation, the teacher proposes the seminar, hopefully, after they've gotten student voice about where the interest lies and what the kids want to work on. And then the students will enroll in their seminars that they want to participate in. (Mountain Valley Teacher 2)

Allowing for multiage and students of different ability levels to be in classes together gives students the benefits of different perspectives with the content. Older students can serve as examples and students that need to witness different styles to support their own growth are able to work together. Teacher agency once again appears to be a bigger focus than student agency. Student voice and interest that Teacher 2 is speaking about is not so much in terms of topic but in what standards are being covered during that time so they can check them off their list for the year. Everything still revolves around the rubric of standards and competencies that the administrator discussed. Essentially, every student has to get everything accomplished (checked off) by the end of the year.

Teacher 3 from Mountain Valley shares a different perspective of how students are assigned to classes. "I get all the students. I randomly get assigned to classes based on math or when they might need another class" (Mountain Valley Teacher 3). Teacher 3 presents the fact that their social studies classes are assigned to her after students have been placed into a math class. They also point out that their sections are random and revolve around when a student has math, further suggesting that math placement is not random and based on some other factor.

How do you know the model is working?

What types of data is each school looking at to evaluate different aspects of their school's programming? Do they analyze state standardized tests? Are other assessments utilized for determining success? Is it observational data collected by teachers?

Mountain Valley MS values the role feedback plays in their instructional model. In this case the teachers value the input students give them through formal surveys and informal conversations. "Through the kids really. I mean, we get, we get a lot of feedback from our kids, whether it's through surveys or informal discussions" (Mountain Valley Teacher 1). "The kids can speak to really truly what's going on what they're learning, as well as what they're most interested in, and they feel empowered. They're also not afraid to provide any feedback to their teachers throughout their experience, so you'll often see them even when not asked for feedback they'll be providing teachers feedback of things they want to change" (Mountain Valley Teacher 2).

Students being empowered and not afraid to provide teachers feedback about their experience is being highlighted by teachers as proof of success. These same successes could also be interpreted by some of the teachers as students acting entitled.

Students

At Mountain Valley I conducted three focus groups with 5-6 students in each group. Students were in 6th-8th grade and had been in the Mountain Valley School District for their entire academic career. Fifteen students identified as white, one student identified as Hispanic, and one student identified as Asian. Of the Seventeen total students fourteen identified as females and three identified as male.

Can you describe what going to school here is like?

Student perception of their learning environment is an important aspect of their overall sense of self while at school. The open concept of the space and personalized experience left one student comparing it a Montessori school. “I grew up in a Montessori environment. It is a lot like that but it’s a lot stricter, it has more structure” (Mountain Valley MS Student 2). Another student sounded a little annoyed with the improvement process Mountain Valley educators have been doing in an attempt to create a better system of personalization. “It has never stayed the same in all the years that I’ve been here. Schedules are constantly changing and like it’s all over the place and sometimes okay, what’s going on here? But I do like that are trying to like, get it so that it works for different people” (Mountain Valley MS Student 3). Most of the sentiment from the students interviewed can be summed up in the words from Student 8, “I feel like every day I wake up it’s exciting for me to go to school.”

How would you define personalized learning?

Students at Mountain Valley MS defined personalized learning in a few different ways. Some students described it as owning their learning without the freedom to do whatever they wanted. “It’s when you’re in charge of your own learning” (Mountain Valley MS Student 5). “You’re not able to do whatever you want, but you’re able to do what works for you” (Mountain Valley MS Student 2). Another student spoke about the ability to move faster than your classmates or to meet baseline expectations of the teacher. “You can choose to go ahead, or you can choose to stay at what the teachers expect” (Mountain Valley MS Student 14). One student thought there would be more self-directed learning at Mountain Valley MS, but found there to be more teacher led instruction. “I didn’t think there was really any teacher lessons, but there’s a lot of like, you learn a lot by that more than like, more teaching than like self-directed, but you still

get an opportunity for self-directed learning, which I like” (Mountain Valley MS Student 10). Still many students at Mountain Valley MS saw personalized learning as a number of standards they had demonstrate proficiency in before the end of the year. The personalized aspect was their choice as to when and how they demonstrated the standards. “I’m happy that there’s at least some sort of personalized and that you can choose to hit this target line, and kind of how you want to hit it” (Mountain Valley MS Student 9). “We can choose the target to hit. Like in social studies, we had a couple of targets have been offered like five or six times. And you can choose when you want to hit them” (Mountain Valley MS Student 11). “You have a certain amount of things you have to learn in the year, and we get certain amount of chances to hit those things and you get to choose which one you want do when as long as you get them done” (Mountain Valley MS Student 16).

During my time with the students at Mountain Valley MS I gained the sense that the design of the physical space created a feeling of comfort and freedom students in other houses did not experience, but that instruction started with a baseline expectation of standards each student needed to meet or they were forced to give up interest-based learning opportunities.

Are you aware of how students are placed into specific classes?

This question was also asked of administrators and teachers. I am seeking to understand the level of clarity in the process. What role do students play in determining their placement?

The students at Mountain Valley understand that their math class takes precedence and determines the rest of their schedule. “It really does depend on your math. Usually, it’s just random after you get your math set in place” (Mountain Valley Student 7). After that they feel like they have some choice but understand everything has to be done by the end of the year no

matter the order they choose. “Yeah, we all have to take all of the classes by the end of the year like there's like three different literacy courses, but you pick when you want to take them and like competencies” (Mountain Valley Student 2).

Student agency is more about when students do things and not what they are doing. Math continues to be the driver and grouped by current level of ability through the math track.

What motivates you to complete schoolwork?

Something has to motivate people do anything. This question searches for differences among students from the four schools involved in the study. Is there a difference in motivation to do well in school across the schools?

Task accomplishment and the reward of being able to do things of interest when their assigned work is done is what drives students at Mountain Valley MS to complete their schoolwork.

Friday is a fun day if we get all of our work done by like five o'clock on Thursday. So, if you don't get all of your schoolwork done you have to go into the lab to finish it. So, I think that kind of what motivates me to get it done. (Mountain Valley Student 2)

Getting things off my to do list. ...it'll show all of the tasks you need to do and a lot of times there's a lot of them and I just hate seeing all the things I have to do and honestly, it's like that feeling of just getting stuff done. (Mountain Valley Student 7)

Deeper learning and engagement in what they are studying does not appear to be part of what motivates students at Mountain Valley. Just getting things done and not having to go to the lab on Friday motivated some students. While other students were motivated by being able to go

to or host student led seminars that occurred during these times on Friday. Student 3 described it as, “Yeah, it's basically a workday and students can run their own seminars if they have all their work done like they can teach their own little classes.”

What are your thoughts about being in classes with younger or older peers?

Adults may believe that there are benefits to grouping students of different ages, but how do the students feel about this strategy? What is their experience and how does that affect them at school?

All of the students perceived the usage of a multiage grouping system as a positive aspect of their Mountain Valley MS experience. “I don't really mind, but I think it's nice that you know, when I was in sixth grade you know, it was nice having like an eighth grader or a seventh grader be like, Hey, you want help with this” (Mountain Valley Student 2). Older students thought they might be reviewing things but getting to discuss it with differently aged students presented the information in a new way. “Like, I'm relearning everything, but also learning things in different ways, which is also helping” (Mountain Valley Student 3). While the younger students believed they were able to access information they might not have been able to do if they were in classes with same aged peers. “I don't mind it. ... it's like we're learning eighth grade curriculum” (Mountain Valley Student 14).

Feelings differed from student to student, but all were fairly positive of the experience the multiage environment gave them. Some side conversation during this question was that students in this house were treated differently by the students in the other two houses in the larger school building. Students expressed those students not in their house referred to their house as the one

for smart kids and LGBTQ kids. I also sensed that these students felt protected by being in this house and a possible reason for selecting it for their assignment.

There is not a lot of bullying in Mountain Valley like when I was in elementary school, I was bullied a lot but when I got to middle school and chose Mountain Valley I wasn't bullied as much as I used to be. But in other schools people have been bullied more. I think it's because Mountain Valley is more of a supportive place and a lot of people that have been bullied have gone here. (Mountain Valley Student 9)

Student 9 was not worried about being in class with differently aged peers, but instead appreciated the respectful environment that allowed them to feel safe at school and free from bullies.

What do you think your teachers believe about you as a student?

Teachers can say they believe all students can achieve at a high level, but perception is reality. Does the belief teachers state they have in their students transfer to how each student feels?

Many of the feelings students at Mountain Valley MS expressed related to their ability to perform the tasks assigned to them by their teachers. "I feel like this is all teachers say, 'I'm not hitting enough competencies'" (Mountain Valley Student 4). The inability to complete the tasks left students feeling inadequate. "They might say that I have a hard time like learning and like focusing on things" (Mountain Valley Student 1). "I think that teachers think that about me, too, that I put in a lot of effort, but sometimes I can be lazy" (Mountain Valley Student 3). One student actually felt unseen by their teachers. "I feel like they wouldn't really know me enough

to answer that “(Mountain Valley Student 5). Each student was very self-aware of how they functioned at school according to their current competency tasks.

According to the students of Mountain Valley, if you are not accomplishing goals in the time period established by teachers, then you are not working hard enough and being lazy. The expectations are very high, but success is about checking competencies boxes and making sure you are on grade level or above. Freedom only comes when you are ahead of the suggested pace and given that time to explore interests.

Students at Mountain Valley Middle School also completed the Academic Identity Measure (AIM). Table 8 shows the results of the achievement related statements from the student survey. Students responded to statements on a 1-5 Likert scale ranging from “nothing like me” to “very much like me”. All of the statements from the survey can be found in Appendix E and the individual answers from each student at Mountain Valley can be found in Appendix I. The statements pertaining to achievement are highlighted within Appendix I. The average score for the achievement statements lands closer to “like me” than “not like me.” The highest average, with a score of 4.35, is “A college education is important to me” (Statement 4). Not only did Mountain Valley have the highest average within the achievement questions, but they also had the smallest standard deviation at .064.

Table 12

Academic Identity Measure-Christensen Academy

School	Avg.	SD
Mountain Valley MS	3.794	0.064

Mountain Valley Middle School was established to personalize a learning environment for their students with a focus on student independence. The struggle lies in giving up teacher agency while adding new levels of student agency. Teachers viewed some levels of student agency as “entitlement.” In the shift to student independence and control of their learning it becomes essential for teachers to facilitate growth through conferring and providing specific feedback. Mountain Valley Middle School is proud of the recent creation and implementation of a rubric that allows teachers to provide consistent feedback to their students. Content completion expectations are determined by the teacher, but students have some say in when they complete items or seminars. The students are also self-aware of how math placement shapes the rest of their daily schedule. As the school has continued to develop, the administrator has noticed some unintentional results of a system that allows parents to choose Mountain Valley over two other “houses” within the larger school. Mountain Valley has become the “house” with a large percentage of high performing students. This distribution of students has caused resentment by some teachers in the school’s other “houses.” On the other hand, the students at Mountain Valley are thankful for the safety they feel from bullying previously experienced at other schools or in other “houses.”

Summary of Findings

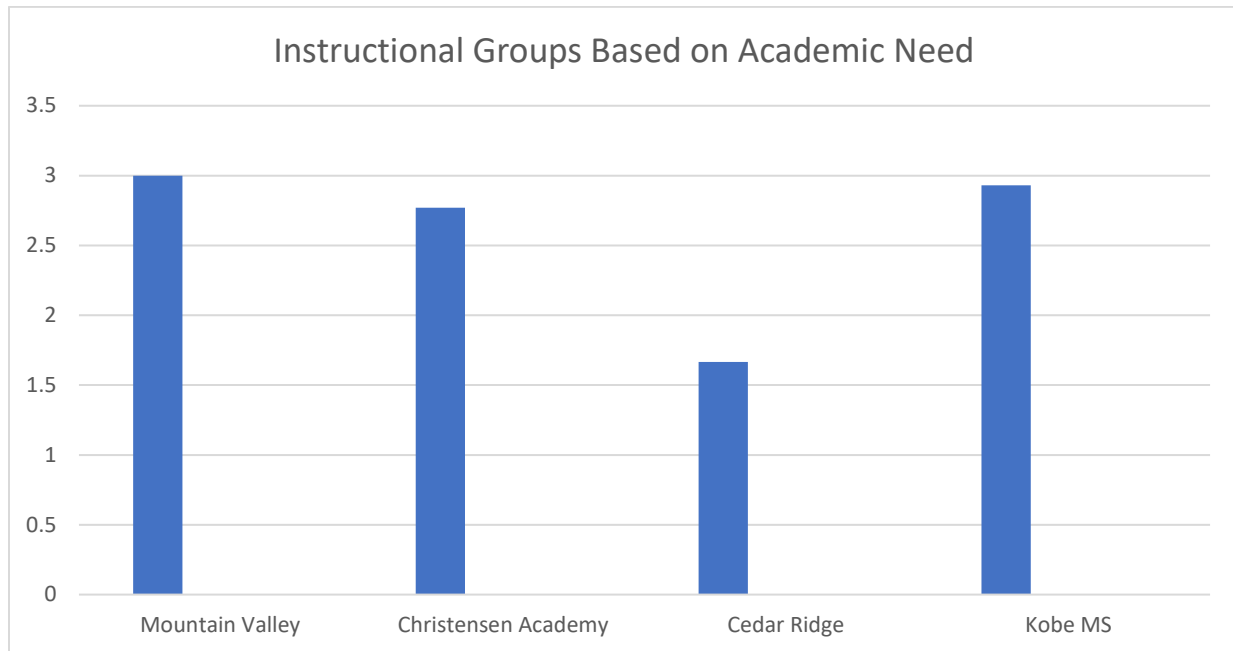
At each site, administrators, teachers, and students participated in surveys and interviews. The data collected from those surveys and interviews have been presented in chapters 4-7. All the schools involved are attempting to personalize the instruction for students. Additionally, each school has developed a slightly different approach to how that personalization happens within their structure.

Cedar Ridge, Kobe Middle School, Christensen Academy, and Mountain Valley Middle School all stated that they wanted to increase student voice and choice over their learning. At Cedar Ridge this happens in the form of project-based learning and a truly open opportunity to select learning experiences that are of interest to the individual student. Kobe Middle School students are afforded voice and choice in the selection of the topic for some project assignments. Most of the learning opportunities are designed by the teacher with some room for student interest. Christensen Academy offers their students voice and choice by remaining flexible to the ideas students have in demonstrating their newly formed knowledge. Finally, at Mountain Valley Middle School, student voice and choice are present within the timing of most course seminars and completion of learning targets. Similar to Kobe Middle School, the teachers at Mountain Valley have aligned the activities and assignments to the standards and students have some voice and choice in when and how they demonstrate competency.

Some similarities and differences emerged from the data in how students are grouped within the school and within the classes. Cedar Ridge was different from the other three schools in that they utilized a new student bootcamp and student interest form to collect information about each student and determine placement into one of four advisories. Placement at Cedar Ridge focused on the individual and their specific areas of interest. Outside of the advisory, grouping opportunities were created by the students themselves. The opportunities to form groups centered around similar interests and wanting to complete projects together in pairs or small groups. Kobe Middle School also differed from the other sites in their determination of student groups at the school level. Students at Kobe MS are randomly selected for one of four “communities” or the larger traditionally programmed classes. However, once in a community, the teachers create smaller cohorts of students for rotation through the core classes. During this

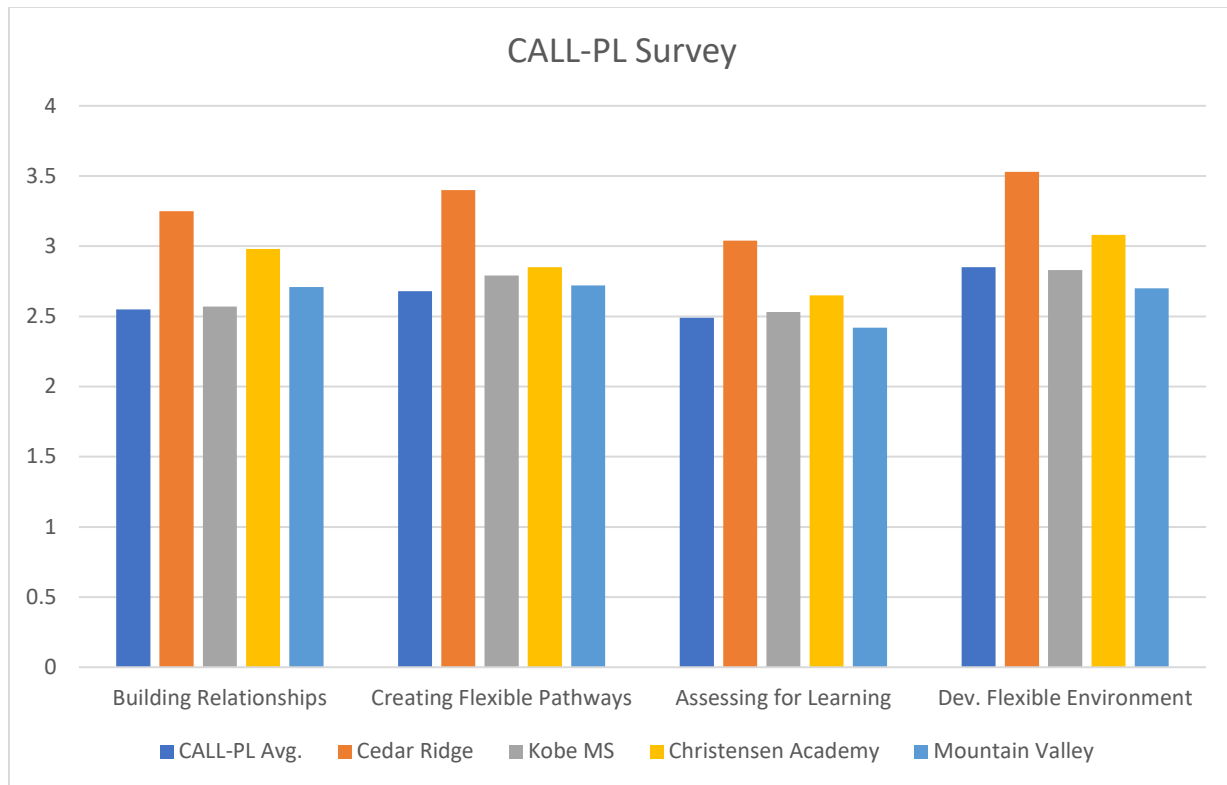
process, the teachers used ability grouping measures to assign students to different groups. This was even more evident with the consolidating of students receiving special education services in one of the communities. Christensen Academy allows students to self-select courses of interest to them and even offers a multitude of high school course options to higher-level students. Access to the courses is determined by scores on standardized or normed assessments. The students highlighted the use of their MAP test score as the gatekeeper to which courses they could take. They also explained that teacher recommendations were used in this process as well. Mountain Valley Middle School offers families the opportunity to select which of three “houses” they would like to be in. Over time, this has created a school with data that shows most of the high achieving students have chosen to be in the “house” that participated in this research. Once students are in their selected house, the teachers have designed a structure that allows students to sign up for course seminars. The students at Mountain Valley explained that the choice system revolved around their assigned math placement. After that, they could choose when they had other seminars and when they completed the necessary targets for the year. Figure 7.1 depicts the similarity and differences in how needs-based grouping was utilized between the four schools. Data was obtained from the CALL-PL survey.

Figure 7.1



The CALL PL survey was taken by school administrators and teachers. The data from the survey suggests that Cedar Ridge and Christensen Academy are more developed in the eight key personalized learning practices the survey assesses. The eight key practices are within the four domains of Building Relationships for Learning, Creating Flexible Learning Pathways, Assessing for Learning, and Developing Flexible Learning Environments. Figure 7.2 shows the differences between each school as well as the CALL-PL survey average

Figure 7.2



Students also participated in a short survey as part of their focus group interviews. The Academic Identity Measure (AIM), forty statement survey was completed by each student. Table 9 presents the collective data from the achievement related questions. There is no significant difference between the research sites and their students' identity status specific to academics. Both Kobe MS and Mountain Valley MS students had their highest average score on statement four, "A college education is important to me." The highest average score at Cedar Ridge was for statement eighteen, "I feel comfortable being responsible for my education and learning." Statement twenty-five was the highest average score on the achievement related statements for Christensen Academy. On average, the students at Christensen Academy believed the statement, "when I do poorly on a test, I think of what I did wrong and try to solve the problem," was very much like them. Regardless of the grouping strategies or personalized

learning focus, the students at each school remained consistent in their view of themselves as learners and students.

Table 13

Academic Identity Measure (Achievement related questions from student survey)

School	Avg.	SD
Cedar Ridge	3.539	0.964
Kobe MS	3.704	1.029
Mountain Valley	3.794	0.064
Christensen Academy	3.6	1.060

Chapter 8:

Discussion

After reporting on the findings in Chapter 4-7, I will now begin to discuss the analysis of the four site schools involved in the study. The analysis was completed using a critical lens and knowledge of the power structure at play in public schools. The political nature of school often leads school leaders to continuously advocate for chosen programs. It is, however, important to look for and identify areas within any program that may be negatively impacting subgroups of students or individual students. The cases will be compared with each other as they relate to the literature discussed in Chapter 2 and the questions this study was designed to answer. The first question is, what are some of the features of personalized learning at each school? The second question is, what are the grouping strategies being used at these schools? The third question is, what is the student perception of their experiences of personalized learning at their school?

Table 14-16 summarize the answers to these questions.

Table 14

Personalized Learning Focus/ Goals

<u>Schools</u>		<u>Focus/ Goal</u>	
Cedar Ridge	Project-Based Learning	Student Voice & Choice	Learn the Process of Learning
Kobe MS	Needs-Based	Student Voice & Choice	Social Emotional Learning
Christensen Academy	Needs-Based	Student Agency	Flexible Structure
Mountain Valley	Needs-Based	Student Agency	Conferring/ Feedback

Table 15

Student Grouping

<u>Schools</u>		<u>Strategy</u>	
Cedar Ridge	Interest	Personality	Fit
Kobe MS	Random (large group)	Current ability level (in class grouping)	
Christensen Academy	Ability (math courses)	Interest (electives)	
Mountain Valley	Parent Choice (large group)	Ability (math courses)	Student choice (teacher seminars)

Table 16

Personalized Learning Key Features (Student Perception)

<u>Schools</u>		<u>Student Perception</u>	
Cedar Ridge	Pathways created with their advisor	Being prepared for future success	Personal connection to their work
Kobe MS	Communities are like families	Worried about multiage instruction/ curriculum	Welcoming environment
Christensen Academy	Proud to be working on high school material	Like the amount of opportunities the school offered	Appreciated self-paced course work
Mountain Valley MS	Like being able to decide when and how you hit learning targets	Felt ownership over their own learning	

Student Perceptions

At each of the schools, the students expressed a general feeling of being happy with their current school. This could be the result of two schools being public charters that require students to apply and be accepted and another school allowing for families to choose which one of three houses their child would be placed into. Only Kobe MS students attended their local public school and were placed by school personnel. All of the participating students were volunteers and were interested in sharing their story. Students at Cedar Ridge, Kobe MS, and Mountain Valley MS were recruited for participation by teachers that also participated in this study. The students at Christensen Academy were selected for participation by the administrator.

Thoughts on Personalized Learning

At Cedar Ridge, Christensen Academy, and Mountain Valley MS students were able to communicate their thoughts and ideas about their experiences in a personalized learning model of instruction. At each of these three schools there were unique characteristics that students associated with personalized learning. The term personalized learning was not widely used at Kobe MS and the students did not have a connection to the term. They were, however, able to communicate their thoughts about what school was like inside their assigned learning community.

The students of Cedar Ridge had a genuine appreciation for their school and the advantages it has offered them. Students are able to feel comfortable and have a sense of family during their time at school. “I feel like people are accepted for who they are” (Cedar Ridge Student 2). Other students appreciated the amount of freedom they had for developing their own projects and pace at which they were completed. “Personalized learning here is our plan for

ourselves; it's your life plan" (Cedar Ridge Student 3). When asked if there was something they would change, no student had a suggestion for improvement.

The control over what and how they learned at Cedar Ridge gave the students a sense of ownership for their learning. Saunders-Stewart et al. (2015) found that students who were exposed to inquiry-based learning developed a stronger sense of ownership for their own learning. They also reported that these same students focused their responses centered around ideas of outcomes and experiences with the subjects they were studying vs. others who spoke more about technology and tools. All of the students at Cedar Ridge who formally participated in this study and those that spoke to me informally during my visits were excited to tell me about their specific projects and the work they were doing.

The structure of the school was the first thing students at Christensen Academy commented about during the focus group. The longer chunks of time in core classes and the flexible options offered through pathway courses provided them were also elements of the school that the students appreciated. Each student also was grateful that the school allowed them to accelerate their learning beyond the middle school curriculum and courses. All four students had already begun taking high school level courses while still going to the middle school.

The high-level students at Christensen Academy were extremely motivated by the flexibility of the personalized learning system that allowed them to move through course work at a faster pace and gain access to high school academic courses. The goal for all of them was acceptance to a four-year university.

Teachers at Christensen Academy carried out the mission of always improving, always growing, always working toward the next level. What I heard from the participants, though,

seemed to be more in line with individualized instruction as Zmuda et al. (2015) defined the learner experience and the teacher's role. "Students control the pace of the topic as well as when to demonstrate mastery. The teacher drives instruction through teacher-created tasks and related lesson plans" (Zmuda et al., 2015). Students at Christensen Academy were glad that they were able to control the pace of their learning, describing some of their classroom experience as, "...in our like geometry class, our teacher basically just gives us the assignments like the assignments for that chapter. And just lets us do them at our own pace" (Christensen Academy Student 2).

The Mountain Valley approach is very structured and centered around competencies and the newly formed rubric that teachers collaboratively designed. "You have a certain amount of things you have to learn in the year and we get a certain amount of chances to hit those things and you get to choose which one you want do when as long as you get them done" (Mountain Valley Student 14). They have developed a learning environment and practices that have persuaded students that standards-based learning is really in their best interest (Halverson et al., 2015). Even though the teachers have created the playlist of activities and standards students must complete they felt like they had more control than a traditional environment. "You're not able to do whatever you want, but you're able to do what works for you" (Mountain Valley Student 2).

Kobe MS was the one school that did not make personalized learning common vernacular at the student level. Due to this fact I focused my conversations with the students around their experience in the learning communities. At Kobe MS four out of the five focus groups were positive in their outlook about the school. They felt that it was a welcoming place that allowed them to feel safe and have fun with their friends. However, one of the focus groups had a much different impression of the school. Many of the students expressed feeling stressed and burnt out

from all of the work. This group of students also felt as if their teachers were mean, didn't listen to what they had to say, and would just yell at them. Legette (2018) discussed how the words teachers use when speaking to students plays a major role in how students perceive themselves as a learner. During my time in one of the communities a teacher actually told a student, "We cannot stop class because you are having an issue." It is no wonder that some students felt disconnected from their teachers and learning experience.

The motivation to complete schoolwork at Christensen Academy, Mountain Valley MS, and Kobe MS was limited to just getting it done, feeling of excellence through acceleration, and wanting to get into college. There was no sense of connection to the work they were doing other than a feeling of obligation to their teachers, parents, or their future goals. The exact opposite could be said for the students at Cedar Ridge. There the students felt completely connected to what they were doing and found motivation from the excitement of choosing their own path.

Thoughts on Multiage Classrooms

The multiage classroom concept was present at each school that participated in the study. The use of the multiage classroom in connection with personalized learning is a key characteristic in the model's success according to experts (*District Administration*, 2011; Klein, 2019). Once again there was a difference in the rationale for using the multiage classroom concept at each school. Cedar Ridge viewed it as an opportunity for mentorship and provide students of similar interest an opportunity to engage with one another in self-selected projects. "Interest-based learning expands this by exposing learners to new discourse communities to master, inviting learners to acquire new interests and opportunities for mastery" (Halverson et al., 2015). At Kobe MS the use of multiage classrooms was an opportunity to form family like bonds with other students and teachers that would stay connected with one another during the

three years of middle school. The belief was that students will find more success in their academics if the school can support their emotional need to be accepted. Christensen Academy and Mountain Valley MS utilized multiage classrooms in the fashion that Rickabaugh envisioned (Klein, 2019). The use of multiage classrooms allowed students to be placed at their current readiness level according to the standards and previously demonstrated competencies. With a majority of the students performing at an accelerated level, they viewed this aspect of their programming as a positive and personally beneficial to their future goals.

The differences between the rationale to use multiage group settings can be found in the responses by students at the different schools. A Cedar Ridge student found it helpful to be with older students because they can offer a different view and made the environment more diverse. At Cedar Ridge the students are grouped based on topics of interest and not by academic need. Student perception is much different at Kobe MS where the students are randomly placed into communities and then separated by teachers into smaller learning cohorts. Many of the students here worried that they were not receiving the instruction they should be because of their placement with younger peers. However, there were some students that were content with the concept and liked having the opportunity to work with younger and older classmates. The students at Christensen Academy and Mountain Valley MS were all aware of how students were placed into groups and were not bothered by the fact they were in classes with younger or older peers. One student at Christensen Academy described this concept as, "...you're grouped with who is like at your level so you can kind of work with them and collaborate with them too, so you can understand each other and help each other grow further" (Christensen Academy Student 4). Similarly, students at Mountain Valley MS thought that in either case the model was benefiting them in some way. For the younger students working at a pace beyond their grade

level it was motivator and gave them a sense of pride to be doing work deemed 8th grade curriculum. For the older students at Mountain Valley MS, they saw it as a review of the material while gaining a different perspective provided by the younger students in class with them.

Overall, the perception of the multiage concept of grouping as described by the students involved in this study led me to believe that younger students moving up in curriculum work see it as a positive and leaves them with sense of pride. The older students that are working at grade level or below tend to be worried or confused about their placement with the younger students. In these cases, it is important that the students understand the “why” behind their placement.

Student Perception of Teacher Belief of Students

Teachers involved in this study all believed that students could achieve at a high level, but almost all of them followed up that sentiment with how they believed each student had a different high level. This variation in believing all students could achieve that same high-level results in a different set of expectations. Those different expectations eventually become known by the students. Gamoran’s (1997) quantitative study determined that low-achieving students have so much more potential for learning than that which is demanded of them. The system of placing students into learning cohorts based on need according to ability measures leads teachers to form this belief that every student cannot attain the same level of high standard. If they could (and they can) then there would be no need to split students up according to ability and have them instructed separately from one another. Personalized learning is meant to put the student at the center of their own learning (Bishop et al., 2020; Bray & McClasky, 2013; Halverson, 2019; Halverson et al., 2015; Kallio & Halverson, 2020; McHugh et al., 2019; Nelson, 2021; Netcoh, 2017; Rickabaugh, 2016; Pane et al., 2015; Zhang et al., 2020). It does not mean that students

then have to work in isolation, and it does not mean that students must work in homogenous environments. Grouping students together that are at the same academic readiness level is a service to the teachers. For teachers, if all the students are at the same readiness level, differentiating the instruction is no longer necessary. The differentiation is then done between classes as the ability levels change, resulting in different expectations by the teacher.

The majority of students that participated in the focus groups at Christensen Academy and Mountain Valley MS could be described as high-level students. All of the students from these two schools were working at grade level or above. Their perception of how teachers viewed them centered around the amount and quality of work they were able to produce. The students at Kobe MS who participated varied in their academic ability levels and the perceptions of how teachers viewed them also varied. Some students at Kobe MS believed their teachers thought they could do more and wanted to help them. While others at Kobe MS believed their teachers had a negative impression about who they were as people and students. There was a distinct difference in how the students at Cedar Ridge felt. At Cedar Ridge the students answered this question as if they have had actual conversations with their teachers regarding establishing life goals, the work necessary to reach those goals, and where the student was in relationship to accomplishing their goals.

The variance of teacher feelings about their students can be seen in the words and thoughts of their students. Over time this can lead to students feeling that they are good students or feeling that they are not good students. This academic identity will stick with them as they progress through school. This fixed mindset can lead to track immobility (Abadzi, 1985; McGillicuddy & Devine, 2020). This is why it so important that educators intentionally

communicate to the students that they are capable and that as educators they are there to help the students obtain the highest levels of knowledge.

Potential Pitfalls

The review of literature discussed five themes: personalized learning, ability grouping, multiage grouping, project-based learning, and academic identity. Outside of general characteristics of the personalized learning model, Halverson et al. (2015), presents findings that schools implementing personalized learning either focused on student needs or student interest. Research would suggest that once schools begin the process of grouping students by needs, they fall into the trap of ability grouping. Halverson (2019) reported that schools focused on learner needs personalized the learning by creating individualized pathways *for* students *by* educators. Mountain Valley MS, Christensen Academy, and Kobe MS took it one step further by using homogenous grouping according to current levels of ability, with the driving factor being math placement. Schools that focus on grouping based on student interest are often found taking a project-based approach to instruction. Cedar Ridge stayed true to the idea that schools focused on student interest create pathways *by* students *with* educators (Halverson, 2019). All the schools involved in this research had implemented a multiage aspect to student grouping.

The first potential pitfall presented itself during the analysis of interview data gathered from the administrator interviews. No school directly stated they were intentionally using the strategy of ability grouping, but the data shows that it is happening with math placement. Math tended to be the subject that each school struggled to move away from the traditional linear system of instruction. At two of the schools, it impacted the rest of the course placements. Two different administrators made statements regarding ability grouping.

The first administrator highlighted the tendency within their own school to fall into the trap of ability grouping. "...logically you think, well we want to put these kids together based on where they are at, so that then is tracking" (Christensen Academy Administrator). This was a tendency leaders at the school were aware of and thought they were countering by adding student choice to course selection. However, students and teachers at the school continued to describe homogenous ability grouping for the students' math course. "So, it's based on proficiencies, from the year before, as well as MAP score" (Christensen Academy Teacher 2). Here the teacher is discussing how students are assigned to their math class each year. This is an example of a pathway created *by* educators *for* students *by* grouping same level students together. A student at Christensen Academy described the same process when asked about how they were placed into classes. "They generally take it off your MAPS test and your test scores" (Christensen Academy Student 1). The flexibility within the model does allow for students to move freely between groups as needed improvements are made and competencies are demonstrated. However, research on ability grouping has shown that students placed in low ability groups in primary grades typically move through the grades stuck in that same low-level group (Oakes, 1983; Slavin, 1987b).

Teachers and students from two other schools in the study also described the utilization of ability grouping when assigning students to specific courses. At Mountain Valley a student described that their process revolved around their placement. "Really it does depend on your math. Usually, it's just random after you get your math set in place" (Mountain Valley Student 7). The other students in Mountain Valley Student 7's focus group agreed that this statement was true. At Kobe MS group establishment went as far as loading most of the students receiving special education services into the same group. "By default, we put most of our SPED kids in

the B group” (Kobe MS Teacher 1). Even though the students had no real idea why they were placed into specific classes they had an idea based on their own observations. “My friends that were different from me, they got into other communities and a lot of my smarter friends, they got into this community” (Kobe MS Student 1). Data from the CALL-PL survey also speaks to the usage of needs-based grouping. For over half of classroom level activities teachers at Mountain Valley MS, Christensen Academy, and Kobe MS reported setting up instructional groups based on perceived academic need. This indicates that even when students have or have not been assigned to courses based on current levels of ability, they are also grouped in this fashion a majority of the time within the individual class.

The second administrator that spoke about ability grouping was from Mountain Valley Middle School and they highlighted the fact that through the years parents and students have ability grouped themselves through the selection process of choosing one of three houses at the middle school. At Mountain Valley the community of families have self-identified one of the houses as the one that the higher-level students should request. Parents of students grouped in the high-level track support the use of ability grouping because they believe it is in the best interest of their child (Ansalone & Biafora, 2010). The result has been the creation of a middle school house that parents and teachers now perceive to contain the majority of top students. Some teachers in the other houses have noted the difference and have suggested, “...we got all the dumb kids” (Mountain Valley MS Administrator). Mountain Valley’s administrator provided generalized scores from the three different houses that confirms a system of ability grouping at the school level. “The average MAP percentile in the third house is in the 70s, the second house it’s in the mid-60s, and in the first house it’s in the high 50s to low 60s” (Mountain Valley MS Administrator). VanderHart (2006) would argue that parents with economic or

political power within a district sometimes forced the direction schools took on the issue of ability grouping. With a state report card score of significantly exceeds expectations, Mountain Valley may not feel the need to change anything.

At Kobe MS, Christensen Academy, and Mountain Valley MS, there were systems in place to offer students agency but only outside of math and literacy. In areas that are heavily influenced by state standardized tests and the subsequent public scrutinization that comes with the score, these schools felt the need to keep more control through ability grouping. “Standards-driven learning is organized in terms of what schools, professional organizations, policy makers and others think that students ‘ought’ to know” (Halverson et al., 2015). Only Cedar Ridge started to experiment with a different way to teach math in a multiage, multilevel format. Their scheduling process starts with “who is this student as a person?” and “where do they best fit within our community of learners?” At the other three schools, scheduling started with how the student was performing on standardized and normed math assessments. The students’ schedules were shaped by what math class they were assigned to.

The four schools involved have only spoken about ability grouping as it pertains to math course placement. Any negative effect of the ability grouping may only be associated with the students’ feelings about math and not about their academic identity as a whole. Boaler, et al. (2000) reported that the classrooms being grouped by ability negatively affected their learning of mathematics and attitude towards it. If ability grouping is not performed across all courses, it may only impact feelings about the courses where it does take place. It is concerning that most often, even in personalized learning environments, it is in math and literacy that we see readiness grouping happening. This could be the result of the pressure state and federal government has placed on schools to succeed in these two areas of education.

In a large school, moving back and forth between needs-based grouping and interest-based grouping could be accomplished without groups still moving through the day together. The problem with small schools or schools within schools, is that elite level or specialty classes often create pods of students that move through their day together because of limited options in the scheduling matrix. All four schools involved in this study would be considered small or be a small fraction of the larger whole. One or two courses scheduled by need and grouped by ability could be creating a system that keeps these students together even in their elective courses.

The second pitfall is the variation in teacher belief about the students' ability to achieve at a high level. There was an obvious distinction of teacher expectations between the four site schools. The differences were found in the interview data as well as observations made during my visits. Although every teacher claimed to believe in this statement, some could only do so by giving an explanation of the exceptions. Thus, I have concluded that the term high level is a subjective term not meaning a universal standard, but instead a level of growth that varies with the starting point of the individual student. Explanations also included the idea that the ceiling of potential for some students is lower than others. A teacher at Kobe MS stated, "...is she ever going to be a prolific writer, probably not." A side effect of ability grouping is that teacher expectations are not equal between high-level and low-level groups (Ansalone & Biafora, 2010; Gamoran, et al., 1995; Roberts-Holmes & Kitto, 2019). Even if not directly communicated to students, the student picks up on the level of expectations their teacher has for them. The variation students at Kobe MS perceived is expressed by the following two students: "I think I have more of a negative impression on my teachers" (Kobe MS Student 12) and "I think that they believe in us and that we can push ourselves more than we actually do" (Kobe MS Student 22).

The negative impact of teacher expectations not only is felt by the students that perceive teacher expectations to be low. A study by Boaler (1997) showed results that nearly one-third of the highest ability grouped students suffered from their placement because the expectations were too high and the pace was too fast. Student 4 from Mountain Valley explained their perception of teacher belief as, “I feel like this is all teachers say, I’m not hitting enough competencies.” This sentiment was shared by other students in the first focus group at Mountain Valley but the same information did not emerge from the other two groups.

Each teacher did express that they thought all students could achieve at a high level. Gamoran (1993) concluded that there are five characteristics that must be present in schools for low-tracked students to be successful: first, there are high expectations, second, there is a rigorous curriculum, third, students and teachers engage in oral discourse, fourth, the teacher believes the students can meet the high standard and works tirelessly to help the students obtain success, fifth, there is no system that places the least experienced teachers in the low-track classrooms. I believe this is why Christensen Academy is able to achieve such a high score on the state report card despite having a system that groups students in math based on current ability. I was able to view the third characteristic during my time at the school as well as interview data that connects with the fourth characteristic in Gamoran’s findings. “It’s nice to have flex time within our building. Having that built right into the school day, four and a half hours every week is nice chunk of time to be able to get a little more one on one” (Christensen Academy Teacher 3). This tireless effort to push each student to their next level maintains the high standard of expectation. “But it just keeps rising as soon as they get anything they’re pulling that bar up. It is a universal thing that the bar keeps getting raised” (Christensen Academy Teacher 2).

Comments about some students having different definitions of high level includes the teacher's knowledge of the personal struggles each student is faced with. Divorce, abuse, disabilities, homelessness, and health concerns are just some of the roadblocks students face during their primary school years. I did not get the sense from teachers that all students couldn't achieve great things, but that they understood many will not be able to reach those levels because of issues outside of their control.

The third potential pitfall is the disconnect of students from the placement process. Every definition of personalized learning has the aspect of students being at the center of their own learning. If students are really at the center, they should know why they are in the classes they are in and why they are learning what they are learning. In my experience students are fully capable of understanding the vocabulary of grade level standards and which ones they have mastered and which ones they are working on and towards. This takes effort on the part of the teacher but can be accomplished through one-on-one conferring sessions as well as whole group discussions. In the case of Kobe MS, student after student expressed the feeling of having no idea why they were in the 'community' they were in. Pane et al. (2015) defined personalized learning as, "...goals and progress toward meeting them are highly visible and easily accessible to teachers as well as students and their families, are frequently discussed among these parties, and are updated accordingly." Failing to communicate effectively with students and families eliminates an essential element of successful personalized learning programs.

To the defense of Kobe MS, parents and students at the other three schools selected their school because of how instruction and learning happened at those schools. Students at Kobe MS went there because it was their local school and school officials determined their placement. Kobe MS has also been implementing their system of ideas around personalized learning for the

least amount of time. There are also plans to make the process of placement into the learning communities more driven by student and family choice in the future. Currently, placement into the different communities is more about students finding a connection with teachers and school than it is about curricular interests or academic needs. Still, it may be beneficial to have conversations with students and families about the “why” behind placement in one of their communities.

Chapter 9:

Conclusion

This study examined the different features of personalized learning at four schools including the strategy of how they grouped students into learning cohorts. Grouping within the personalized learning model typically goes down one of two paths, prioritizing either student interest or student need as the driving influence for placement into learning cohorts. A multiage system is also typically utilized in both philosophies. The data was presented through the thoughts and ideas of administrators, teachers, and students at schools that have implemented both personalized learning and multiage classrooms. School administrators shared their rationale for the model's use and goals their school was hoping to accomplish. Teachers shared their beliefs about the process they have created in an attempt to place students at the center of their own learning. Finally, students at each site were able to share their thoughts about their personal experiences at school.

Summary and Implications

The intent of this study was to examine the features of personalized learning at the middle school level, look deeper at the different ways schools are grouping students within a model of personalized learning, and include the student perception of the process. The collection of data adds to the growing research on the topic of personalized learning.

The analysis of the data collected in this study finds some potential pitfalls that can emerge during the implementation of personalized learning grouping strategies. The first is the tendency to ability group when assigning students to math courses or when parents are allowed to determine placement. Three schools in the study focused on the academic needs of students when placing them into groups. At each of these sites a student's current level of ability in math

shaped their instructional day. The school that focused on student interest did not fall into the trap of ability grouping and remained true to the idea of allowing the student to determine their educational path.

Once schools make the decision to group students based on academic need, ability grouping follows closely behind. Schools in the study had to make intentional decisions to not go down the path of merely grouping by ability. Even while acknowledging this fact, three schools still fell into this trap. The tendency is there and may be hidden unless you look for it. Even with the best intentions in mind, negative implications could be impacting the teachers and students. The collection of research on the topic of ability grouping has demonstrated that when implemented, traditionally marginalized students suffer the consequences of its use. It is important for schools to continually examine their practice of grouping within the model and analyze their own data against the literature of ability grouping and student identity development. Quantitative and qualitative data should be collected as part of this process.

A second possible pitfall is connected to the teacher interview question: *Do you believe all students can achieve at a high level?* At the three schools with a needs-based focus of personalized learning, teacher expectations of students varied. The idea that all students could achieve at a high level was described as something different for each student. This variation within teacher expectations can be found in the literature on ability grouping as a negative side effect that leads to limited growth among students placed in low level groups.

Student perceptions about personalized learning and how they were grouped tended to be positive but did expose some of the concerns outlined in the pitfalls and literature on ability grouping and academic identity. The variation between the participating students echoed the focus, goals, and systems in place at their school.

It is my personal belief that the true essence of personalized learning is only attainable when school leaders are free from fear of government established accountability measures. Three of the schools in this study wanted to give students agency over their own learning but were hesitant to actually do so in the area of math and to some extent literacy. Standardized test results that are commonly used to determine the success of schools and instructional models stand in the way of educational freedom for children that are in search of a different way of doing school. The interests of students often come in second to what society and government regulations determine they need.

My personal bias before this research began led me to believe that grouping students by academic readiness was a widespread strategy utilized by schools that had implemented personalized learning. Through this process I have found that thought to be false. Academic readiness is not a universal component of personalized learning and was only presented in the findings at three of the four sites, with math being the primary course using this strategy. This is also not just a personalized learning problem; this type of tracking or ability grouping occurs in math placement within traditional models as well. However, personalized learning schools that place more emphasis on student needs than they do on student interest are more likely to fall into the trap of ability grouping. This addition to the literature serves to provide information that can be used to disrupt the power dynamics at play in education that could limit equal opportunities for any student.

The knowledge gained from this study not only serves me in my current position as middle school/ high school principal, but also serves any administrator or teacher that reads this piece of literature. Professional conversations should be had within any school that has implemented personalized learning. After the initial push for program advocacy has happened

within the school/ district and it has been established as an accepted practice, the work of engaging in crucial conversations regarding program improvement through the use of honest data is necessary for eliminating potential pitfalls hidden within the program. There has to come a point in any implementation that the leadership has to move away from selling the idea to improving the idea and looking for possible failures at the micro level.

As part of this study, the CALL-PL survey was given in an attempt to place each school in the quadrant somewhere between student interest driven or a need based personalized learning focus. It also aimed to gain insight as to the amount of student and teacher agency at the school within the personalized learning model. Outside of research, this survey could serve any district in their continuous reflection process on their program of personalized instruction. Given yearly, the survey is an excellent tool to report back to administrators on what is happening through the eyes of teachers and administrators. This honest self-reflection can lead to professional development opportunities. With the survey data in hand school practitioners can evaluate their school's goals and missions and engage in the process of continuous improvement through data-driven decisions. It can also identify any perceived differences in how administration views what is happening and how the teachers view the same thing. This is how every school in this study utilized the tool during the past year; demonstrating how the world of research and practice can support each other in the work.

Personalized learning should function like an individualized educational plan (IEP) for each student. Teachers should draw from a student's strengths and place supports in areas that students are weak in order to meet the standard of that course. If inclusion is an important aspect of special education, it is an important aspect of education. Learner profiles become each student's IEP and a tool to apply the necessary supports for each student to achieve at a high

level. A typical school district mission statement may say something like: We, the members of the School District of..., believe in the potential of all and are committed to developing life-long learners who value themselves, contribute to their community, and succeed in a changing world. Life-long learners continue their education in subjects that are of great interest to the person. That interest is what motivates the person to learn what is needed to master the content or skill. Someone that is able to contribute to their community and succeed in a changing world has to have the ability to work with all kinds of people, not just people that think at their level or share common beliefs.

Limitations

Many points of data were collected during the research of this study, but limitations still exist. One of the limitations of the study is the small sample size collected from four schools in a similar area of the country. In total, four administrators, thirteen teachers, and fifty students were interviewed and participated in surveys. Although the students that participated proportionally represented their school's demographics, they were motivated students that were either selected by their teachers or administrator to participate in the research. Most of the students involved in the study were also high achievers and generally motivated to do well in school. The duration of time spent in the environment also limited the scope of the research. Spending 4-5 days at each site and conducting a limited number of interviews only provided minimal contextual evidence for the research questions.

Future Research

This work serves as a critical reflection of the use of multiage grouping within different personalized learning models of instruction. It is not meant to be an evaluation of personalized

learning or multiage classes. The purpose was to start a conversation in the literature regarding potential problems that may be occurring within the implementation of some personalized learning strategies. The limited number of sites and participants does not allow for the findings and conclusion to be generalized to all schools that have implemented both personalized learning and multiage grouping systems.

The first suggestion for future research is to develop a longitudinal case study of a K-8 school that has implemented personalized learning and used student ability to group them into instructional classes. Christensen Academy and Kobe Middle School would be excellent choices for a longitudinal case study. At both of these schools I found forms of ability grouping being implemented into the constructs of their personalized learning model. The ability to study the same group of students from a younger age through their middle school development is necessary to determine if there are any changes in academic identity. A longitudinal study could benefit the research by establishing more trust from the participants and opportunities to gain access to a greater variety of students. Questions to consider: *What are the demographics within each class? Is there overrepresentation of any specific demographic?* In a longitudinal study it would also be important to track the group mobility of individual students as they progress through the grades. The ability to interview the same set of participants over the course of years would create data that would reflect any changes in academic identity over time.

Other studies should also consider quantitative methods when collecting data. If the tendency for schools that are focused on student needs is to ability group, what is the impact of this strategy on each student's overall education (graduation, higher education pursuits, standardized test scores)?

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Appendix A

CALL Survey

Welcome to the Comprehensive Assessment of Leadership for Learning (CALL) survey. You are receiving this letter because your school has signed up to participate in this online assessment of school-wide leadership and practice to support student-centered teaching and personalized learning.

Things to think about when taking the survey:

1. The CALL PL survey is measuring overall practices and not any one individual.
2. The CALL PL survey questions have response options that describe different types of potential practices in a classroom. Please choose the response that best reflects your classroom.
3. Responses are confidential and are not linked to you personally. We combine responses from the survey when reporting any data to your school (i.e., averages, not individuals).
4. Upon completing the survey, you will receive a link that allows you to view your own individual level results from the survey.

Getting started:

You are eligible to take the CALL PL survey if you are an administrator, teacher or instructional support staff. If you do not work in the areas of instruction or student learning support, please consult your primary school leaders on whether you should be taking this survey or not. The

CALL PL survey takes about 20 minutes to complete. At any point during the survey, you can exit and return to where you left off at a later time.

Logging into the survey:

To begin taking the survey, please read the waiver below, and click on “Click Here” at the end of this message. Please note that the system will then ask for your email address. This is for the purpose of enabling you to return to the survey if you exit before finishing and for sending you a link to your individual results. Your email will not be shared, nor will it be used to identify you as a user.

Troubleshooting:

If you are having trouble with the survey system, please contact us at call@leadershipforlearning.org with the name of your district and school, along with a brief explanation of the problem.

Thank you for your participation!

Sincerely, The CALL Team.

UNIVERSITY OF WISCONSIN-MADISON Research Participant Information and Consent Form

Title of the Study: Personalized Learning in CESA 1

Principal Investigator: Richard Halverson (phone: 608-265-4772) (email: rhalverson@wisc.edu)

Student Researcher: Gerald Dryer (phone: 608-438-1718) (email: gdryer@wisc.edu)

DESCRIPTION OF THE RESEARCH

You are invited to participate in a research study about practices being used in personalized learning. You have been asked to participate because of your role as an educator. The purpose of the research is to describe the practices being used by teachers in personalized learning. The study will include teachers and administrators in K-12 education nationwide. The survey will be conducted online.

WHAT WILL MY PARTICIPATION INVOLVE? If you decide to take part in this study, you will be asked to take a survey that will take about twenty minutes to complete. You will be asked to complete one survey. You may also be asked to take part in a short, voluntary interview or focus group related to the survey. You may opt in or out of either or both the survey and interview/focus group at any time.

ARE THERE ANY RISKS TO ME? There are limited risks of participating in this survey, including breach of confidentiality. This survey limits your risk by aggregating your data with the responses of other survey takers in any report that results from your participation.

In addition, the Primary Investigator of this project, Professor Richard Halverson, has a proprietary interest in the Comprehensive Assessment of Leadership for Learning (CALL) platform that is used to provide access to the survey (owned by Leadership for Learning LLC) and may benefit from the results of this research. Also, although your participation in this research project will not require you to commit any resources other than your time, the CALL Access your CALL [DEMO] Your School Name Goes Here Survey: [Click Here To log in](#), use the CALL [DEMO] Your School Name Goes Here Survey Access Code: k4zhE6 1213 N. Sherman Avenue #322, Madison, WI 53704 Ph: (866) 767-2225 call@leadershipforlearning.org Privacy Policy Terms of Use project may contact you, if you wish, about subsequent opportunities for professional learning

ARE THERE ANY BENEFITS TO ME? The main benefit of the survey is that you may learn more about the essential practices of personalized learning.

HOW WILL MY CONFIDENTIALITY BE PROTECTED? The findings of this study may be published, however your name or other identifying information will not be used. Only group characteristics will be published. Data from this study may be shared with research partners, including school districts, however no identifying information will be shared. Only anonymous/aggregate data will be shared.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS? You may ask any questions about the research at any time. If you have questions about the research after you leave today you should contact the Principal Investigator Richard Halverson at 608-265-4772 (rrhalverson@wisc.edu). You may also call the student researcher, Gerald Dryer at 608- 438-1718 (gdryer@wisc.edu). If you are not satisfied with the response of the research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact the Education and Social/Behavioral Science IRB Office at 608-263-2320. Your participation is completely voluntary. You may withdraw from the study at any time.

Appendix B

Administrator Interview Protocol

After I have confirmed that the school has implemented personalized learning for more than one year, I will begin to address the research questions through data collected in the interview.

Process

- Briefly explain the process and the purpose of the research
- Get the person talking freely with general topics (small talk)

General Demographic Questions

- How long have you served in your current role?
- What is your background as an educator?
- What goals do you have for the district/ school?

Personalized Learning Questions

- Tell me how you define personalized learning?
- What led you to choose the personalized learning model at this school?
- Has there been resistance to adopting and implementing the personalized learning model?
 - What steps were taken to alleviate that resistance?
 - What is parent support like?
 - Negative
 - Positive
- What do you believe to be the most important characteristic of personalized learning?
- Did the state report card influence the search for new ways to better prepare students?

- Tell me how students are grouped into classes/ learning cohorts?
 - Why did you choose this method to group students vs. the traditional method (age)?
 - What flexibility do teachers have in moving students within learning cohorts?
 - What flexibility/ ownership do students have in selecting their group or who they work and learn with?
 - Has an equity audit ever been performed to ensure classes are not overrepresented by any subgroups of students?
- How do you know that the model is working?
 - What forms of data are collected?
- What type of grading system is used at your school?
 - Did you switch to your current system when you made the move to personalized learning?

Appendix C

Teacher Interview Protocol

After I have confirmed that the school has implemented personalized learning for more than one year, I will begin to address the research questions through data collected in the interview.

Process

- Briefly explain the process and the purpose of the research
- Get the person talking freely with general topics

General Demographic Questions

- How long have you served in your current role?
- What is your background as an educator?
- What goals do you have for your classes?

Personalized Learning Questions

- Tell me how you define personalized learning?
- What do you believe to be the most important characteristic of personalized learning?
- What are your personal thoughts about the teaching model (personalized learning)?
- What kinds of professional development opportunities are available to you throughout the year related to personalized learning?
- Tell me about the process used to assign students to classes each year?
 - What flexibility do teachers have in moving students within learning cohorts?
 - Is the movement tracked (data) by anyone?
- How do you know that the model is working?

- What forms of data are collected?
- In your estimation has the change to a personalized learning environment improved the student experience in this district/ school?
 - Has it improved standardized test scores?
- What type of grading system is used at your school?
- By your estimation what is the typical academic ability spread within your classes?
- How do you manage the spread of ability in your class?
 - Do you believe all students can learn in a rigorous learning environment?
- When creating groups within your class what are the determining factors?
 - Do you use this process every time?
- Do you believe all students can achieve at a high level?
 - What determines if the level is high?
- Do you believe students are driven to deeper levels of knowledge through the use of personalized learning?
- How do you measure student success?

Appendix D

Student Focus Group Interview Protocol

Process

- Briefly explain the process and the purpose of the research
- Get the person talking freely with general topics

General Demographic Questions

- How long have you attended school in this district?
- What grade are you currently in?

Personalized Learning Questions

- Can you describe what going to school here is like?
- How would you define personalized learning?
- Are you aware of how students are placed into specific classes?
- Do you get to pick who you work with?
 - How frequently does that occur?
- What motivates you to complete schoolwork?
- How often do you get to choose your learning pathway and how often does the teacher dictate what is happening in class?
- What is your academic goal?
 - Has this changed at all over the last few years?
 - What might stop you from reaching this goal?
 - What will help you reach your goal?

- What would make your experience at school better?
- What are two words that would describe who you are as a learner?
- What are your thoughts about being in classes with younger or older peers?
- What are your plans for after high school?
- What do you think your teachers believe about you as a student?
- On a scale from 1 to 5 (1 being the lowest and 5 the highest) how would you rate your happiness at school?

Appendix EAcademic Identity Measure

Nothing like me 1 2 3 4 5 **Very much like me**

1. Good grades have always been important for me.

1 2 3 4 5

2. Sometimes I think the only reason I am in school is I have nothing better to do.

1 2 3 4 5

3. I'm not sure what occupation I want after school and I'm really not concerned about it yet.

1 2 3 4 5

4. A college education is important to me.

1 2 3 4 5

5. I have considered a number of things to do after high school and have decided which is best for me.

1 2 3 4 5

6. I always knew what I would do after high school from the guidance my family gave.

1 2 3 4 5

7. I want a college education but sometimes I'm not sure I can make the commitment.

1 2 3 4 5

8. I don't worry about grades very often and rarely set academic goals for myself.

1 2 3 4 5

9. How I do in school is important to me.

1 2 3 4 5

10. I never thought about my own education. I just did what friends and family expected of me.

1 2 3 4 5

11. My priorities for school come from my early experiences. I usually just accept what is expected of me.

1 2 3 4 5

12. My view of grades and studying fluctuate; sometimes I am conscientious, other times I'm lazy.

1 2 3 4 5

13. If I didn't have to be in school I probably wouldn't go.

1 2 3 4 5

14. Sometimes I feel responsible for my learning but other times I feel it is out of my hands.

1 2 3 4 5

15. In class my mind wanders and I often wish I were someplace else.

1 2 3 4 5

16. An important reason I want to go to college is because my family wants me to go.

1 2 3 4 5

17. If class is important I can concentrate even if the teacher of topic is boring.

1 2 3 4 5

18. I feel comfortable being responsible for my education and learning.

1 2 3 4 5

19. Of all the reasons to be at school one of the most important is social and friendships.

1 2 3 4 5

20. I feel that I have to get an 'A' in every class, otherwise my parents would be upset.

1 2 3 4 5

21. Some days I am enthusiastic about learning but other days I don't really care.

1 2 3 4 5

22. I try to do exactly what the teacher demonstrates, but seldom think about applications.

1 2 3 4 5

23. If my class is very difficult I will usually give up and blow it off.

1 2 3 4 5

24. At school, some days I am serious and others I have different priorities.

1 2 3 4 5

25. When I do poorly on a test I think of what I did wrong and try to solve the problem.

1 2 3 4 5

26. I don't have clear priorities for school and life. I usually just go with the flow.

1 2 3 4 5

27. I want to complete my schoolwork but I often fail to set aside enough time.

1 2 3 4 5

28. I find most class topics interesting-I'm seldom bored in class.

1 2 3 4 5

29. If class is very difficult I buckle down and study more.

1 2 3 4 5

30. Although I have many priorities, learning in school is always one of my most important.

1 2 3 4 5

31. Sometimes I feel confident I know what I want from my education but other days I'm not

1 2 3 4 5

32. I know why I am in school and clear goals I want to achieve.

1 2 3 4 5

33. When I do poorly on a test I get upset and worry what friends and family might think of me.

1 2 3 4 5

34. Sometimes I get upset when I do poorly on a test and other times I just let it slide.

1 2 3 4 5

35. Finding time to study often takes a back seat to social and recreational activities.

1 2 3 4 5

36. When a class is demanding my first reaction is to work harder.

1 2 3 4 5

37. Sometimes I am interested in what is being discussed in class but other days I'm bored.

1 2 3 4 5

38. When school is challenging I find a way to learn even if I have to try new ways to learn.

1 2 3 4 5

39. Most of the material I am asked to learn in my classes is boring.

1 2 3 4 5

40. Finding time to study may be difficult so I set aside time to complete my homework.

1 2 3 4 5

Appendix F

Cedar Ridge Student Survey Data

	S1	S2	S3	S4	S5	S6	S7	
Q1	4	5	4	5	4	4	3	
Q2	2	1	1	2	2	2	3	
Q3	4	2	2	4	2	1	4	
Q4	3	5	5	5	3	4	3	4
Q5	3	4	5	3	2	5	2	3.428571429
Q6	2	4	4	2	1	4	2	
Q7	3	1	2	3	2	2	3	
Q8	4	1	2	1	2	2	1	
Q9	5	5	5	5	4	5	4	
Q10	2	1	2	1	3	2	4	
Q11	3	3	2	3	3	3	3	
Q12	4	3	2	4	3	3	5	
Q13	3	1	2	3	3	2	3	
Q14	2	3	2	2	4	2	3	
Q15	3	1	2	2	5	2	3	
Q16	3	2	2	3	2	3	2	
Q17	3	5	3	4	3	4	2	3.428571429
Q18	4	5	4	4	4	5	5	4.428571429
Q19	3	3	4	4	3	4	5	
Q20	2	1	3	2	2	2	1	
Q21	4	1	3	3	4	3	4	
Q22	3	3	3	2	3	3	3	
Q23	2	1	2	2	2	2	2	
Q24	4	4	3	3	4	4	3	
Q25	5	5	4	3	2	2	3	3.428571429
Q26	5	1	2	2	2	1	4	

Q27	4	1	2	4	4	4	2	
Q28	2	5	4	3	2	3	3	3.142857143
Q29	4	4	3	3	1	2	3	
Q30	5	5	3	4	3	4	3	3.857142857
Q31	5	4	3	4	4	4	3	
Q32	3	5	4	4	3	4	3	3.714285714
Q33	1	3	3	2	1	3	2	
Q34	3	1	2	4	3	1	4	
Q35	2	3	3	3	4	3	4	
Q36	4	3	3	3	3	3	3	
Q37	4	1	3	4	4	4	4	
Q38	4	5	4	3	3	3	4	3.714285714
Q39	2	1	2	2	1	1	1	
Q40	4	4	2	3	2	1	3	2.714285714
							Achieved avg.	3.53968254

Appendix G

Kobe Middle School Student Survey Data

	S 1	S 2	S 3	S 4	S 5	S 6	S 7	S 8	S 9	S1 0	S1 1	S1 2	S1 3	S1 4	S1 5	S1 6	S1 7	S1 8	S1 9	S2 0	S21		
Q1	5	4	5	4	5	5	5	5	5	5	4	5	1	5	5	5	5	5	5	5	5	3	
Q2	1	5	1	1	2	2	3	1	4	3	2	1	1	2	2	2	3	2	2	2	2	5	
Q3	1	2	1	4	1	2	3	4	4	4	2	2	4	4	1	1	3	2	2	3	3		
Q4	4	5	4	5	5	5	4	5	5	5	3	4	3	3	4	5	5	5	4	4	3	4.285714286	
Q5	5	3	5	2	3	2	3	1	5	3	3	3	1	2	2	5	4	4	4	3	4	3.19047619	
Q6	4	1	5	2	3	2	4	1	5	2	1	3	1	2	2	5	3	2	2	1	2		
Q7	2	4	1	2	3	4	4	2	5	3	3	2	3	4	4	2	4	5	3	2	4		
Q8	1	2	1	2	1	1	3	1	4	1	2	1	4	1	2	2	2	1	1	1	2		
Q9	5	1	5	4	5	5	5	5	5	4	4	5	3	5	4	5	5	5	5	5	4		
Q1 0	3	1	1	1	3	1	3	2	4	3	2	1	2	1	3	3	4	1	1	1	3		
Q1 1	3	1	1	2	4	2	3	4	4	4	3	2	1	3	2	4	5	2	3	3	4		
Q1 2	4	5	4	3	2	2	3	2	4	2	3	2	3	3	2	2	4	2	4	3	4		
Q1 3	3	1	1	1	1	1	5	1	4	1	3	1	3	3	2	2	3	3	2	1	3		
Q1 4	4	3	3	3	1	2	5	2	4	4	3	3	2	4	3	4	4	2	3	2	4		
Q1 5	3	4	5	2	4	1	5	2	4	4	3	2	3	4	2	2	5	3	4	3	3		
Q1 6	2	1	1	2	3	4	1	1	4	3	3	2	2	1	1	4	5	3	1	3	2		
Q1 7	2	2	4	3	2	5	5	5	4	3	2	5	2	5	4	5	4	4	4	3	3	3.619047619	
Q1 8	4	4	5	4	4	4	3	5	4	4	3	5	2	5	4	5	2	4	4	4	4	3.952380952	
Q1 9	5	5	5	3	4	2	5	3	4	4	4	4	2	5	4	5	2	5	5	2	5		
Q2 0	2	4	1	2	4	4	5	1	4	5	4	3	1	1	2	3	4	3	2	5	5		
Q2 1	4	4	4	2	2	1	3	2	3	4	3	3	2	5	3	3	3	2	4	4	3		
Q2 2	2	1	5	2	2	2	4	3	3	4	3	4	3	3	3	4	4	4	3	3	3		

Q2 3	1	2	1	1	1	1	2	1	3	2	2	2	2	2	2	2	3	2	2	2	2		
Q2 4	2	4	3	2	3	2	3	1	3	2	3	3	2	4	3	3	4	3	5	4	4		
Q2 5	3	4	4	3	5	5	1	4	4	4	4	5	2	3	4	5	3	1	4	4	4	3.6190476 19	
Q2 6	2	5	1	1	1	2	4	2	4	4	3	3	3	3	4	3	2	2	1	2	3		
Q2 7	2	2	4	3	1	2	3	1	4	3	3	2	3	4	3	2	2	4	4	2	4		
Q2 8	3	4	5	4	2	4	4	5	4	3	3	4	2	3	4	2	3	2	4	4	3	3.4285714 29	
Q2 9	3	2	3	1	3	5	2	5	4	3	3	4	2	3	4	4	4	2	2	4	3		
Q3 0	4	1	2	4	4	5	5	5	4	4	3	5	3	4	4	5	5	5	4	4	3	3.9523809 52	
Q3 1	3	5	1	2	5	4	4	3	4	3	3	3	3	5	2	2	4	4	4	4	4		
Q3 2	4	3	5	2	4	5	4	4	5	4	3	5	3	3	4	5	4	3	5	3	4	3.9047619 05	
Q3 3	3	4	1	3	5	2	4	2	4	5	4	2	1	2	2	2	5	4	1	5	2		
Q3 4	3	5	4	3	2	2	1	2	4	2	2	4	3	2	4	2	2	3	4	5	2		
Q3 5	4	3	5	2	3	2	3	3	4	4	3	4	3	5	4	3	3	3	4	2	3		
Q3 6	4	1	3	2	2	5	3	5	4	3	3	5	2	3	3	5	3	3	4	3	3		
Q3 7	4	5	5	3	2	2	4	2	4	4	4	4	4	3	5	2	3	4	4	4	3	5	
Q3 8	3	5	3	2	4	5	4	5	4	3	3	4	2	4	5	4	1	4	5	3	4	3.6666666 67	
Q3 9	3	5	1	1	1	1	4	1	3	3	2	2	2	4	2	2	4	3	1	1	2		
Q4 0	2	2	3	2	4	4	5	4	5	3	4	5	2	3	3	5	4	2	3	4	3	3.4285714 29	
																						Achieved avg.	3.7047619 05

Appendix H

Christensen Academy Student Survey Data

	S1	S2	S3	S4	Avg.
Q1	4	5	4	3	
Q2	1	1	2	4	
Q3	1	2	1	4	
Q4	5	5	4	2	4
Q5	3	4	4	1	3
Q6	2	3	3	1	
Q7	3	3	2	3	
Q8	1	2	2	2	
Q9	5	5	4	3	
Q10	1	2	2	4	
Q11	1	5	3	4	
Q12	3	2	2	4	
Q13	2	1	2	3	
Q14	2	2	3	4	
Q15	2	3	4	3	
Q16	2	2	2	1	
Q17	4	5	3	2	3.5
Q18	4	4	4	3	3.75
Q19	3	3	4	4	
Q20	2	3	2	3	
Q21	2	3	3	4	
Q22	1	3	3	3	
Q23	2	2	2	2	
Q24	3	2	3	4	
Q25	4	5	4	4	4.25
Q26	2	2	2	3	
Q27	2	4	2	4	
Q28	4	4	3	2	3.25

Q29	3	3	3	1	
Q30	5	5	3	2	3.75
Q31	3	2	2	4	
Q32	4	5	4	2	3.75
Q33	1	3	5	3	
Q34	3	3	2	4	
Q35	3	3	4	4	
Q36	4	3	3	2	
Q37	2	2	4	4	
Q38	4	5	3	3	3.75
Q39	1	2	2	3	
Q40	3	4	3	2	3
				Achievement avg.	3.6

Appendix I

Mountain Valley Middle School Student Survey Data

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	
Q1	5	4	4	4	4	4	4	3	5	5	5	3	5	5	4	3	5	
Q2	1	1	2	3	1	4	2	2	2	2	2	3	1	1	2	2	1	
Q3	2	1	4	4	3	2	2	2	1	3	4	2	1	4	5	4	4	
Q4	5	4	5	4	3	4	5	4	4	5	5	5	5	5	2	4	5	4.352941176
Q5	4	4	2	5	4	4	4	3	5	5	2	4	5	3	4	3	2	3.705882353
Q6	3	2	2	5	2	3	3	1	1	2	1	3	5	4	2	2	1	
Q7	1	2	3	5	1	4	1	5	3	4	1	4	1	4	3	2	1	
Q8	2	2	2	3	2	1	1	5	2	1	1	2	1	1	3	4	1	
Q9	5	5	3	4	3	5	5	2	5	5	5	4	5	5	4	3	5	
Q10	1	3	4	4	1	2	1	1	1	3	1	2	1	3	3	1	1	
Q11	3	4	3	3	4	2	4	3	3	5	2	3	5	4	3	2	3	
Q12	3	5	3	3	5	3	2	4	3	3	1	2	2	2	2	3	1	
Q13	2	1	3	2	1	2	1	5	2	2	2	3	1	3	2	5	1	
Q14	4	3	4	5	5	4	4	4	4	5	1	3	2	4	3	4	1	
Q15	4	4	5	5	5	5	3	5	4	3	2	5	1	3	2	5	1	
Q16	2	3	2	4	1	4	1	3	2	3	1	2	2	5	1	3	1	
Q17	3	5	3	3	2	4	4	2	2	4	4	3	5	5	4	3	5	3.588235294
Q18	5	2	3	3	3	4	4	4	4	5	5	3	5	5	4	3	5	3.941176471
Q19	4	5	4	4	4	4	4	5	5	3	3	3	2	5	3	4	5	
Q20	2	5	2	3	1	4	4	2	4	1	3	2	1	5	2	1	1	
Q21	4	5	2	4	5	5	2	4	4	4	2	3	1	3	3	3	1	
Q22	2	4	3	3	3	4	4	3	3	4	2	3	3	4	3	2	1	
Q23	1	1	3	4	5	4	1	3	1	2	1	2	1	1	2	2	1	
Q24	4	4	4	4	4	5	3	4	3	4	1	3	2	5	3	3	1	
Q25	5	4	2	3	2	4	4	4	4	4	4	2	5	4	4	4	5	3.764705882
Q26	2	3	4	4	3	2	3	2	2	4	2	3	1	2	2	3	1	
Q27	1	5	4	3	5	3	2	4	3	3	2	4	1	4	3	3	1	
Q28	3	5	3	3	4	5	2	2	3	4	4	3	4	3	3	4	5	3.529411765

Q29	4	4	2	2	1	3	3	1	2	3	4	2	5	5	3	5	5		
Q30	4	4	2	3	3	3	4	1	3	4	4	2	4	4	2	4	5	3.294117647	
Q31	3	5	4	4	5	4	3	3	2	5	2	3	1	3	2	3	3		
Q32	5	2	3	4	4	4	5	3	3	5	4	3	5	4	3	4	5	3.882352941	
Q33	2	5	4	5	1	5	4	2	2	4	2	5	1	5	2	5	2		
Q34	3	3	5	3	5	4	3	5	3	1	2	2	3	4	2	5	3		
Q35	3	5	3	3	4	3	3	4	3	4	2	2	1	4	3	4	2		
Q36	5	4	2	1	3	4	4	3	4	5	4	3	4	5	4	5	5		
Q37	5	2	4	4	5	5	5	4	4	3	3	3	1	5	3	5	4		
Q38	4	5	2	4	4	3	4	5	4	4	3	3	5	5	3	5	5	4	
Q39	2	1	4	4	2	2	4	5	3	2	1	4	1	2	2	3	1		
Q40	5	5	4	3	3	3	4	2	4	4	5	3	5	5	4	3	4	3.882352941	
																		Achieved avg.	3.794117647