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Teacher Experience with Personalized Learning:

Training, Program Elements, and Teacher Role at Two Low SES Schools

A dissertation submitted in partial satisfaction of the
requirements for the degree Doctor of Education

by

Ces'Ari Racine Garcia-Delmuro

2019

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2019

ABSTRACT OF THE DISSERTATION

Teacher Experience with Personalized Learning:
Training, Program Elements, and Teacher Role at Two Low SES Schools

by

Ces'Ari Racine Garcia-Delmuro

Doctor of Education

University of California, Los Angeles, 2019

Professor Kathryn M. Anderson-Levitt, Co-Chair

Professor Mark P. Hansen, Co-Chair

Teachers are the foundation for effectively implementing personalized learning environments. This comparative case study investigated 16 teacher's experiences with a

personalized learning program by focusing on users of the Pinnacle Learning¹ program, at two low-income school sites in southern California. This research's conceptual framework is based upon Venkatesh and Davis' (2000) determinants of perceived usefulness and Venkatesh and Bala's (2008) determinants of perceived ease of use. Ultimately, this study reveals that in general teachers perceive personalized learning as relatively advantageous to their role in the classroom due to its fairly high level of ease and high level of usefulness, thus making teachers more likely to continue acceptance of this technology at their school sites.

During this study's exploration of teacher beliefs about the Pinnacle Learning program, four specific areas were explored: training, use of program elements, classroom roles of teachers using a personalized learning program, and site implementation issues. By understanding teacher beliefs and attitudes on their use of and experience with personalized learning technology, this study was able to identify areas of concern that can be addressed and areas of strength that are beneficial to continue at each school site. Teacher input on the adoption of a personalized learning platform provides the often missing teacher voice from the research available on

¹ The name of the personalized learning program was changed to maintain confidentiality.

personalized learning. Input about how the role of teacher is changing may inform preparation programs and ongoing professional developments for teachers. Additionally, data from this research may help low SES schools who are considering the adoption of an online personalized learning platform as there have been limited studies which solely focus on this student demographic.

The dissertation of Ces'Ari Racine Garcia-Delmuro is approved.

Marvin C. Alkin

Robert Cooper

Kathryn M. Anderson, Committee Co-Chair

Mark P. Hansen, Committee Co-Chair

University of California, Los Angeles

2019

DEDICATION PAGE

I dedicate this manuscript as a gift to my parents and first mentors, Julian and Frances Garcia, who dedicated their lives to ensuring that I received a high quality education for the betterment of my life. Through my father's labor and love, I was given opportunities to pursue my education at institutions I would not have had access to otherwise. Similarly, through my mother's caring guidance and structure, I was able to better navigate these spaces and thrive. My academic success is a testament to the best gifts my parents gave me: the ability to dream and work tremendously hard, a strong moral compass, and creative thinking. I have dedicated my life to the field of education to ensure that one day, all students will have the opportunity to receive a high-quality, personalized education no matter their socio-economic background or residence, to ensure that other parents do not have to make similar sacrifices to those that my parents had to make to secure their child's future.

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VITA

- 2010
B.A. in Political Science
University of California, Irvine
Irvine, California
- 2010-2012
Corps Member
Teach For America
Phoenix, Arizona
- 2012
Masters in Secondary Education
Mary Fulton Teacher's College, Arizona State University
Tempe, Arizona
- 2012
Single Subject Teaching Credential with English Learner Authorization
Mary Fulton Teacher's College, Arizona State University
Tempe, Arizona
- 2010-2012
Seventh Grade Science Teacher
Don Mensendick Middle School
Glendale, Arizona
- 2013-2014
Lead Supplemental Instruction (SI) Program Advisor
Learning & Academic Resource Center
University of California, Irvine
- 2013-2014
Coro Executive Fellowship

	Coro Los Angeles, CA
2013-2014	Executive Fellows Program Leadership for Educational Equity Los Angeles, CA
2014	Women's Political Leadership Fellowship Leadership for Educational Equity Los Angeles, CA
2014-2015	Operations Manager Camino Nuevo Charter Academy - Burlington Los Angeles, California
2015-2018	6th and 7th Grade English Teacher Omitted for anonymity Los Angeles, California
2018-Present	9th ELA-Sheltered, 11th ELA, and ELD 2 Teacher Diamond Bar High School Diamond Bark, California

Chapter 1: Introduction

Personalized learning is often defined as a multifaceted, student-centered approach to learning which requires a deep knowledge of students' capabilities, preferences, and interests (Abawi, 2015). Presently, personalized learning integrates technology and often includes an online learning component (U.S. Department of Education, 2016). The United States' 2010 technology plan released under the direction of Secretary of Education Arne Duncan states that personalized online learning, a word used as an umbrella term for online and blended learning, is defined as learning that is both individualizing (differentiating learning experience through pace) and differentiating (tailoring to fit individuals' needs, while also allowing flexibility in content or theme to suit the interests and prior experience of each learner).

In 2017, research continues to be elusive that confirms that the use of personalized learning programs increases K - 12 student academic achievement by offering a better, more personalized way to learn (Pane, Steiner, Baird, and Hamilton, 2017). Nevertheless, The Bill and Melinda Gates Foundation, the Dell Foundation, Facebook's Mark Zuckerberg, The Chan Foundation, and others, have made sizeable donations to advance personalized learning research and development (Osborne, 2016; Roberts-Mahoney; 2016). For example, in 2015, Facebook founder and CEO Mark Zuckerberg and his wife Priscilla Chan (a former teacher) announced that they would donate 99% of their Facebook shares, which is currently worth approximately \$45 billion, to help "advance human potential and promote equality for all children in the next generation" (Chan Zuckerberg Initiative, 2015). They stated that this money would support the Chan Zuckerberg Initiative's foci, one being personalized learning. Additionally, strong financial backing and political support from Arne Duncan, the former U.S. Secretary of Education,

spurred the growing number of schools adopting personalized learning programs in the United States since 2015 (Prain et al., 2013; Herold, 2016; Cavanagh, 2014; Public Impact et al., 2014; Murphey et al., 2014; Summit Learning, n.d.).

In February 2016, The International Association for K-12 Online Learning (iNACOL), like the Department of Education, worked toward better defining personalized learning by identifying 10 elements that simultaneously work together to create a personalized learning experience (see chart below). As seen in the chart below, there is overlap between the definitions, but iNACOL's included six other attributes of personalized learning beyond those listed by the Department of Education.

Table 1: iNACOL’s and U.S. Department of Education’s definitions of personalized learning.

iNACOL’s 10 Elements of Personalized Learning (2016)	U.S. Department of Education’s Definition of Personalized Learning (2016)
Student agency (student has voice and choice on level of standards/lesson and some control over how they learn)	--
Differentiated instruction	Same
Immediate instruction interventions and supports for each student on-demand	--
Flexible pacing (when needed)	Same
Individual student profiles (personalized learning plan)	Allows flexibility in content or theme to suit the interests and prior experience of each learner learning.
Deeper learning and problem solving to develop meaning	--
Frequent feedback from instructors and peers	--
Standards-based, world-class knowledge	--
Anywhere, anytime learning	Online/Blended
Performance-based assessments - project-based learning, portfolios, etc	--

Despite the ambiguity surrounding definitions and academic outcomes of personalized learning, schools are continuing to adopt personalized learning programs in the hope that students will achieve academic success (Pane et al., 2015; Herold, 2016; Wang & Woodworth, 2011).

Schools have been founded as personalized learning institutions, and an example of one in California that has garnered media attention for its promising educational success and was also featured in the 2010 documentary *Waiting for Superman* is Summit Learning (Summit, n.d.). Furthermore, Summit Learning schools have been named one of the nation’s top 50 high schools by *U.S. News & World Report*, one of the “Ten Most Transformative Schools” in a *Newsweek* article, and one of the best high schools in Silicon Valley at preparing Latino students for college

by Innovate Public Schools; it was also featured in a prominent documentary featuring transformative schools.

A typical day for students and teachers in classes looks different from that of a traditional school setting. For example, each Summit Learning school has its own daily schedule, so there is flexibility from school site to school site in how their day is structured, but all schools share the same core learning experiences focused on college and career readiness (Summit Learning, n.d.). Project-based learning time take place each day with students' content teachers in math, science, English, history, and Spanish (if offered) classes. Additionally, the following set of experiences take place at least once a day and can occur during a non-content class/es or may be embedded within a content class: sustained silent reading (SSR) time, personalized learning time (PLT) on the Personalized Learning Platform (PLP), Summit solves, mentor time, and community time. From students' perspective, they move from content class to content class each period (there is 1:1 technology in each room), where the Summit Platform is used for the following subject areas: math, English, science, history, and Spanish (if offered). There are also blocks of time in each school's schedule set aside for participation in one-on-one mentoring meetings, as well as, other content areas not covered by Summit Learning. Outside of class, students are expected to continue working on their personalized learning platform at their own pace to ensure that they are meeting the individual learning goals that they set with their mentors.

Personalized Learning Knowledge Research Gaps

Teachers are the foundation for effectively implementing personalized learning environments. According to a study by Hanover Research, teacher buy-in and the traditional

teacher role must change when implementing personalized learning, so that the teacher role includes aspects of education that were traditionally associated with an instructional facilitator (Hanover Research, 2014). Some articles not in favor of personalized learning (Roberts-Mahoney, Means, & Garrison, 2016; Prain et al., 2013) state that teachers are reduced to a coach and data collector. What the articles do agree upon is that fact that the change in job duties will affect the role of teachers and students, the way teachers are trained, and the nature of their job (Cavanagh, 2014; Prain et al., 2013; Roberts-Mahoney, 2016; The Center For Digital Education, 2013).

However, data is limited on teachers' perceptions of their training or role once implementation has begun, or their particular use of elements of the personalized learning programs. Little of the research conducted on personalized learning focuses on the impact it has on teachers (Courcier, 2007; Fisher & White, 2017; Jenkins, Williams, Moyer, George, & Foster, 2014), although teachers are the individuals charged with implementing these programs in their classrooms. Nonetheless, there are a few studies that give a glimpse into what teachers are experiencing and they are as follows. Courcier (2007) conducted interviews with teachers to describe personalized learning reforms in England; however, their programs did not include online learning and the interviews did not focus on the teachers' experience. Next, in Jenkins et al. (2014), none of the teachers attended a preparation program specifically for personalized learning, and without training, many of the teachers acted on their own to research and visit other schools and share their learnings with their colleagues. Readers must be aware of potential bias in this study since the authors' organization promotes personalized learning. Furthermore, the data from the Fisher and White (2017) study focuses on feedback collected from educators on

how others can embrace change in a personalized learning classroom and does not focus on their needs. Similar to Jenkins et al. (2014), Fisher and White's (2017) research was conducted on behalf of organizations promoting personalized learning and the interviews also included non-teachers. Most recently, Gross and DeArmond (2018) conducted a study of schools who were recipients of the Next Generation Systems Initiative (NGSI) or the Next Generation Learning Challenge (NGLC) integrating personalized learning. This study included a focus on teachers; however, like their predecessors, they were funded by an organization with interest in technology integration, in this case, the Bill and Melinda Gates Foundation. The study found that there is a need to bring educators together to identify problems and/or issues surrounding personalized learning, thus highlighting the lack of knowledge surrounding teacher perception of their experience with personalized learning.

Although teachers are facilitating personalized learning in their classrooms, there is an overall gap in knowledge about teacher's experiences with personalized learning, such as a lack of information surrounding how to best develop teachers on how to best implement personalized learning programs in their classroom (Gross & DeArmond, 2018). There are varied programs that prepare teachers to use personalized learning and each program may use its own platform and curriculum. For example, Summit Learning defines its platform as, "an online tool that allows teachers to serve as instructional coaches while students set individual goals, create roadmaps to achieve them, learn content at their own pace, and dive into meaningful projects that connect to the real world" (Summit Learning, n.d.). The Summit program trains teachers on these programs during week, long summer sessions, as well as, throughout the year at local conferences where they share best practices; however, there is no data which demonstrates that

these trainings are effective in teaching teachers these best practices or that these best practices are effective for all school sites. According to Bingham, Pane, Steiner and Hamilton (2018), teacher professional development and preparation programs need to stay up to date and the development of tools and skills needs to be in line with the needs of teachers in a personalized learning setting. Nations that outperform the United States on international assessments invest heavily in professional learning and provide teachers time during work hours for continuous professional development and collaboration (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). However, American teachers state that even when they receive professional development, much of the professional development available to them is not useful (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). However, when professional development is provided and focused on specific, higher-order teaching strategies, it increases teachers' use of those strategies in the classroom (Porter, Garet, Desimone, Yoon, & Birman, 2000).

In addition to needing to understand how teachers are trained for personalized learning, another example of an area of teacher experience that is needed is to understand how teachers are implementing these programs for students from low socioeconomic status as well as how they are overcoming barriers. Research on low SES schools reveals that students typically struggle academically as compared to more affluent schools due to lower reading and math levels as compared to middle-class schools (Logan, Minca, & Adar, 2012; The Nation's Report Card, 2017). These students, therefore, require additional supports that personalized learning programs may or may not be providing (Bingham, Pane, Steiner, & Hamilton, 2018). Some of the allure of a personalized learning model is the ability teachers have to target gaps in student academic

knowledge and teach to a student's level, rather than having all students working on the same task (Bingham et al., 2018). This matters because low SES schools often require teachers to offer academic supports and it is assumed that personalized learning programs meet all of the needs of students, but to date, there is limited research available based on low SES schools which captures how teachers see their role, trainings that teachers found helpful and unhelpful, and how teachers are using elements of personalized learning in their classroom. Therefore, a better understanding on how teachers are using elements of the program to target student needs will provide school leaders with the ability to make informed decisions surrounding next steps in their adoption of personalized learning.

Problem Statement

This study sought to fill a gap in the research, while also supporting teacher voice as they are the program facilitators in the classroom. Research states that if classroom reforms are to be successful, teacher participation is critical (Rogers, 1983; Davis, 1989; Hart, 1995). Furthermore, the findings of this research may help low SES schools who are considering the adoption of a personalized learning platform which uses blended learning as there have been no studies which solely focus on this student demographic.

This case study investigated an overarching question - What is the experience of teachers using a specific personalized learning program? The level of program ease and level of program usefulness were both used as indicators of teachers' experience with the program and how they might influence their belief that the program is user-friendly and useful. The other four areas explored in this study deal with the teacher's experience with the program by focusing on the

impact of their training and the support they need, facilitation of program elements, how they identify in their role, and how teachers are overcoming implementation barriers.

Background of the Problem

Personalized learning is an educational reform movement spurred by the desire of many to end traditional schoolhouse methodologies and to adopt a reform that may bring about high academic achievement and 21st-century skills for all students (The Center for Digital Education, 2013). The Every Student Succeeds Act (ESSA) is a federal education policy which follows the No Child Left Behind (NCLB) Act, and echoes the call for educational reform to help all students succeed. With this act, Congress has given states flexibility in how they design their education systems, a flexibility that personalized learning proponents believe can help states personalize learning for student success (Knowledge Works, 2016). John F. Pane (a senior scientist at RAND Education) and his associates argue that a major benefit of personalized learning is its use of a variety of instructional formats as a way to engage different types of learners (Pane et al., 2015, p. 19). However, reform efforts such as personalized learning may involve dangers. Reform movement case studies performed by Little and Bartlett (2002) reveal that although teacher involvement in ambitious reforms might give opportunities for professional growth, it may also lead to long term career disappointment after the initial excitement of implementation wanes. Furthermore, innovative changes bring forth mixed emotional patterning responses from teachers and it is important to prepare teachers who start a reform movement, like personalized learning, about the feelings and experiences they may encounter (Saunders, 2013). Reform movements that have been the most successful are those where teachers were in

the lead (Hart, 1995). Currently, teacher's voice has been left out of most research on personalized learning.

One notable exception is a study conducted by Jenkins, which focused on teacher perceptions. Seventy-seven interviews (48 with teachers) were conducted at thirty schools across 19 districts. Data from the interviewees identified three general themes: there is the ability to transform teaching and learning for students when power is in teachers' hands and when teachers are given clear expectations, flexibility, and individualized supports, teachers can create classrooms where all students thrive and have access to resources to help them learn and progress through their academic careers (Jenkins, Williams, Moyer, George, & Foster, 2014). But, this study does not identify the personalized learning platforms that were used by schools. Personalized learning platforms differ, and teaching methods may differ from platform to platform. However, what this study highlights is that in all personalized learning programs, students' sources of information are no longer limited to teachers although teachers may curate resources for students. Additionally, this article like others, states that teachers are necessary for personalized learning to happen effectively; but with personalized learning, teachers' roles are redefined as coaches and mentors (Cavanagh, 2014; Prain et al., 2013; Roberts-Mahoney, 2016; The Center for Digital Education, 2013).

Because personalized learning requires well-trained, knowledgeable teachers to carry out implementation, the issue of teacher quality that low SES schools wrestle with arises (John & Wheeler, 2012). According to the CSU Center for Teacher Quality, each year, 1 in every 10 teachers who worked in low SES schools left to go to other schools (Futernick, 2007). In 2015, Gray, Taie & O'Rear state that annually, 17% of new teachers leave the profession within their

first five years. Furthermore, teacher attrition is even higher in poor, urban schools, where on average about 20% of the entire school faculty leaves annually, which is approximately 50% higher than the rate in more affluent schools. The fact that low SES schools have difficulty retaining teachers is concerning given the data collected from a 2016 empirical study, which identified that teachers' knowledge and experience has significant positive associations with low SES students' performance gains (Fischer et al., 2016). The findings of this study call for the continued exploration of incentivizing experienced and skilled teachers to be recruited and retained within low-SES urban schools (and schools with urban characteristics) to see academic gains. For low SES schools to see academic gains, they must focus on the professional development of their teachers while implementing personalized learning programs. This study seeks to provide schools with a better understanding of how teachers are using an online personalized learning program, how teachers' experience with the program might influence their belief that the program is user-friendly and useful by exploring teachers' training needs to implement personalized learning, their use of program elements, beliefs about the classroom roles of teachers who use a personalized learning program, as well as how teachers are overcoming site implementation issues. Furthermore, schools will have data to inform their practice if they too are piloting a personalized learning program like the one used in this study or if they are considering adoption.

The elements of this study have been conceptually mapped out in the following framework.

Conceptual Framework

This study's overarching question - What is the experience of teachers using a specific personalized learning program? - is explored through what teachers said about personalized learning and its impact. By honing in on six specific areas: ease of use, usefulness, training, use of program elements, classroom roles of teachers using a personalized learning program, and site implementation issues, this study uses the theory of diffusion as a guide (Rogers, 1983; Rogers, 2010). Additionally, this study's conceptual framework builds on Venkatesh and Bala's updated version of Fred Davis' Technology Acceptance Model (1989), known as Technology Acceptance Model 3 (Venkatesh & Bala, 2008).

The theory of diffusion used in this study stems from the idea that an innovation, an idea perceived as new, spreads via certain channels of communication over time among members of a social system (Rogers, 2010). E.M. Rogers was a key player involved with the creation of the diffusion model and still influences the conceptual framework of many technology adoption studies. The theory of diffusion was first applied to U.S. agriculture in the 1950s, but Rogers later transferred the diffusion model to the field of public health and other fields and has since been an advocate for the generalizability of the model. Rogers (2003) states that getting new ideas or technology adopted is not easy, even if it has advantages. Because diffusion is a special type of communication where messages are about a new idea, the newness can result in a level of uncertainty. Whether or not the diffused idea or technology is adopted, consequences occur that result in social change.

According to Rogers (2003), an innovation does not necessarily need to be new so long as it is perceived as a new innovation. As mentioned in this study's literature review, personalized learning is not a new notion; however, online personalized learning programs are new to education. Rogers claims that so long as an idea seems new to the individual, it is an innovation. The decision process to accept the technology, in this case, an online personalized learning program, is an information-seeking and information-processing activity where a teacher is motivated to reduce uncertainty about the advantages and disadvantages of technology based off of Roger's theory. With this said, Rogers states that the characteristics of innovations, as perceived by individuals, help to explain their level of adoption. Therefore, innovations that are perceived as having greater relative advantage (the degree to which a technology is viewed as better than the idea it supersedes), compatibility (the degree to which a technology is perceived as being consistent with existing values, past experiences, and needs of adopters), and triability (the degree to which an innovation can be experimented with), and less complexity (the degree to which a technology is perceived to be difficult to understand and use) will be adopted more rapidly (Rogers, 2003). With this said, the acceptance of an innovation is a process which relies heavily on human capital and must be widely adopted to self-sustain (Rogers, 1983; Davis, 1989).

Davis and Venkatesh & Bala's theories build upon the theory of diffusion by linking ideas from the literature about teacher perceptions and its impact on personalized learning program acceptance; even if a school adopts a personalized learning program, it does not mean that every teacher has come to accept the program, uses it entirely, or uses it in the same way. For example, Summit Learning provides schools with an outline of program structures that need

to be adopted to facilitate the program, but the school's teachers ultimately decide whether or not they will adopt the technology according to school site or Summit expectations.

Davis' original model is an information systems theory that explains how technology users, in this case, teachers, come to accept and use technology, such as a personalized learning. It also states that when users are given a new technology, two factors, **perceived usefulness and ease-of-use**, influence their decision about how and when they will use it. In 2000, the Technology Acceptance Model 2 (TAM 2) was created and added **determinants of perceived usefulness**, which are areas that can influence whether or not a user views a technology as useful (Venkatesh & Davis, 2000). Influences on perceived usefulness are as follows: user experience, voluntariness, subjective norm, image, job relevance, output quality, and result demonstrability. In TAM 3, Venkatesh and Bala build upon anchoring and adjustment framing of human decision making, to create a model of the **determinants of perceived ease of use** - areas that influence whether a teacher views a technology as easy to use (Venkatesh & Bala, 2008). Examples of perceived ease of use are: computer self-efficacy, perceptions of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective usability.

The first factor which may contribute to teachers' use of personalized learning is their **perception of usefulness**, known as the **relative advantage** of the innovative technology via user experience (Rogers, 1983; Venkatesh & Bala, 2008). Teacher beliefs about the advantages of using technology suggest that an important predictor of teachers' use of technology is the individual teachers' beliefs about whether using technology positively impacts their role in the classroom (Rogers, 1983; Venkatesh & Bala, 2008). According to Marcinkiewicz (1994), individuals are more likely to adopt what they perceive as being worthwhile, which is similar to

E.M. Roger's relative advantage. Even though teachers who have a positive attitude towards information and communication technologies are more likely to use them, a positive attitude alone is not sufficient to ensure computer use for teaching (Ng & Gunstone, 2003). According to the literature, teachers may fear losing professional status as they adopt personalized learning in their classroom, thus damaging their perception of the technology's usefulness. Fabry and Higgs (1997) identified the fear of losing status as a factor that discouraged teachers from using computers. Additionally, teachers feared that their work could be undermined by using computers or that they could be replaced by computers (Fabry & Higgs, 1997). Therefore, teachers' perceptions of personalized learning's advantages can affect their adaptation to their new role as the teacher in a personalized learning program.

Additionally, TAM's 1989 theory states that **perception of usefulness** also impacts technology adoption and may also explain teachers' perceptions of elements of personalized learning and the training they received. As far as teacher satisfaction with elements of the program itself and their training are concerned, Rogers' belief that the network and technology will lead to increased adoption of the program (1962) may be plausible. With this said, teachers' perceptions of elements of a personalized learning platform and their training's usefulness can affect teacher acceptance of their personalized learning program, and if positive will lead to increased implementation.

If teachers perceive personalized learning as advantageous to their role in the classroom and that the program is useful based on their perceptions of elements of the personalized learning program and training, teachers will view this personalized learning platform as both advantageous and useful, thus leading to further acceptance of this technology at schools. This

case study aimed to identify the ways to best support teachers as they integrate personalized learning into their classroom. By understanding teacher beliefs and attitudes on their use of and experience with personalized learning technology, identified areas of concern can be addressed, and areas of strength can be continued. The research questions used in this study were developed to focus on elements of their experience with personalized learning that help inform their perceptions. Ultimately, the goal is to improve teacher perceptions about their experiences with personalized learning as it would make them more inclined to continue integrating technology via personalized learning into their classroom (Ng & Gunstone, 2003). By listening to teachers and addressing their needs, teachers can become the effective agents of change that the U.S. Department of Education aspires to have. In this manner, teachers will be able to best support underserved students through technology and personalization as a means of providing equitable access to high-quality educational experiences (U.S. Department of Education, 2016).

Research Questions

This study's overarching question - What is the experience of teachers using a specific personalized learning program? - was explored through a comparative case study. The personalized learning program was selected because it is viewed as a promising. The overarching question lends itself to capturing information about teacher's perceptions of the program's ease of use and usefulness; whereas, this study's research questions specifically capture the teacher experience in four areas: the training teachers report that they need, their use of elements of the personalized learning program, how they view their role in the classroom, and how they are overcoming barriers at their site. The four areas are studied through the following research questions (RQs).

- 1) What is the impact of personalized learning training at two Title 1 schools?
 - a) What additional training do teachers wish they had?
- 2) To what extent did teachers implement core elements of personalized learning?
 - a) What elements are not being used and how can we get them used?
- 3) How do teachers understand their role in a personalized learning classroom?
- 4) What are barriers to implementation at each site? What factors supported implementation at each site?
 - a) What issues are common?
 - b) How have other teachers addressed them?

Research Site and Population

In order to maintain anonymity, the learning program and both of the selected school sites were given pseudonyms. The personalized learning program is referred to as Pinnacle Education and sometimes just Pinnacle. While there are various personalized learning platforms, this study focused on one personalized learning program that is often considered one of the most promising. Pinnacle Education has stated that they would like to see personalized learning catch on across the country (Pinnacle document, 2016). Pinnacle Education also aided in the expansion of personalized learning when they decided to partner with 19 schools in the 2015-2016 school year (Pinnacle document, n.d.). The following year, they expanded their program to another 100

schools (Pinnacle document, n.d). For these reasons, the Pinnacle Education was selected for the study.

Of the 51 schools using Pinnacle Education in the United States, 15 are in California - one of them being a school where I was formerly employed. Fourteen of these schools are secondary schools and one is an elementary school. I studied two of the Pinnacle middle school sites in southern California. They were selected because they not only use Pinnacle, but they are also both considered low SES. The charter school in Los Angeles County was named Los Angeles Middle School (LAMS). Similarly, the other school is located in San Fernando County and was named San Fernando Middle School (SFMS).

The focus of this study is low SES schools because they work with the most academically vulnerable students. Personalized learning has been criticized by some who believe that students of low SES backgrounds need more direct instruction and scaffolding to be successful, whereas personalized learning tends to promote self-directed instruction (Campbell, Robinson, Neelands, Hewston & Mazzoli, 2007). As of 2017, 55 of the 131 schools that partner with Pinnacle Education are low SES schools that have 76-100% of their students on free and/or reduced lunch. In 2018, 84% of Pinnacle Education's students were considered economically disadvantaged at San Fernando Middle School (SFMS); whereas, 93.1% of Los Angeles Middle School (LAMS) students were considered economically disadvantaged. Both of these schools are considered low SES because they have a concentration of over 75% of students who receive free or reduced priced lunch (National Center for Education Statistics, 2017).

When schools partner with Pinnacle Education, schools are given a digital platform and program which includes free support, tools, and professional development. Professional development for new teachers facilitating Pinnacle's program consists of a one week school leader training in June followed by a one-week, full-time training in Northern California for all school staff. After this initial training, schools can choose to send teachers and coaches to local meetings that convene twice a year. Schools also have access to Pinnacle local coaches outside of conferences, but beyond this, teachers only have a Facebook group for support from fellow teachers and an electronic helpdesk on the Pinnacle platform.

Overview of the Research Design

The research design was a comparative case study (Merriam & Tisdell, 2016) of two different sites using the same program, Pinnacle Education. Comparing teachers from two low SES schools participating in Pinnacle Education in southern California highlights the similarities and differences experienced while implementing Pinnacle and also creates a larger pool of participants. The objective of the interviews was to determine how teachers perceive their role as the teacher in a personalized learning classroom, the impact of the training that teachers have received, and their use of elements of the personalized learning program. Additionally, implementation issues surrounding the personalized program were explored during the interviews. A second strategy included reviewing data from documents and websites, which included self-study documents from both school sites as well as documents about personalized learning at each of the sites in addition to those housed on the Pinnacle Education website. Through these strategies, data was triangulated to give a comprehensive exploration of the research problem (Creswell, 2013).

Significance of the Research

Teacher input on the adoption of a personalized learning platform provides the often missing teacher voice from the research available on personalized learning. The fact that the role of the teacher is changing may inform teacher preparation programs and ongoing teacher professional development. Additionally, data from this research may help low SES schools who are considering the adoption of a personalized learning platform which uses blended learning as there have been no studies which solely focus on this student demographic. This research is also essential for philanthropic donors and politicians who fund and support personalized learning programs because they need to consider teacher input when promoting the adoption of these programs. This research will shed light on how some teachers feel about their role in a personalized learning classroom, the supports received, their use of the program, and will hopefully lead to further data on training and research on ways to best support teachers using a personal learning platform.

Chapter 2: Review of the Literature

Introduction

Many districts around the United States are considering introducing or expanding online options for K-12 students, as personalized learning is seen as a viable option to address learner variability (Smith & Basham, 2014). Other countries have also adopted the movement to personalize learning via online platforms (Hartley, 2009; Courcier, 2007). The following review explores the origins of personalized learning and personalized learning programs currently in use, as well as, the impact that personalized learning is having on the teacher role and teacher perception research. This review investigates the perceptions of secondary school teachers who are using a personalized learning program; and it explores the impact teachers perceive personalized learning has on training, their role, and their satisfaction with teaching.

The literature begins with a discussion of the origins of personalized learning. However, the research shows that there is no consensus on where personalized learning originated. Next, I will discuss the more recent push for personalized learning, detailing its start in England and recently promoted by education, business, technology, and politics in the United States.

I will then explore four personalized learning programs that have been labeled as promising and address what makes them personalized. While exploring the components of these programs, I will also seek to define the common language in which program users must be familiar.

Next, I segue to discuss how personalized learning has changed the role of the teacher to become more of a coach and/or mentor figure. In this section, I will also build a case as to why teachers are critical to the successful implementation of personalized learning, which is necessary for ensuring student achievement.

Lastly, I will focus on current teacher perception and teacher satisfaction research as well as the conceptual theoretical framework that much of this research is grounded.

Development of Personalized Learning

Origins of Personalized Learning

Personalized learning is not the first education movement to tout learner-centric ideologies (The House of Commons Education and Skills Committee, 2006; Campbell et al., 2007). In fact, child-centered learning theories are traced back to educational theorists such as Rousseau, Dewey, Montessori, Piaget, Vygotsky, Skinner, and Bloom (Darling-Hammond, Austin, Orcutt, & Rosso, 2001). Child-centered theory, like personalized learning, is vast and has a different meaning depending upon the theorist.

In the 1762 novel, *Emile*, Rousseau first advocated for education to be shaped around a child's needs. In the early 1900s, John Dewey built upon this idea and wrote, *The School and Society* and *Democracy and Education*, in which he states that education is a process of self-directed student learning guided by teachers' cultural resources. By 1909, Maria Montessori's book, *The Montessori Method*, explained her child-centered approach to education. In this

method, the teacher, child, and environment create a learning triangle, where children can self-develop at their own pace (American Montessori Society, 2017).

Not long after Montessori's book was published, Jean Piaget's most notable books on child development appeared in 1923, 1924, and 1948. He was the first to state that learning is a developmental cognitive process and that students create knowledge rather than receive knowledge from the teacher (Darling-Hammond, Austin, Orcutt, & Rosso, 2001). Around the same time as Piaget, Vygotsky, a Russian scientist, developed the Zone of Proximal Development (ZPD), which brought forth the idea that learning should receive scaffolded education in response to a child's stage of development (Vygotsky, 1934). In B.F. Skinner's 1968 book, *Technology of Teaching*, he introduces the idea of children self-directing their own learning through the use of technology via a teaching machine with a pre-set curriculum - a device that arranges contingencies of reinforcement. Skinner's idea of children self-directing via a pre-set curriculum is in sharp contrast with the ideas of Rousseau, Montessori, and especially Piaget, who envision children exploring the environment more freely. A major stated benefit of the teaching machine is students' ability to learn at their own pace (Skinner, 1968). Presently, personalized learning, a child-centered ideology has developed into self-paced learning that occurs as students' needs are met.

David Hartley, a Professor of Education and Director of the Centre for Research on Organisations and Pedagogy at the University of Birmingham, argues that although current personalization efforts appear to be the modern revival of child-centered education (due to semantic similarities), it is not based on these educational theories at all (Hartley, 2009). Hartley contends that personalization is grounded in the contemporary marketing theories known as co-

production and tailored need, not child-centered education. Co-production and tailoring occur when the consumer and producer are in a relationship that allows them to co-produce the needs and tailor a solution for the needs of the consumer. When this theory is applied to education, schools work with a student to co-produce the identification of a student's needs followed by the tailoring or personalization of a solution for the student. Because there is no agreed upon concept of personalized learning, Hartley states that operationalization of research on this topic is challenging and multiple interpretations of its meaning will arise.

Researchers have acknowledged that there are still multiple interpretations of personalized learning (Campbell et al., 2007). The absence of a single definition may stem from the fact that there is a lack of research which traces personalized learning's origin (Hartley, 2009; Courcier, 2007; Campbell et al., 2007). For example, it is said that personalized learning may have also originated from Howard Gardner's theory of multiple intelligences because he too acknowledged individual student's interests, needs and abilities to find out their best learning style; however, some online personalized learning programs that are labeled as personalized learning do not consider multiple intelligences (Courcier, 2007; Guldberg, 2004; Johnson, 2004). For example, the personalized learning program used in this study does not consider student interests, needs, and abilities beyond giving freedom with pacing and having the ability to select from different sources to learn content. These sources are not necessarily available in different reading levels or are geared to student interest (unless teachers add resources), but students can usually choose between reading an article and/or notes, watching a video, or viewing a Powerpoint presentation. Overall, the lack of clarity surrounding the origins of personalized learning has led researchers like David Hartley and Ikumi Courcier, to draw conclusions on

where personalized learning ideology originated - child-centered educational theorists or economic marketing theories. Although this study focuses on personalized learning programs that use technology, personalized learning has existed in learning programs before the invention of computers as exemplified by the SRA reading laboratory (McGraw Hill Education, 2018).

The UK's policy adoption of personalized learning (1997 to 2005). Despite not having the definitive theoretical origins of personalized learning, the push for personalization in its modern form is traced to the United Kingdom under the New Labour Party. In 1996, the New Labour Party's, Tony Blair and David Blunkett commissioned two studies, the Stevenson Report and an evaluative survey by McKinsey and Company (Stevenson, 1997; The McKinsey & Company, 1997; John & Wheeler, 2012). The Stevenson Report's purpose was to examine the role that Information and Communications Technology (ICT) played in primary and secondary education. Whereas, the McKinsey and Company's (1997) evaluative survey aimed to provide an unbiased review of the opportunities, challenges, costs, and benefits of incorporating ICT more fully into the UK educational system. The latter report is founded on an analysis of how ICT was applied and the new possibilities that were emerging, and also reflects interviews conducted with educators and industry participants. Both of these studies gave policymakers a basis for future decision-making and paved the way for personalization through the promotion of integrating technology in classrooms (John & Wheeler, 2012).

However, it was not until 2005 that the plans for personalized learning were detailed in The White Paper *Higher Standards, Better Schools For All: More Choice for Parents and Pupils* (The House of Commons Education and Skills Committee, 2006). This document developed the goals of the program Every Child Matters by promoting the idea of children having access to

extra support within areas where they have a particular interest or aptitude. A second major document was published, titled *Harnessing Technology: Transforming Learning and Children's Services*, which detailed a strategic plan for, "boosting performance and standards across education," that was, "far-reaching and radical" (The Department of Education and Skills, 2005). In the document's foreword, Secretary of State Ruth Kelley explains that this plan seeks to give every student and learner a personal online learning space where they could digitally store their course materials, assignments, and achievements (The Department of Education and Skills, 2005). One of the most important takeaways from this document is the fact that personalized learning is synonymously referred to as e-learning. E-learning programs include all learning programs that are used through an electronic medium that is usually the internet. The advantage of e-learning programs is the ability to review material any time, at any location, without having to wait on a teacher or stay at the same pace as classmates; however, it is critical to highlight that pace and accessibility are not the only ways to personalize students' education. The disadvantage to grouping personalized learning as semantically similar to other e-learning programs because they are housed on online platforms is the fact that it creates a lack of clarity surrounding personalized learning's true definition and often implementation (John & Wheeler, 2012).

According to John and Wheeler (2012) between 1998 and 2004, £1.367 billion was made available for ICT infrastructure and teacher training. Additionally, between 2001 and 2002 the Standards Fund added £257 million for broadband computer connections (John & Wheeler, 2012; Campbell et al., 2007). Although there was a strong push for schools to embrace personalized learning via UK policy and monies available, schools adopted and implemented personalized learning to various degrees of success (Courcier, 2007). There were several studies

conducted following the implementation of personalized learning to capture its impact in schools (Dale, Robertson, & Shortis, 2004; Courcier, 2007; Campbell et al., 2007).

Dale, Robertson, & Shortis (2004) discussed the effects on teaching and learning institutions involved with the InterActive Education Project from 2000 to 2003. They argue that the National Grid for Learning provided the outline and infrastructure for personalized learning, but did not detail how it would be used and implemented.

Courcier, who is a professor from the Department of Educational Studies at the University of York, UK, conducted a study on England's implementation of a personalized learning program that did not include an online learning component (2007). This study found that the teachers interviewed thought personalized learning to be difficult to implement in their classes, even though the idea is well-intentioned. Some of the reasons as to why implementation was challenging are as follows: schools and teachers needed more knowledge and teaching training, they lacked strong school management in promoting effective use of personalized learning, students were not independent enough to work on their own, and parents did not know their own child's interests. Courcier suggests that there are gaps between the practice in schools and the meta-level policy introduced by the government in England.

A third study comes from Campbell et al. (2007) who traced the origins of the concept of personalization and its applicability to UK schools. There are three major takeaways. First, personalization is a collective activity, where the teacher, student group, and the individual student produce together the meanings and understandings that the individual achieves. Secondly, this pedagogy stems from the transacted curriculum or constructivist learning, which

is not a novel concept. Thirdly, there are issues with personalization's generalizability for all students depending upon their age, ability, and socioeconomic background. According to Campbell et al. on page 152, "those most at risk from the implementation of deep personalisation in learning are students from those social groups least well equipped, in terms of their families' cultural, social and financial capital, to develop self-regulation in learning and access to, choice over, and voice in, learning opportunities beyond the formal schooling." For example, the Pinnacle program expects that all students be able to self-regulate, and exercise choice and voice; however, students who struggle with their own voice may not be able to negotiate with teachers about their goal, so they typically are expected to work through the standard curriculum.

Whereas Campbell et al.'s (2007) work identified some of personalized learning's potential pitfalls, Sebba, Brown, Steward, Galton, and James (2007) reported on research they conducted between the Universities of Sussex, Cambridge and the Institute of Education which looked at schools who successfully implemented personalized learning. Taken together, the research suggests that schools which might be characterized as strong in personalized learning implementation see learners as co-investors in education.

United States' policy adoption of personalized learning (1994-2012). Like the UK, the United States' experience with personalized learning stems from the need for schools to remain economically competitive, while also addressing educational disparities amongst students (Improving America's Schools Act, 1994). Since the passage of Brown v. Board of Education of Topeka, Kansas in 1954, American education and its educators, have been tasked with the responsibility to ensure access to quality education for all (Oakes, J. & Lipton, M., 2004). However, even after the passage of Brown v. Board of Education students in the United States

continued to succeed disparately (Oakes, J. & Lipton, M., 2004). Furthermore, the number of students from minority groups within the United States tend to underperform academically compared to their affluent, White peers. As the demographics in the United States continued to become increasingly diverse, the education system grappled with meeting the needs of all students (Rogers & Freelon, 2012). Dissatisfaction with lackluster student outcomes led to the reformation of student learning outcomes at the end of the 20th century (Kirst, 2010).

Before the 1980s, most states left curriculum to the discretion of local entities; however, policies changed because of the concerns raised by *A Nation At Risk* and a changing, more globalized economy (Kirst, 2010). It was the Reagan administration's push for increased federal involvement with education that started a shift toward government control over curriculum and classroom technology. From this point on, policies are passed in an effort to improve student outcomes in the United States, such as Clinton's Goals 2000, Bush's No Child Left Behind (NCLB), and Obama's Race To The Top (RTTT) (Kirst, 2010; Mehta, 2013; Zumeta, 2011; Darling-Hammond, Darling-Hammond, L., Bae, S., Cook-Havey, C.M., Lam, L., Mercer, C., Podolsky, A., & Stosich, L., 2016).

The UK may be credited as the first country to coin the term personalized learning in its modern-day use, but the start of the United States' adoption of technology in the classroom is almost parallel in its time frame to that of the UK. In 1994, President Bill Clinton's administration passed Improving America's Schools Act, which reauthorized the Elementary and Secondary Education Act (1965). This act stated that technology could produce greater opportunities for all students to learn to high standards, promote efficiency and effectiveness,

and develop a technologically literate citizenry and an internationally competitive workforce (Improving America's School Act, 1994).

In 1996, Richard Wiley, Secretary of Education under Clinton, released the first National Education Technology Plan in response to Improving America's Schools Act of 1994 (United States Department of Education, 1996). At the time, the report stated that only 4% of schools had a computer for every five students (a ratio deemed adequate to allow regular use) and only 9% of classrooms were connected to the internet. The plan included the President's Technology Literacy Challenge, which pushed for students to be technologically literate by early in the 21st century. This document states that this goal could be accomplished by giving all teachers the training and support they need to help students learn using computers and the internet, equipping classrooms with modern multimedia computers, connecting classrooms to the internet, and providing effective software and online learning resources as part of each school's curriculum. Additionally, Computer Assisted Instruction (CAI), which was developed in the 1960's, is used in this report as proof of technology's benefit to students because in a decade-long study by Kulik, Kulik, and Bangert-Downs (1991), student in classes that used CAI outperformed their peers on standardized tests by 30 percent on average. It should also be noted that CAI was also praised for its ability to "individualize instruction and to provide instant feedback" (National Education Technology Plan, 1996). However, the National Education Technology Plan did mention that not all applications of CAI have been found to be so successful in all settings. Although the term personalized learning is not used in this document, a lot of the verbiage which describes personalized learning like individualization and feedback is used.

In 2000, Richard Wiley released a follow-up to the first plan titled, e-Learning: Putting a World-Class Education at the Fingertips of All Children, which revisited the goals set in 1996 and discussed progress made toward them, while also creating new goals. In this report, it again uses the term individualization instead of personalization when talking about the benefits of using technology with students. For example, it states, “new and emerging technologies offer opportunities to individualize instruction and assessment in promising ways for all students, including especially those students at the greatest risk for school failure” (United States Department of Education, 2000). It also states that the most powerful opportunity available brought forth by technology is the ability to meet students' individual learning needs better. Individualization is described as creating more accurate assessments of what students know and where they are having difficulties and in turn allowing teachers to know what knowledge and skills students need, while also giving students access to real-time tutoring. The report also details how students with disabilities and those considered at-risk of school failure can benefit from assistive technologies, while also supporting gifted and talented children as they can “learn at their own pace and explore subjects in greater depth” (United States Department of Education, 2000). In summary, this report strongly affirmed the belief that technology could challenge all students to do their best.

The third National Education Technology Plan was published in 2004 in response to President Bush’s 2001 No Child Left Behind (NCLB) Act and builds on the recommendations submitted by Secretary Richard W. Riley in 1996 and 2000. According to the U.S. Department of Education Secretary Rod Paige, schools trailed behind other areas of society in exploring opportunities offered by technology. Despite the push for technology integration starting in 1996,

and 99% of schools being connected to the Internet with a 5:1 student to computer ratio, schools only applied technology to existing ways of teaching and learning, resulting in marginal outcomes in student achievement (United States Department of Education, 2004). Just providing hardware was not enough to see gains; training is also needed. The Secretary considered the U.S. to now be a nation on the move, rather than a nation at risk. This report is the first of all technology plans to use the term personalized to describe the promising practices of schools with positive student academic outcomes. Also, one of the seven major goals outlined in this plan mentions personalization and is as follows:

“Ensure that every teacher knows how to use data to personalize instruction. This is marked by the ability to interpret data to understand student progress and challenges, drive daily decisions and design instructional interventions to customize instruction for every student’s unique needs.”

Six years later, the next technology plan was released under the direction of Secretary of Education Arne Duncan (United States Department of Education, 2010). For the first time, personalized learning is mentioned directly in the Secretary’s letter which traditionally opens every technology plan. Duncan states, “the model of learning described in this plan calls for engaging and empowering personalized learning experiences for learners of all ages.” Later in this document, there is a call to personalize online learning experiences, a word used as an umbrella term for online and blended learning. Personalization is defined as individualizing (differentiating learning experience through pace) and differentiating (tailoring to fit individuals’ needs, while also allowing flexibility in content or theme to suit the interests and prior experience of each learner) learning. By defining this terminology, this document clarifies the

difference between the terms - individualization, differentiation, and personalization - as it acknowledges that there is currently disagreement on what they mean conceptually. In summary, personalized learning was officially adopted as a goal in the 2010 National Education Technology Plan and became an educational model when Arne Duncan incentivized schools with funds from Race to the Top (Schaffhauser, 2013).

Components of Personalized Learning

Personalized learning can refer to a multitude of factors surrounding student-centered instruction, but there are features that many personalized instruction programs share (Hanover Research, 2014). A 2012 presentation by Richard Culatta, Deputy Director of the U.S. Department of Education (ED)'s Office of Educational Technology, listed the following essential elements of personalized learning: students have access to their own devices; near real-time feedback is provided to parents, students, and teachers; programs allow students to take ownership of their data; and educators leverage patterns from students' data to target instruction. The advantages of online personalized learning programs is that parents can often view student progress through an online portal and teachers can use real-time data based off of online assessments to support students as needed. By 2016, the term personalized learning was used to refer to instruction in which the pace of learning and the instructional approach are designed to meet the needs of each learner in the National Education Technology Plan. This is similar to how it was defined in 2010 by the U.S. Department of Education (2010). However, the 2010 document expands the definition by stating that learning objectives, instructional approaches, and instructional content (and its sequencing) need to fit learner's needs. Additionally, personalized learning includes learning activities that are meaningful and relevant to learners,

driven by self-interest, are often self-initiated and self-paced. This document also added that blended learning could be coupled with personalized learning to give students variety in time, place, path, or pace they complete different components of their learning, as learning can happen online and in-person. The term “personalized” is clarified as students not just sitting idly in front of a computer. Instead, technology should allow pathways for student learning through active and collaborative learning activities. In the following section, a variety of programs claiming to use personalized learning illustrate the variation in approaches.

Personalized Learning Program Exemplars

In October 2014, President Obama announced Future Ready which focused on inspiring and supporting school districts to implement personalized learning by incorporating education technology into classrooms (U.S. Department of Education, 2014; International Association for K-12 Online Learning, 2017). Almost 2,000 public schools took the Future Ready Pledge and committed to personalized learning (International Association for K-12 Online Learning 2017). This section discusses schools that have been touted for demonstrating success with personalized learning while highlighting what they did to personalize their students’ education experience. Each of these schools also represents each one of the three ways schools can personalize learning with digital content: use of multiple digital sources, use of a singular digital content platform, or use of a content platform and supplemental digital sources.

Minnesota’s Venture Academy. The Venture Academy middle school is one of 20 schools nationwide to be awarded a \$450,000 Bill and Melinda Gates Foundation Next Generation Learning Challenges start-up grant. This school began operating their next generation

school in 2013 (Ellison, S., & Locke, G., 2014). Venture Academy's personalized learning model is grounded in the belief that students need to learn how to manage their education to become a motivated, college-ready student. Students are divided into three "communities" initially by grade level to accomplish the goal of becoming an independent learner. Within these communities, teachers can group students according to their need - small group instruction, large group instruction, project-based learning, digital content learning, independent work, and tutorials. This school initially did not rely on a large technology budget. Instead, it believed that technology supports instructors. Digital content was also not based on one platform. This organization pulled from iReady, Achieve 3000, and Khan Academy to target individual student's needs. According to one of the organization's websites, they state that they "have made significant, above average learning growth every year since opening (GiveMN.org, 2018)." However, there has not been any research conducted which reports the academic performance of its students. Additionally, there is no student academic outcome data posted on their website.

California's Lindsay Unified School District. In 2012, the federal government granted \$350 million via Race to the Top funds to 16 recipients (districts, charter organizations, and educational cooperatives) that were seeking to personalize learning and improve student achievement (Atkeson & Will, 2014). Lindsay Unified School District secured a \$10 million Race to the Top award for their work with implementing personalized learning. This school district is composed of primarily low-income families, and more than half of their students are English learners. To win the money, Lindsay set five goals. First, they wanted to build, refine, and scale up the district's performance-based education system so that students progress at their own pace. Secondly, they wanted to strengthen the digital learning platform Empower. Thirdly,

they wanted to build out the curriculum, assessment, and resources. Finally, the school district sought to assure that all efforts are aligned to the Common Core State Standards.

In 2014, *Education Week* released a report card on the outcomes from Race to the Top (Atkeson & Will, 2014). The Lindsay Unified School district reported that their greatest frustration with implementation was the fact that the Empower digital platform was not fully developed for them to be able to roll out in classrooms. Although this school wanted to measure the relationship between personalized learning and California state test results, they were unable to do so. The positive outcomes reported are as follows: an increased number of students who qualify to attend a four-year college/university, students taking ownership of their learning, and the curriculum allowing for students to move at their own pace without being reliant upon teachers. To date, there is no research published which quantifies the impact that personalized learning has had on this district's student achievement outcomes. However, they have reported their passage rates on state exams as increasing. For example, in 2009, students' reading passage rates on state exams increased from 25% to 34%, students' math passage rates on state exams increased from 28% to 32%, and their Annual Performance Index (API) score moved from 644 to 691 (Banchemo, 2014).

New York's School of One. The New York City Department of Education was awarded a five-year i3 grant to develop a model for delivering customized learning plans to middle school math students. The School of One is now known as Teach to One. Teach to One was co-created by the iZone (a New York City's Department of Education initiative) and New Classrooms Innovation Partners, a nonprofit established to scale School of One. New York City's School of One pilot was a 2009 summer program for 80 sixth graders which took place at Middle School

131 that allowed students to learn math at their own pace and in a variety of ways (Cole, Kemple, & Segeritz, 2012). Instead of giving students the same content, the school used data from prior assessments to identify which skills each student should work on during the summer. Input from teachers and students also provided information on how students learned best. Computer algorithms based on students' math skills and learning interests created curated personalized playlists of lessons students would learn. These playlists were pulled from a bank of 1,000 lessons covering 77 math skills provided by New Classrooms. Additional personalization of students' learning was accomplished by focusing on areas of interest to them, even if they learn things that students would not traditionally study. Students also had the option of working with others in project-based learning built around challenges with real-world relevance and they manage electronic learning portfolios. Teachers focused on large-group instruction, while college students who were studying to become teachers provided teachers with small group instruction, and high school students focused on tutoring and the grading of assessments. Overall, this school viewed students' pursuit of personal interest as important, but also provided a variety of avenues for students to learn the content. The content not only comes from the New Classrooms platform but also from a variety of sources: Buzz Math, Learn Zillion, Manga High, MathXL, The McGraw-Hill Companies, Queue, Sophia, TenMarks, Virtual Nerd, I Can Learn, Houghton Mifflin Harcourt, ETA Hand 2 Mind, Destination Math, and others.

In June of 2012, Rachel Cole from New York University and James J. Kemple and Michael D. Segeritz from The Research Alliance for New York City Schools published research which analyzed the early impact of School of One that was at this time, now being piloted in three New York City middle schools in the 2010-11 school year. This study used comparative interrupted

time series (CITS) analysis to isolate the unique effect of this program by comparing the achievement of pilot students with that of previous cohorts of students in the same schools prior to the arrival of the program. Based on this research, SO1 did not affect 6th-grade students' math achievement, either positively or negatively, and the results for grades six, seven and eight were not consistent across schools. The researchers stated that the lack of consistency may have been due to implementation challenges, the program's fit by grade level, or other factors. Furthermore, this report acknowledges that the study was conducted early in the implementation process and the outcome measure, the New York State math test, focuses mostly on the grade-level material, which may not have acknowledged the possibility that some students made progress on lower-level math skills not detected by the state test. Overall, the research on the effectiveness is not clear.

Summit Learning. Summit Preparatory Charter High School opened first in 2003. Its approach was blended learning, a formal education program in which a student learns at least in part through online learning (Evergreen Education Group, 2015). Summit was praised for their success with student achievement outcomes, and they credited their use of blended learning as a means of personalization (Summit Public Schools). With increased demand for schools to offer personalized learning, by the end of 2013, Summit Public Schools expanded, serving almost two thousand students within seven San Francisco Bay area schools (Summit Public Schools). It was the successful implementation of personalized learning in the San Francisco Bay Area schools which fueled their desire to impact education on a larger scale. To achieve this goal, Summit Learning, formerly known as Summit Basecamp, worked in collaboration with Facebook engineers to develop their personalized learning platform (FSG, 2017; Jacobs, 2017, p.17). The

Summit Learning Platform is an online tool that students use to complete work, set and meet goals, and monitor their progress throughout the year (Summit Public Schools, 2017). To better serve all learners, the Summit Learning Program (SLP) provides a project-based, self-paced online learning platform that offers learners access to the curriculum at their own pace (Jacobs, 2017). “Without personalization, there is a gap between the individual student, his or her learning, and the support they need to succeed in a way that makes sense to his/her interests”, according to Patrick, Kennedy & Powell (2013, p.5). Through the development of a Summit personalized learning platform, Summit Learning’s program and digital infrastructure is able to be shared and replicated on other campuses.

An online platform is the tool through which personalized learning programs host their curriculum and enable schools to provide students with flexible or multiple paths through the content in a manner that suits their learning needs and thus engages students. The three pillars of Summit’s Learning Platform are project-based learning that focuses on a cognitive skills rubric, self-paced learning for mastery in a content area, and mentorship (Wilka, 2017). It is comprised of teacher-created curricula that are tied to Common Core standards for schools serving students grades 5-12 in core academic subjects (Jacobs, 2017; Summit Learning, 2018).

The goal is for the platform to accelerate and deepen student learning by customizing their education based on their specific need, present education levels, and interests (Pane, 2015). Each learner has their own Personalized Learning Plan (PLP) that connects their long-term goals and aspirations with their daily decisions, actions, and behaviors (Summit, 2018). Via the platform, students can facilitate their own ability to complete work, set and meet goals by

themselves and with their teachers and mentors, and monitor their progress throughout the academic year (Wilka, 2017). Learners can work through content at their own pace, track their goals and progress within their personal student dashboard.

The student's dashboard content is selected from playlists comprised of educational videos, animation, guided practice, interactive exercises, websites, and texts (Jacobs, 2017). Examples of playlist content are Khan Academy videos for common core math classes, BrainPOP animations for common core English classes, guided practice problems, interactive exercises, websites, and texts (Jacobs, 2017). And when students feel that they have mastered content on their personal learning playlist, they can take competency-based assessments (Education Reimagined, 2016). Teachers, in turn, utilize the data housed within the Summit platform to provide tailored mentorship (Summit, 2018). Mentorship is tied to goal setting as it helps to promote college and career exploration, a critical component of personalized learning (Summit, 2018; Pane, 2015).

The Changing Role of Teachers

Personalized learning programs have changed the role of teachers in the classroom (Deed, Craig, Lesko, Thomas M. & Lovejoy, Valerie, 2014). As the field of education responds to critical reactions to the industrial-era school model, teachers are no longer viewed as the sage on the stage. Although the traditional schoolhouse method has held the teacher role as that of the sage, theorists like John Dewey advocated long ago that if education should be child-centered, it should be viewed as an experience or social process, so that the teacher takes on the position of a leader of group activities rather than a dictator (Dewey, 1938).

As of 2016, the U.S. Department of Education stated that in the classroom, teachers now serve as educational designers, coaches, and facilitators, guiding students through their personalized learning experiences. Although personalized learning is seen as an alternative response to the traditional school-house model, it is not completely radical in its form of schooling, pedagogy, or concepts (Usher, 2002). However, it does represent that learning should change to reflect the times we live in (U.S. Department of Education, 2010). With this being said, the disruption to convention is significant enough that it raises questions about teacher capacity for adapting their practice (Usher, 2002). Teachers are now working toward understanding personalized learning and all of the different learning styles and approaches it entails (Courcier, 2007). According to Courcier, the more clearly teachers understand personalized learning, the more easily pupils may become independent and lifelong learners. To ensure that teachers understand personalized learning and facilitate it in their classroom, teachers should be well-trained and grounded in pedagogical and subject knowledge (Darling-Hammond, Austin, Orcutt, & Rosso, 2001).

Technology is now integral to most learning designs, used daily within and beyond the classroom for collaboration, inquiry, and composition, as well as for connecting with others around the world (The U.S. Department of Education, 2016). Should teachers then be concerned about technology replacing their role in the classroom? B.F. Skinner long ago stated that teaching machines, like personalized learning, technology would not eliminate the teacher, but rather equip the teacher to work effectively (Skinner, 1968). In 2018, Skinner's prediction has proven accurate. Teachers have not been replaced by computers or technology. However, technology has created both the need and opportunity for educators who are skilled in

instructional design and knowledgeable about emerging technologies (U.S. Department of Education, 2010).

With the aid of technology, teachers who are personalizing learning make instructional decisions based on a diverse data set. This data is collected from student and teacher observations and reflections, student work, formative and summative assessment results, and data from analytics embedded within learning activities and software aided by real-time availability of data and visualizations, such as information dashboards (The U.S. Department of Education, 2016). The U.S. Department of Education (2016) has stated that they believe educators can become catalysts to serve underserved students through technology as it provides this population with equitable access to high-quality educational experiences. Therefore, these students require teachers who are skilled at teaching in a technology-enabled learning environment (U.S. Department of Education, 2016).

Research shows that educators are more likely to incorporate technology into their instruction when they have access to coaching and mentoring (Strudler & Herrington, 2009). However, although the role of the teacher has changed, it is also reported that U.S. teachers have less time in their work week for professional learning than their counterparts in countries where students have the best performance on international examinations (Darling-Hammond 2010). Expecting teachers to acquire knowledge that would prepare them to personalize learning with technology in the classroom without allotting time for training and coaching is problematic (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). With this said, building and nurturing an infrastructure for learning requires providers and users to have: knowledge and expertise in new technologies, a commitment to standards, and specialists with experience

integrating technology into curriculum development and assessment in meaningful ways (CoSN, 2009). The challenge is scaling up this level of expertise to meet the needs of all educators (CoSN 2009).

The Need for Research on Teacher Perception of Personalized Learning

Research based on personalized learning programs point to the need for documenting teacher perspectives. For example, the School of One study stated that next steps in the research would be to focus on the challenges teachers face as they adapt to the program and how they are supported with professional development and collaboration (Cole, Kemple, & Segeritz, 2012). Additionally, it stated that it would be useful to document how teachers are trained to engage with this innovative instructional model and to identify supports that help teachers address issues that emerge throughout the school year. Another recommended research avenue comes from Courcier, who in her UK study stated research should seek to understand teachers' knowledge of personalized learning and how they cope with any confusion (2007). A third recommendation comes from Deed, Lesko, and Lovejoy's (2014) two case studies of teachers in Australian regional schools reacting to new personalized learning schools by adapting their practice. One of their final concluding research comments was whether the sort of teacher adaptation identified in the case studies could be incorporated into routine and convention over time at institutions. A final example of next steps in personalized learning research comes from Bernatek, Cohen, Hanlon, and Wilka (2012) who analyzed the work of Summit Learning San Jose. They noted that these Summit Learning teachers have been responsible for much of the school's success in growing a blended model. However, even experienced teachers acknowledge that they struggled

with the initial newness of personalized learning because planning and managing both online and in person learning has proven taxing.

The most recent publication on personalized learning which focuses on teachers by Gross and DeArmond (2018), reaffirms previous research findings in that teachers reported having to discover personalized learning on their own. As far as training was concerned, administrators and principals struggled with providing teachers with trainings and professional development opportunities that targeted personalized learning best practices. Furthermore, this study states that classroom instruction changed with personalized learning, but it did not go into detail as to how teachers were using program elements. Findings revealed that although the goal was to move away from teacher-directed learning, teachers still directed most of the learning and activities, thus carrying the majority of the cognitive load instead of students. The study also mentioned that students who were academically behind were not participating in as engaging activities as their peers who were at higher levels. Questions that remain after reading this study inspired some of the research questions surrounding teacher perceptions of personalized learning: What training elements have teachers found most/least helpful? How are teachers using elements of their personalized learning programs to reach students who are academically behind? And, how do teachers perceive their role in a classroom where instructional change has occurred?

This research project seeks to take the recommendations from previous studies by seeking to understand the perceptions of California teachers who are implementing personalized learning in low SES schools, specifically looking at how their role is impacted, the satisfaction with the training they have received, and their use of elements of the personalized learning

program they are using. Hanover Research Group (2014) reported that one of the most significant determinants of personalized learning program success is the degree of teacher buy-in. The reason being is that teachers are the implementers and ineffective teachers undermine the possibility of successful implementation. I believe that the information collected in my study will reveal information that will be critical to ensuring the successful implementation of personalized learning as well as ways to best support teachers using personalized learning programs.

Summary

The literature suggests that there is no definitive history of personalized learning. Some believe that personalized learning stems from child-centered educational theorists; whereas, others believe that it was adopted from business theory. No matter the origins, the United States adopted policy which promoted personalized learning is almost parallel to the United Kingdom's adoption in the 1990's. Additionally, government policies promoted school adoption of technology and thus, paved the way for the piloting of a variety of personalized learning programs. Consequently, personalized learning has changed the role of teacher, which prompts the need for research in this area.

Chapter 3: Methodology

Introduction

Personalized learning programs are implemented and maintained through the work of teachers. Furthermore, teachers in low SES schools using personalized learning are often working to close academic gaps in knowledge, and therefore their buy-in and support of personalized learning programs is critical in supporting potential academic gains for this population. Therefore, my goal for this research is to better understand the teacher experience with a specific personalized learning program by exploring how teachers rate the program's ease of use and usefulness, the impact of personalized learning training, the extent that teachers implement core elements of personalized learning, how teachers understand their role, what barriers to implementation teachers have identified and how teachers are addressing issues. My reasoning for setting these goals is that there is limited research that focuses on the impact that personalized learning has on those who teach in low SES schools and who are using a personalized learning program. According to the literature, if reforms are to be successful, teachers need to be committed to implementing the program (Marcinkiewicz, 1994; Hanover Research, 2014). A better understanding of teachers' experience with personalized learning will inform educational leaders', policy makers', and business/philanthropic supporters' decision making regarding personalized learning programs.

Research Design and Rationale

I performed a comparative case study of two sites that are using the same personalized learning program, Pinnacle Education (a pseudonym). Additionally, school names (LAMS and

SFMS) and teacher names were also given pseudonyms to maintain anonymity. According to Yin (2014), selecting a case study makes sense when trying to explain a real-life phenomenon of interventions in context at multiple sites. In this case, Pinnacle Education teachers are the intervention and will be compared to highlight the similarities and differences teachers at different school sites experienced while implementing Pinnacle. Additionally, this study is too complex for survey or experimental strategies, because it would have been hard to predict all the factors that might contribute to teacher experience.

I looked for links between personalized learning and its impact on teacher experience with the program. To accomplish this research, I started by collecting qualitative (open-ended questions) data through interviews. I also conducted a document analysis of school resources concerning personalized learning (Creswell, 2018) in order to better understand how individual school sites discuss personalized learning training and professional development, expectations of the use of the personalized learning platform, and expectations of the role of the teacher in the classroom. Through one-time interviews of teachers (Fowler, 2008; Merriam, 2009; Creswell, 2018), this study uses the findings to understand how individuals using personalized learning in low SES schools describe the usefulness and ease of use of the personalized learning program they are implementing, as well as the impact of the training received, how teachers implement elements of the program, how teachers define their role in the classroom, and how teachers are overcoming barriers. Many personalized learning studies recommend seeking teacher feedback (Creswell, 2018; Cole, Cole, Kemple, & Segeritz, 2012). Additionally, the qualitative approach of this study helps give a deeper understanding of not only attitudes and perceptions of teachers,

but will also offers some explanations for implementation differences of the program on campus as stated by individual teachers (Creswell, 2018).

Quantitative data alone would not be able to get an in-depth understanding of attitudes and perceptions of teachers without employing qualitative procedures. The qualitative methods helped teachers and administrators share openly about their experience with a personalized learning platform.

Strategies of Inquiry

Selection of Participants

This study uses purposeful sampling. While there are various personalized learning platforms (a quick Google search will reveal at least six popular online platforms being used), this study focused on one, Pinnacle Education. The selection of this program was based upon the fact that Pinnacle reflects the promising potential of personalized learning in schools as well as the fact that it has features that the majority of online programs use, an online platform and instructional playlists. Some programs include mentoring and project based learning, as Pinnacle does, but not all do. Additionally, because the Pinnacle Education program has plans to expand to more sites this study aims to be useful for sites considering the adoption of online personalized learning programs.

When schools partner with Pinnacle Education, they are given a free digital platform and program which also includes free on-going support, tools, and professional development. Professional development consists of a one week school leader training in June followed by a

one-week, full-time training in San Francisco for all school staff using Pinnacle Education's personalized learning platform. After this initial training, schools can choose to send teachers and coaches to local meetings that convene semi-annually. Schools also have access to Pinnacle Education's local coaches outside of conferences, a Facebook group for support from fellow teachers, and an electronic helpdesk on the Pinnacle Education platform.

To become a Pinnacle partner, schools must complete an application process. As of 2017, 55 of the 131 schools that partner with Pinnacle Education were low SES schools that have 76-100% of their students on free and/or reduced lunch. As mentioned in Chapter 1, these schools are considered low SES because they have a concentration of over 75% of students who receive free or reduced priced lunch (National Center for Education Statistics, 2017). As of 2018, there are now 51 schools considered low SES and 15 are in California - one of them being the school where I formerly worked. Fourteen of these schools are secondary schools, and one is an elementary school. Of the 14 schools, only 3 were located in southern California.

As discussed in strategies of inquiry, two, low-SES serving, independent charter schools participated in this study because they were the only schools in southern California that were using Pinnacle Education that met the low-SES criteria who wanted to participate. There was only one other school (non-charter) that met the criteria of this study, but it did not accept the opportunity to participate because their campus was already oversaturated with research requests. The participating school sites were not selected because they were charter; however, they both happened to belong to charter networks in Los Angeles with other school sites in their charter networks that do not use Pinnacle Education. In the remainder of this report, I will use pseudonyms for the two sites. I will refer to site #1 as Los Angeles Middle School (LAMS) and

to site #2 as San Fernando Middle School (SFMS). LAMS is 6th through 8th grade; whereas, SFMS has 5th through 8th grade students. All teachers participating in this study met the following criteria: they worked at one of the low SES school sites used in this study, as well as teaching in a classroom where Pinnacle Education was being implemented. Some teachers who met both these criteria did opt out. Ultimately, eight teachers at each site participated in this study, totaling 16 teachers. I prioritized math and English teachers in this study because their classes are considered core academic classes. Furthermore, I also aimed to have at least one representative of history and Science at each site.

LAMS' entire school (6th through 8th grade) implemented personalized learning the first year they adopted Pinnacle Education during the 2016-17 school year and is now in its third year of adoption; there are teachers who range from three years of teaching experience with personalized learning to just two months. LAMS is participating this year in the Western Association of Schools and Colleges (WASC) and California Department of Education's joint accreditation process. Accreditation is an ongoing six-year cycle of quality whereby schools demonstrate the capacity, commitment, and competence to support high-quality student learning and ongoing school improvement. During this process, schools create a self-study report to document all aspects of their school; I used this self-study report for document analysis. Similarly, SFMS has created a self-study report that I used for document analysis as a part of their charter renewal requirement; this is a process charter schools participate in to be renewed by the Los Angeles Unified School District. The SFMS school site had two grade levels 6th and 8th grade pilot Pinnacle during the 2017-2018 school year; it is currently in its second year of Pinnacle use and has 5th through 8th grade implementing it. At the time of the study, SFMS has a

total of four grade levels implementing personalized learning and their teachers had from four to 15 months of experience with it.

Both sites are similar in student composition, in that they both are predominately Hispanic/Latinx²; however, SFMS is slightly more diverse overall (Table 2). LAMS student population is composed of students who are 88.5% free and reduced lunch, 12.9% English Language Learners (ELLs), and 11% are in special education. Demographically, it is 91% Hispanic/Latinx, 8% White, .8% Asian, and .2% unreported. Whereas, SFMS is 93.8% free and reduced lunch, 23% English Language Learners (ELLs), and 14.1% of students in special education. The student body is predominately Hispanic/Latinx.

² Latinx is defined as of, relating to, or marked by Latin American heritage —used as a gender-neutral alternative to *Latino* or *Latina* (Merriam-Webster 2019)

Table 2: LAMS and SFMS' student demographic information; organizational context of schools

Student Demographics	LAMS	SFMS
% of students on Free and Reduced Lunch	88.5	93.8
% of students who are English Language Learners	12.9	23.0
% of students who are in Special Education	11.0	14.1
% of students who are Hispanic/Latinx	91.0	93.5
% of students who are White	8.0	2.4
% of students who are Black	--	0.6
% of students who are Asian	0.8	0.4
% of students who are Filipino	--	0.2
% of students who are Pacific Islander	--	0.2
% of students who are Native American	--	0.2
% of students who are two or more races	--	0.2
% of students who did not self-report	0.2	0.4

Teacher participant demographic information is described in Tables 3 and 4. For a small sample, the demographics are reasonably representative of the teaching body. LAMS' participant pool is 62.5% male and 37.5% female. Additionally, 12.5% of participants are White, 25% Asian, 50% Hispanic/Latinx, and 12.5% identify as more than one race. LAMS' pool is similar to the staff on campus given its 52.9% male teachers and 47% female teachers and approximately 50% Hispanic/Latinx staff. Likewise, the participants from SFMS were fairly

typical of their teaching staff, but not as representative of their students. On the other hand, SFMS' participant pool is 25% male and 75% female. Furthermore, 75% of its participants are White, 12.5% are Hispanic/Latinx, and 12.5% reported more as than one race. SFMS' participant pool is 70.8% White, 20.8% Hispanic/Latinx, and 8.4% Asian, so it is reflective of the number of White teachers and their school's gender composition, which is 29.1% male staff and 70.8% female.

Table 3: LAMS participants' demographic information; organizational context of schools

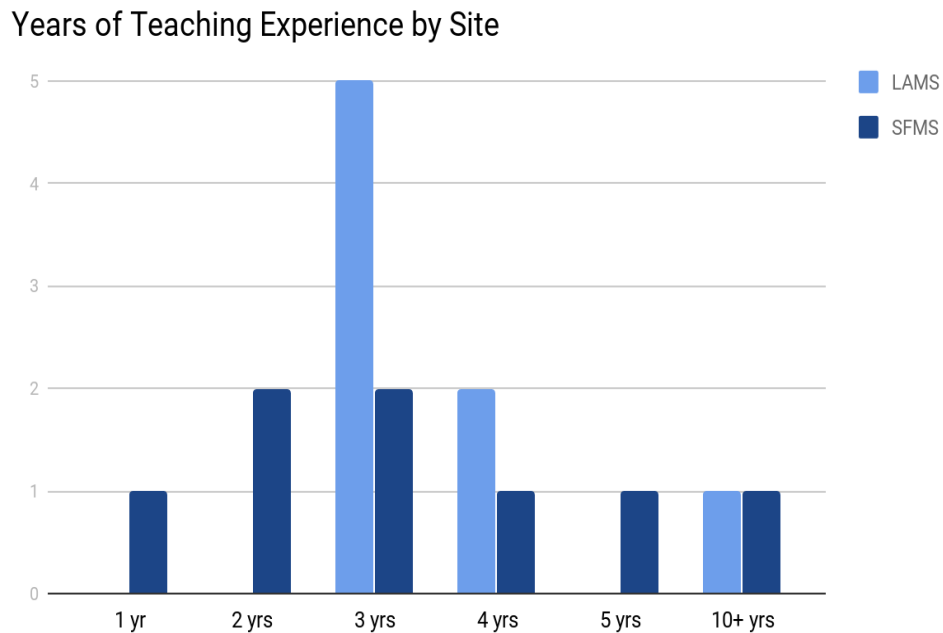
LAMS Participants	Gender	Pseudonym	Years of Teaching Experience	Months of Experience With Personalized Learning
1	M	Jeremy Sanders	4	20
2	M	Roy Truong	3	2
3	F	Rebecca Garcia	4	20
4	F	Yolanda Torres	20	20
5	F	Chloe Ramirez	3	20
6	M	Noah Marquez	3	20
7	M	Tristen Pitt	3	20
8	M	Allen Hershey	3	20

Table 4: SFMS participants' demographic information; organizational context of schools

SFMS Participants	Gender	Pseudonym	Years of Teaching Experience	Months of Experience With Personalized Learning
1	F	Ericka London	2	3
2	M	Nathaniel Evans	1.5	3.5
3	F	Melody Simmons	2	2
4	M	Nick Carraway	10	15
5	F	Kara Huck	4	15
6	F	Hillary Gibbons	5	15
7	F	Mary Black	7	15
8	F	Terry Simmons	4	3

Teacher participants' experience levels varied for both schools and are detailed in Tables 3 and 4. LAMS participants have an average of 5.37 years, whereas, SFMS has an average of 4.4 years of teaching experience. Teachers who have the most experience teaching also tend to have the most experience with Pinnacle. Additionally, at LAMS all but one teacher had 20 months of experience at the time of the study, and one had two months. In SFMS, half of the teachers had 15 months of one year of experience, and the other half had 2-4 months. Analysis of the figure below reveals that LAMS staff members have slightly more teaching experience as compared to SFMS teachers and about a year more experience with personalized learning. LAMS greater experience with personalized learning can be attributed to the fact that LAMS adopted Pinnacle Education a year earlier than SFMS.

Figure 1: LAMS participants compared to SFMS participants' years of teaching experience



Finally, this study reflects teachers from the following subject areas using Pinnacle Education: English (6), Math (5), Science (3), and History (2). Furthermore, all grade levels participating in Pinnacle Education at each site are reflected in this study. Tables 5 and 6 reflect the subject areas and grade levels represented in this study for each site. These tables are not clustered with Table 2 and 3 as a way to maintain participant anonymity. Both LAMS and SFMS had a high representation of English and Math teachers, which are considered core subjects that the state of California tests via the Smarter Balanced exam known as the California Assessment of Student Performance (CAASP) exam.

Table 5: Subject areas reflected in this study

Subjects Represented	LAMS	SFMS
ELA	2	3
Math	1	2
ELA & Math (Special Education)	2	2
History	2	0
Science	1	1

Table 6: Participant's grade levels reflected at each site

Grades	Number of Teachers at LAMS per grade	Number of Teachers at SFMS per grade
5th	--	1
6th	2	6
7th	5	2
8th	3	3

3

³ Counts for Table 5 and 6 do not add up to eight because some teachers teach in multiple grades.

Data Collection

I used a case study protocol as a means of managing this study. This protocol included a calendar time lining how to manage data collection and analysis, a coding template, two interview protocols (teacher and principals), and a questionnaire. Principals were interviewed first with the principal interview protocol (Appendix A) to gather information surrounding the school's adoption and implementation of the program. Additionally, I gathered information from administrators on which grade levels and teachers are using the program on campus, considering that some sites may not have adopted it school-wide. I attended a staff meeting for one school site to introduce myself and the study, and to encourage participation; however, I was unable to attend a staff meeting at the second site. Then, before interviewing teachers, they were emailed a demographic questionnaire to capture the teacher's experience with personalized learning before the interview. Semi-structured interviews followed and captured each teacher's unique interpretation of their experience with personalized learning while allowing me, as the researcher, to explore emerging themes and respond to opportunities for richer data through follow-up questions for added depth (Merriam, 2009). Managing my data collection with these protocols enhanced my study's reliability, aided in organization and pacing, as well as supported me in replication of the study between sites (Yin, 2014).

Documents. The documents gathered gave me the opportunity to gain background information at each school site surrounding the adoption of personalized learning, in addition to expectations surrounding the teacher role, trainings, and use of the program. Examples of documents that were collected are as follows: school site self-study reports, training handouts, emails, and teacher lesson plan expectations. I began by accessing the websites of participants'

institutions and collecting publicly available materials that reference personalized learning. During this step, I was able to find both schools' self-study documents that were submitted for charter school renewal through the Los Angeles Unified School District. Next, I asked teachers and principals to submit any documentation that they have related to personalized learning and collected materials hosted on the Pinnacle Education websites, like training documents, newsletters, and FAQ's which share information about training and implementation.

Interviews. Principals and teachers were interviewed once for approximately thirty minutes during the fall of 2018.

Principals. Principals were the first participants interviewed with a protocol as a way to better understand the school sites and their adoption of personalized learning (see Appendix A). I also asked about personalized learning trainings and expectations held of teachers concerning personalized learning instruction. Then, I asked about which teachers and/or grade levels are implementing personalized learning so that I knew which teachers I should interview. Finally, I asked administrators to share any documents with me surrounding trainings and instructional expectations.

Teachers. I emailed a Google Form link to 22 teacher to sign up for interviews (Creswell, 2018). Twelve of the 22 emails were emailed to LAMS teachers who expressed interest following an on-campus staff meeting where I presented, and the remaining 10 were emailed to SFMS teachers that expressed interest following an announcement made by administrators at a staff meeting. I had a pool of at least 12 teachers at LAMS and at least 16 teachers at SFMS that would have fit my criteria, if every site had at least one grade level using the platform and all

five subject (English, Math, History, and Science) teachers participated. Overall, if everyone had participated this would have resulted in 28 interviews total. The participant pool narrowed itself down because there were teachers who did not want to participate. Once I had a representative from each content area and level of experience with the program, I felt that my pool was representing the diversity of teacher experience. Ultimately, I was able to secure 16 teachers who agreed to participate in this study, eight at each site. Prior to the interview, all participants were asked to complete a brief demographic and biographical questionnaire requesting relevant background information including their self-reported gender, race, and ethnicity (see Appendix B). The interview protocol varied slightly among each category of participant as mentioned before. This interview protocol (see Appendix C) reflected research questions #1, #2, and #3 through their descriptions and perceptions of the use of elements of the personalized learning program, the impact of teacher training, and the effect personalized learning has had, if any, to the role of teacher. The teacher interview question items contained closed and open-ended questions including demographic information, their use of elements within the personalized learning program, the impact of training received for program facilitation, any possible changes to their role, as well as, any potential reasons for facilitation differences.

Data Analysis Methods

The next phase was the analysis of qualitative data from the interviews and documents. My goal was to describe teacher perceptions of their own experience with personalized learning from the collected data. Following data collection, multiple rounds of coding were necessary during the analysis of the data.

Qualitative data analysis: interviews. First off, data were collected from open-ended interview questions (Maxwell, 2012). Then, categorizing followed a two-step coding process. The first of the two-step coding process included, units of observation being identified and used to analyze interviews (Lincoln & Guba, 1985). Examples include level of ease and level of usefulness. Next, in the second step, attention was paid to these units of observation as teachers' responses were analyzed for themes that aligned research questions and elements of the theoretical framework.

Secondly, the categorizing of the unitized data followed to identify additional themes (Lincoln & Guba, 1985) based on research questions, such as elements of the personalized learning trainings that have been helpful/unhelpful, ways that elements of the personalized learning program are being used/not used, and teacher descriptions of their role in a personalized learning classroom. Close attention was paid to how teachers discussed what strategies for personalizing learning were used in their classes and how they supported the needs of their students. In the next round of coding, common recurring themes appeared such as: who was providing the most support to teachers and which types of supports they found the most helpful, which elements of personalized learning were actually being implemented and personalized, how the role of teacher had changed since implementing personalized learning, which areas teachers were addressing on their own, and what type of supports they still needed. What began to emerge from examining the data was that teachers' perceptions of the program were fairly positive, even as they shared areas for improvement.

Qualitative data analysis: documents. I analyzed documentation concerning the adoption of and training for personalized learning at each site as well as documents from each

school's website. This data allowed for analysis of the language and words used to explain each school's implementation and use of personalized learning so that I could better understand each site's expectations of the teacher role, training, and use of program elements. Then, each document's authenticity was verified by asking the school's administration to understand its origins, reasons for being written, its author, and the context it's written in (Merriam & Tisdell, 2016). A potential issue for this type of data collection included not all participating sites sharing their documents (Creswell, 2018); however, all teachers felt comfortable sharing their documents. Finally, I established a system for coding these documents based on the codes that I created for interviews.

Triangulation. Triangulation is a “validity procedure where researchers look for any convergence among multiple and different sources of information to form themes” (Creswell & Miller, 2000, p. 126). Interviews with principals, teachers, and documents mentioned previously, such as training materials, memos, emails, etc. were compared and contrasted to strengthen themes that were already identified in previous steps.

Ethical Issues

While securing both sites, I managed my role as a researcher when interacting with each site. Schools could have been hesitant to participate if they felt that I wanted them to say positive or negative things about personalized learning. Recently, there has been negative media attention surrounding personalized learning. Therefore, an issue that I anticipated when considering role management was remaining neutral about personalized learning with both teachers and principals when explaining this study. Prior to conducting interviews, I believed that teachers

might like some aspects of personalized learning, but would also be able to identify areas that could be improved that are related to their training, elements of the program, and their role. Furthermore, one of the two sites used in this study is my previous employer and a relative is an employee there, so I also anticipated that I may have some benefits and drawbacks. Some benefits I anticipated included rapport with staff and easy accessibility to participants; whereas, a potential drawback was some participant reluctance given my positive relationship with the principal. Ultimately, given my knowledge of the organization, I believe that I had richer interviews and did not experience any reluctance from teachers at this site.

Additionally, I wanted to ensure that I captured participants' most accurate responses, so I ensured that both parties knew that the interview was confidential. Finally, I stressed to participants that their skill facilitating personalized learning in classrooms is not the focus of my study, rather it is focused on capturing the teacher's training experience with personalized learning, how the program has impacted their role as an educator, and how they have used of elements of the program. Furthermore, the data was stored on my hard drive and participants were given pseudonyms.

Qualitative: Credibility & Trustworthiness

As mentioned earlier, steps were taken to ensure credibility with the qualitative data collected, such as analysis through a systematic data coding process, but in addition to having a well-designed study, teachers had to be willing to share their experiences. Teachers knew that I had previously taught using the same program for two years at a low SES schools site and were willing to trust me because of it. Additionally, teachers who participated in this study expressed

that they were participating in hope that it would improve a future teacher's experience with personalized learning. Teachers were candid and spoke truthfully at both sites because they were open about both good and bad experiences. Ultimately, data analysis of these interviews led to the rise of themes which were compared to the original research questions. I found that some findings were surprising, whereas some reinforced what I had already hypothesized. Through comparison of these sites, it is clear that teachers at both of these school sites have had similar experiences. I discuss these relationships, and the findings within these themes, in greater detail in Chapter Four.

Chapter 4: Findings

Introduction

This chapter reports the findings of document analysis, 16 interviews of teachers, and two administrator interviews from two low-SES charter schools in southern California that are using Pinnacle Education, a personalized learning program. The focus of this study was to explore teachers' experiences with personalized learning in a low-income setting. The interviews elicited the degree to which teachers found the program easy to facilitate and useful, as well as experiences that may have contributed to these feelings. Furthermore, the document analysis informed how teachers were personalizing content for their students. Administrators from each

school site were also interviewed before teacher interviews began to get insight into the school's adoption of Pinnacle Education and expectations of teachers at each site surrounding the personalized learning program.

In this chapter, I first present the key findings for this study's overarching question – What was the experience of teachers using a specific personalized learning program? Overall, interview question responses provide insight into teachers' ratings of their perception of usefulness and level of ease of use with the Pinnacle personalized learning program.

Turning to the specific research questions, first, I begin by discussing how teachers were prepared to facilitate the Pinnacle Education program in their classroom; teachers were asked about the trainings and supports that they have received from Pinnacle Education, their school site, as well as, from outside sources. Secondly, I discuss how teachers are using the four core elements of the Pinnacle Education program (personalized learning platform (PLP), project based learning (PBL) personalized learning block (PLB), and mentorship). Thirdly, I will share how teachers say they identify in their role as a teacher within a personalized learning classroom. Finally, I explore how teachers are overcoming implementation barriers within their control and describe the supports that they say are needed.

Ease of Use and Usefulness

Two key findings about teachers' experience with Pinnacle concerned how easy the program was to use and how useful they found it.

Key Finding 1: Overall, Teachers Perceive Pinnacle Education’s Level of Ease to be Moderate and the Longer the System is Used the Easier it Becomes.

Determinants of perceived ease of use are areas that influence whether a teacher views a technology as easy to use (Venkatesh & Davis, 2000; Rogers, 1983; Venkatesh & Bala, 2008). Examples of perceived ease of use according to Venkatesh and Bala (2008) are: computer self-efficacy, perceptions of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective usability. When asked during interviews, teachers rated the level of ease of use as a 3.36 on a scale from 1-5 (1 easy, 5 difficult). The teacher responses ranged from a score of 1.75 to 5. In comparison, LAMS teachers rated ease of use as 3.75 on average; whereas, SFMS rated ease of use as 3.21 on average. As mentioned before, LAMS has teachers who have been using Pinnacle for longer than SFMS. Seven out of 11 teachers who had been using the program for over a year expressed that the program became easier to use over time. Jeremy Sanders mentioned:

Year one, I came in at a five out of ten and was comfortable enough to get started but knowing I had a lot to go. Now, I would give myself on that same scale... more of an eight. I feel pretty comfortable with it and I'm leading towards ... I wouldn't use the word mastery, but I'm very comfortable with it.

As I interviewed, although I asked teachers to rate their perception based on a five point scale; some, like Jeremy above, chose to rate themselves on a 10 point scale. Additionally, some teachers did not report their answers as whole numbers and instead, gave answers in fraction and decimal form, like 2½ and 1.75. In turn, I adjusted responses that were given on a 10 point scale

or in fraction form to find their equivalent on a five point scale so that all teachers would be included in the values listed in the table below. Teachers who were new users of the personalized learning program expressed much more difficulty with the platform, especially with how to edit elements of the program to suit the needs of their students. One such teacher, Terry Simmons, expressed “Yeah, this is not a very user friendly platform, and I went to a training last week for it, but the first two months, I was trying to figure out how to use it with the time that I had and so I didn't really know how to use it to support my students.”

The training Terry is referring to are Pinnacle’s local trainings that run for approximately two days and occur twice a year, fall and spring. According to the Pinnacle website, these trainings are supposed to bring together full grade-level teams and school leaders to train with Pinnacle’s experienced mentors. LAMS is not sending entire grade level teams. Instead, they send a few teachers who are able to commit to attending. On the other hand, SFMS sends everyone to one local conference a year. They split it up and half of the grade level goes to the fall conference and the other half goes to the spring conference. Some reasons that LAMS teachers gave as to why entire the entire grade level is not attending is due to teachers not wanting to be away from home and/or the classroom for two days, family commitments, not wanting to travel a far distance, administrators expressing that there is a lack of substitutes, behavior management issues if all grade level teachers were absent, and not believing that the training would be worth their while. In this case, Terry Simmons believed that the training was not as helpful, because it was focused on IEP goal writing rather than the area she needs help with which is building accommodations for students with IEPs into the platform.

There is a difference in the perspectives between first year users and users with over a year of experience. As Ericka London put it:

I think that once you understand it, it's pretty simple. I think that any website, or thing that you're working through, I think it takes a while to get down. And also, because it's been developing, so there's a lot more now than there was last year. It's continuously growing and changing. It's been like, oh, where did that go now? I have to figure it out. But I think that, thankfully, each time it's updated, it's been easier to use.

Overall, all teachers rated the Pinnacle Education program's ease of use as an average of 3.36 on a 5 point scale, which suggests that teachers will likely continue to use the technology (Table 7). The lowest scores for ease of use were among first year Pinnacle users with an average score of 2.85. Second year teachers rated ease of use as 3.63; whereas, teachers in their third year of Pinnacle had an average score of 3.85.

Table 7: Perceived ease of use for the Pinnacle Education platform (N=16).

Group	n	M	SD
<i>Year of Implementation</i>			
1	5	2.85	1.64
2	4	3.63	.43
3	7	3.85	2.31
LAMS	8	3.75	2.44
SFMS	8	3.21	2.04
All Teachers	16	3.36	3.39

Key Finding 2: Teachers Perceive the Pinnacle Education Program to be Useful.

Teachers rated Pinnacle Education as a 3.93 (1 not useful, 5 very useful) on average (Table 9). Answers ranged from the lowest score of 3 to the highest score which was 5. Again, although I asked teachers to rate their perception based on a five point scale; some teachers chose to rate themselves on a 10 point scale. Additionally, some teachers did not report their answers as whole numbers and instead gave answers in fraction and decimal form. In turn, I adjusted responses that were given on a 10 point scale or in fraction form to find their equivalent on a five point scale so that all teachers would be included in the values listed in the table below.

In addition to rating usefulness, 10 teachers gave additional comments stating why they found the program useful. One teacher who had been using the program for three years said “I would say Pinnacle Education is a good resource for both teachers and students but it depends on how it's used, who is the one implementing it, and probably the teacher themselves.”

The previous quote embodies the sentiments of most teachers as they generally believe that the Pinnacle Education platform is useful; however, there are nuances in how it is used amongst the users. Teacher beliefs about the advantages (how it positively impacts their role) of using this technology is a predictor of teachers' use of technology, because the higher the teacher rating, the higher the likelihood teachers will continue using the technology (Rogers, 1983; Venkatesh & Bala, 2008). Therefore, the score of 3.93 suggests that teachers will be likely to continue to use the technology.

Table 9: Perceived usefulness of the Pinnacle Education platform (N=16).

Group	n	M	SD
<i>Year of Implementation</i>			
1	5	3.5	2.23
2	4	4.4	.82
3	7	3.35	2.16
<i>Site</i>			
LAMS	8	3.37	1.17
SFMS	8	4.57	2.53
All Teachers	16	3.93	2.85

Determinants of perceived usefulness, also known as relative advantage, are: user experience, voluntariness, subjective norm (of what they perceive their immediate community's attitude to be toward a certain behavior (e.g., my peers are using an online game and it's a status symbol to say I am using it too), image, job relevance, output quality, and result demonstrability. These determinants can influence whether or not a user views a technology as useful (Venkatesh & Davis, 2000; Rogers, 1983; Venkatesh & Bala, 2008).

Unpersonalized Professional Development on Personalized Learning

Finding 3: Pinnacle Provided Training and Supports Beyond the Initial Training are Not as Personalized as Teachers Would Like

Questions tied to research question 1 related to the impact of personalized learning training and developments were asked to teachers and they volunteered to share about the help that they received from Pinnacle Education and their sites. As mentioned briefly in Key Finding

1, Terry mentioned that how the local training she attended was not focused on what she needed. In addition to local trainings, Pinnacle also has an initial training.

The majority of these teachers mentioned Pinnacle's initial training over the summer was the most helpful support that they received in order to begin program implementation. They shared that this training's objective is to gather full grade-level teams and school leaders to train with Pinnacle's experienced mentors in preparation for implementation of the Pinnacle program in their school communities. Rebecca Garcia mentioned, "We all got training, 'cause that was the first year. The second year, they just had one correspondent from Pinnacle come out I think once or a couple times a year, to be on-site to answer any questions." This teacher's words echo other teachers' sentiments surrounding contentment with the initial trainings received from Pinnacle Education and the lack of ongoing support. Another interviewee, Kara Huck, discussed how teachers who have already been teaching with Pinnacle Education for a while value the semi-annual follow-up conferences, known as local conferences. Kara's statement also contradicts what most teachers said, in that she found the ongoing trainings more helpful because she already had background information. She said:

I think I liked the local one more because I had already been working with the platform so it made more sense, right? Because the first one (Pinnacle's initial training) was before I had already started, so everything felt really, like really nebulous. Like I was just listening, I didn't really know what to do. So... the second time, I was able to be more realistic and I'm going to go to the one this year in the spring, and I'm interested to see how that'll be now that I've used it for like almost two years. And, I think that the longer you use it, the more useful the trainings.

Teachers who are new to the Pinnacle platform usually attend an introductory training that occurs over summer. After attending this initial training, teachers then have the opportunity to attend follow-up conferences known as local conferences. Ideally, training would follow this order, but it does not always work out this way. Teachers who are hired on late or who cannot travel for an entire week may not be able to attend the summer training. During interviews, there were some teachers whose first-ever Pinnacle provided training was attending the local conferences.

Although some teachers were positive about the local conferences, others mentioned that they were not interested in attending them due to feedback from other staff members or because they have previously attended them and did not find them helpful. Teachers shared that they expected the trainings to specifically target their content needs, but were often subjected to listening to topics that they either already knew or were not relevant to them. However, the disinterest only came from the LAMS site faculty, who have been attending local conferences longer than SFMS. The LAMS site has been attending local conferences ever since the first local conferences began in the 2016-2017 school year. James Sanders said:

The feedback that I've gotten from other instructors that have gone is that it's not necessarily helpful for ... an individual's needs because there is a stated goal and everybody is working towards that and it's not in a workshop format or helpful for what you need.

Another teacher, Roy Truong, from LAMS who was a first year Pinnacle user also felt that his needs were not met, because of the whole group format. He said:

I thought I could get explicit instructions on how to customize the projects. I recall it being very vague, so when I had to dive back in a month after training, it seemed very frustrating. What was even more frustrating was that colleagues that did not receive training were able to implement straight on and customize it; it seemed very intimidating for me to do.

Other supports provided by Pinnacle that were found helpful were: webinars, speaking with Pinnacle site members, opportunities to speak to other teachers, and the Pinnacle help desk. Pinnacle webinars can be on a variety of topics. Teachers sign up for a webinar time and log-in with other teachers. Webinar attendees can post questions, but answers to questions may feel rushed given the time limit and number of questions from teachers. According to a teacher who used a webinar, Ericka London:

Though it was really short, I felt the webinar was really helpful just because it was succinct information about one topic. I was able to quickly grasp it and apply it right away, versus I think going to the longer PDs with multiple things gets kind of overwhelming. And there's so many things that I feel like, oh my gosh, I'm supposed to be doing all of these things. Our webinar was able and really helpful just to focus on one issue.

Speaking through challenges was another theme identified. After speaking with experienced Pinnacle staff, teachers like Jeremy Sanders said they felt that “the brainstorming session with school leaders and Pinnacle mentors” was especially helpful. By brainstorming session, Jeremy Sanders was speaking about a day when approximately six teachers,

administrators, and a Pinnacle coach, met for a school day to talk about where they were in relation to the adoption and facilitation of the Pinnacle program. Although only one such meeting occurred, it allowed teachers the opportunity to voice where they were while also having the ability to strategize with each other and an expert coach. Having the opportunity to speak with other teachers gives users an opportunity to “just know that other teachers were struggling” according to Noah Marquez. He continued on to say “it made me feel like I'm not the only one.”

Lastly, Yolanda Torres and Terry Simmons said that they had contacted the help desk by creating a help ticket through the Pinnacle platform if they were in need of immediate help. Pinnacle then replies to teachers via email and/or phone if necessary to assist with technical problems. As far as pedagogy is concerned, no teacher mentioned getting assistance through the Pinnacle’s Facebook group that is promoted during summer and local trainings as a way for teachers to share content and ask pedagogical questions. For example, Yolanda Torres who has three years of Pinnacle teaching experience said “I do my own exploration. If I cannot get into Pinnacle, then that's the time I ask for support and ask questions from the help desk.” When Yolanda mentions exploration, she is referring to her own exploration of resources located online that teachers have access to if they are trying to answer questions they have. However, when she is unable to answer her own questions, she seeks assistance through the Pinnacle helpdesk.

Finding 4: School-Provided Training and Supports Teachers Receive Depend on Individual School Sites

When administrators were first approached to participate in the study, they were open to sharing their experience and how their school came to adopt the program. LAMS was

interviewed first and documents were quickly sent via email. SFMS on the other hand proved to be much more difficult when securing the initial interview. As an outsider, I demonstrated persistence and reassured anonymity to finally secure an interview. When I attempted to follow up post interview with administrators about questions that I had, it was again challenging to get a response. One administrator eventually shared that they were concerned about negative media attention that could come from participation in this research project. They expressed that they did not want to undermine the progress that their site has made with Pinnacle due to the negative attention that personalized learning programs have received in the media recently. Fortunately, I was able to answer my follow-up questions with information from documents and websites that are publically available. I was able to triangulate what administrators, documents, and websites said with the responses that teachers gave. What became clear is that administrators are trying to support teachers with what they have available and with what they know; but according to what teachers say, administrators and Pinnacle are in need of more information on how to better support teachers with personalized learning, which is where the findings of this study will be helpful.

Teachers on the other hand, were much more receptive to sharing their experience when they were asked questions pertaining to their experience with the Pinnacle personalized learning. Twelve out of 16 teachers shared about the supports they received from their school site. Eight out of the 12 teachers who mentioned that they received support from their school site were from SFMS. A lack of consistent, quality supports impacts teachers perceived level of external control and adds to their feelings surrounding the program's ease of use.

Approximately half of LAMS teachers mentioned that they did not receive much, if any support, from their school site and if they did, it was not about topics that they needed. Only 4 LAMS teachers mentioned receiving support from their schools. Yolanda Torres said, “There was one time (professional development) but it's about the data, but I'm not looking at the data. I'm looking at how I will implement in class so our kids will be successful in doing it.” These comments capture a misalignment between what teachers need professional development in and the trainings they receive at this site. Noah Marquez reiterated similar feelings when he said, “I don't think anybody's really talked about how the students become those self-paced, independent learners Pinnacle speaks of.” The initial trainings provided by Pinnacle discuss students becoming independent learners. It appears that teachers leave the initial training believing that if all elements of the Pinnacle Education program are facilitated, then teachers will automatically create independent learners. Once teachers leave the initial training and begin implementation, teachers did not feel supported by administrators when students are not naturally able to become independent learners by using: the Pinnacle platform, its projects, participation in personalized learning block (PLB), and through receiving mentorship. Three people mentioned that administrators forward emails from Pinnacle Education. Roy Truong remarked, “Admin. sends periodic emails about mentoring or having students do projects, but that's about it.” Also, other teachers mentioned there used to be coaches, but there are no longer coaches on staff. Additionally, Chloe Ramirez mentioned that when they did have coaches, “they offered support when they were available. But, they were always pulled to do non-Pinnacle work. They didn't always have time to come to you and offer support.” Additionally, Tristan Pitt said “the last couple of years we had all our academic coaches that kind of coordinate the program, and I don't

even know who's in charge of that this year. The supports, I guess, are there, but yeah they're not made very clear.”

In addition to school wide meetings, LAMS teachers also have grade level meetings led by team leads. Four teachers who are considered veterans shared that grade level lead teachers are typically responsible for leading grade level meetings that are sometimes related to Pinnacle; however, each grade level is independent so there is no consistency. Allen Hershey shared:

We've had meetings about how to organize our Personalized Learning Block (PLB) time more efficiently. We've had grade level meetings on how we want to have students take those notes, so that way they're more efficient and gaining more knowledge to pass their content areas. We've also had meetings, or parts of meetings, where we're looking at data and how often students are getting feedback for their checkpoints or how often their checkpoints are being submitted. We talk about it a lot.

Although teachers mentioned that they have grade level meetings, few people mentioned that it provided them with supports that they need. The four teachers who said that grade level meetings in the past provided support also stated that they had either previously had a strong team lead or their team itself consisted of a more tight-knit group of teachers. A trend that consistently surfaced amongst LAMS teachers is the fact that they are not receiving much support on their campus and if they receive limited support it is dependent upon the grade level they belong to and the experience of the teachers on the grade level team.

In contrast, all eight SFMS teachers expressed that they felt supported by their school site and administrators. Supports discussed by teachers at SFMS were weekly professional development and support from administrators and their teams. According to Terry Simmons:

PD here really focuses on our goals as a school, like school based culture and they really want to push Pinnacle, so they (administrators) are providing opportunities for teams to work together and to have things looked over for feedback, especially with the projects and lesson planning that are involved with Pinnacle.

During weekly professional development facilitated by administrators, teachers mentioned learning best practices from other teachers at their site, time to collaborate as grade level teams, and time dedicated to learning new strategies from outside of Pinnacle Education in an effort to incorporate these strategies into their school's personalized learning program. For example, one of these same teachers at SFMS, Mary Black, said "I would say that they focus more on, we focus on the Danielson framework and Davis Conley guidelines. That's our main focus, and then we use those to incorporate into Pinnacle." The Danielson framework is a rubric used by SFMS to evaluate teacher practice and the Davis Conley guidelines are strategies used to meet the needs of low socioeconomic or 1st generation college goers, such as the students at SFMS. Mary Black elaborated on the fact that teachers felt that administrators have goals when facilitating teacher professional development meetings, but teachers did not discuss this with negativity. Overall, teachers at SFMS emphasized the open communication that they have with their administrators as a major support. Nick Carraway, who participated in the original pilot, said:

So, I personally felt like I had a choice at the beginning of it. Now, I know that there is staff that have come in since the decision was made. Before, a couple years ago when they first initially tried assessing this, admin came to us and said, "This is what we would like, this is why. But we really want to make sure that this is something that you all want. But if it's not, then please share with us because we are not going to do it unless we have compliance from you." So, from the beginning, I felt like I had a voice in this, which was helpful. Even though I was aware that Admin really wanted it. I do feel comfortable talking to my Admin if I have strong reservations. I feel comfortable telling them and that they would respect it.

Finding 5: Pinnacle Education Prepares Teachers for Initial Implementation but Lacks Differentiation in Ongoing Training.

Interview questions tied to research question 1A asked what type of training teachers wished they had had. Overall, the most recurring comment that teachers expressed concern with was the lack of differentiation in teacher development which impacts their perceived level of enjoyment and contributes to their feelings surrounding ease of use of the program. Five teachers felt that different experience levels and subjects require a variety of trainings. For example, Nathaniel Evans, a new teacher with less than a year's experience with Pinnacle, said "I guess you could say (it's least helpful) where it's very rigid, where we're covering one specific thing of it." An experienced teacher, Noah Marquez who has taught three years with Pinnacle echoed these sentiments about training "Well, it hasn't been a lot of help. It's not a lot of options." When differentiation was embedded within trainings, the majority of teachers found them useful. Mary Black highlighted how much she enjoyed the local training due to the differentiated content, "I

think the local training was helpful, just because it was time to differentiate based on your content, and then looking at, actually I liked that a little bit more, differentiating based on content.” As compared to initial trainings, local trainings allow teachers to have more autonomy over the choice of training sessions they attend. Each training session has a different topic and can be geared toward a specific subject and/or grade levels, or both; however, there is still room for more choice and further differentiation. For example, if teachers cannot find any topics which fit their needs, there is nowhere else for them to go so they would still end up in a session that may not fit them.

Finding 6: Teachers Want Differentiated Supports, Time to Collaborate, Explore the Program, Receive Coaching, and Plan, as well as Improve the Pinnacle Platform to Increase the Program’s Ease of Use.

When interview questions tied to research question 1a were asked, teachers also discussed what supports they wished they were given. All teachers interviewed shared that they are in need of supports, but they want these supports to be differentiated for teachers depending on their content area and years of experience with the Pinnacle program. Time was also mentioned as the number one support teachers wanted - time to collaborate with peers who teach their content and/or grade level, time to explore the content themselves, time for one-on-one coaching if needed, and time to plan for projects, content areas, and supplemental resources. For example, Hillary Gibbons (SFMS) explained that she desired collaboration time:

I think I would be interested to hear from more teachers who teach my content. Just hearing how they've adapted the content areas or how they've implemented projects in

their class. Because I feel like I know how I'm doing it, and I know how the teachers I work with do it, but since we have similar training because we've been at the same school and we have similar ideas because we work at the same school, it would just be interesting to hear how other people have changed or adapted things.

The second most frequently mentioned support that teachers desired was for Pinnacle to make improvements to its platform, materials, and trainings. Allen Hershey (LAMS) explained the supports he wants Pinnacle to provide “Anything from extra support or additional material to make it more understandable for students. Sometimes I didn't even use anything that they gave me. I just went with my own stuff.” Kara Huck (SFMS) further elaborates on some of the supports she desires for students and teachers:

If they have something where the texts were to be read out loud to the students as an accommodation and two, for the grading, like when you're giving feedback on student work for Pinnacle Education because like I wish there was a way that I could like have like a code for a Google Chrome extension where you would like have a code for commenting, just like typing a letter and I'd like to comment auto-filled but that extension don't work when you're on the platform. So it's like, I would want Pinnacle to have its own version of that kind of thing where I could almost like create my own comments and then be able to just click them in. I just would really like this. The rubric, they did kind of add like a highlighting tool where you can highlight within the rubric what they lacked and what they didn't lack, but their rubric is kind of funky to me. So a lot of the times, I'm looking for more specific things that the rubric doesn't necessarily mention, so I would want to be able to fill it in with my own thing.

The biggest takeaway from teachers when asking about what supports they needed was their willingness to share and the thought they put into their suggestions, as well as their need for simplification of platform processes.

Unequal Facilitation of All Program Elements

Finding 7: Teachers are Not Implementing All Four Elements of the Program

(Personalized Learning Platform (PLP), Projects (PBL), Personalized Learning Block (PLB), and Mentorship).

Question 2 asked teachers about how they use all four elements of personalized learning: Personalized Learning Platform (PLP), project based learning (PBL), personalized learning block (PLB), and mentorship as a way to gain insight on teachers' view of their external control which adds to their overall perception of ease of use. The first element, PLP, is the online platform that teachers and students use to access projects, playlists with content and assessments, as well as goal setting tools. The second element, PBL, refers to the projects that the platform is hosting on the platform. Students work on these projects during class time in math, English, history, and science with the support of teachers. The third element, PLB, is a designated block of time that takes place outside of standard class time. During this designated time, students work on playlists for each content area where they are working toward mastery of content skills that will support their understanding of the projects they are working on during class time in math, English, science, and history. During PLB, teachers may choose to pull small groups of students who need extra support, or they can pull students for 1-on-1 mentorship to complete the fourth

element of Pinnacle. Overall, interviews reveal that teachers are not able to personalize all four elements of Pinnacle.

Furthermore, interviews and document analysis shed light on teachers' perception of the Pinnacle's usefulness by discussing user experience, the level of voluntariness in facilitating the program, subjective norms (how teachers perceive their colleagues' attitude toward the program), the program's relevance to their job, as well as the program's ability to demonstrate results for students. According to document analysis, both LAMS and SFMS expect teachers to facilitate all four components of Pinnacle Education, so using the program is not voluntary. The interview data collected reflects that not all teachers are facilitating all components of Pinnacle Education. Although all 16 teachers were able to define personalized learning similarly, personalization and facilitation of all Pinnacle components simultaneously is challenging for all teachers and they could still use support in this area. The following subsections explain how teachers responded to interview questions that relate to research Question 2 and Question 2A. In general, the teachers did use the Pinnacle platform, although many supplemented with Google Classroom, and they generally allotted the Personalized Learning Block time for individual work on playlists, but some had trouble using projects, particularly in math, and they had difficulty finding time for mentoring.

Finding 8: Nearly All Participants use the Personalized Learning Platform Daily.

The first of the four elements is the online Personalized Learning Platform that teachers and students use. The Pinnacle website explains that:

the platform is an online tool that supports what teachers and students do in class each day. It is where students work through projects, submit schoolwork, take tests, and access a variety of materials for their classes. Lastly, it's where they set personal goals with their mentor and teachers.

LAMS and SFMS do not provide explicit expectations in their self-study documents for teachers on how they are to use the (PLP) aside from the fact that they should be using it to facilitate the other Pinnacle core elements: project based learning (PBL), Personalized Learning Block (PLB), and mentorship. In addition to the platform being used during content classes such as English, math, history, and science, both schools embedded Personalized Learning Block (PLB), an hour long block for four out of five school days so that students can independently use the Pinnacle platform each day to work on their playlist.

The good news is that as teachers answered interview questions tied to research question 2, teachers explained that they use the personalized learning platform daily. All 16 teachers discussed their platform usage and 15 out of 16 mentioned that they use it daily for most of the entire period, unless students are performing an activity that is tied to what they are learning on the platform that does not require a laptop. Teachers mentioned that they use the platform for a multitude of reasons, such as approving student assessments, modifying/accommodating the curriculum, referencing the timeline when talking to/mentoring students, curriculum pacing, and project facilitation. The one teacher who did not use it daily, Terry Simmons, mentioned that she didn't want to be a "tutor"; instead, she would rather use her own materials to teach. Although Terry was the only teacher to deny using the program daily, she was not the only one who supplemented the platform with her own materials. To clarify, as teachers supplement with their

own materials, they could choose to house them on the PLP or not. In other words, supplementing does not necessarily mean that students are not using the platform, but it could.

Finding 9: It Takes Time for Teachers to Learn the Personalized Learning Platform, Keep up with Updates, and Personalize it to Their Teaching.

Another piece of good news is that with time, teachers are better understanding how to teach with personalized learning. Only 2 out of 16 teachers said that they are still learning the platform and all of its new features; however, even experienced teachers who have been using the program for three years, such as Tristan Pitt, said:

When I first started using Pinnacle, I struggled with using the platform because it was so much to learn at once. I believe that a lot of new teachers feel this way. Now, I use the platform regularly, but there are still some features I either don't know how to use or choose not to learn. What I mean is that it takes time to learn each new feature. It also takes time to implement new features. I'm already running out of time trying to use all of the basic features already. I have to pace myself on how much I can realistically learn and implement at once.

Five teachers discussed the changes that were made to the platform from the time that they first began using the platform to now. Two teachers at LAMS, Noah Marquez and Allen Hershey, spoke of the updates and improvements that Pinnacle is consistently adding to the platform. They also mentioned that they receive emails about these updates from Pinnacle regularly. Noah Marquez said “even if teachers feel that they understand the program, they must

keep up with updates to have the most current knowledge of how to use the platform.” Ericka London who is at the SFMS site discussed how platform updates take time to learn:

[I] think that any website, or thing that you're working through, I think it takes a while to get down. And also, because it's been developing, so there's a lot more now than there was last year. It's continuously growing and changing. It's been like, “Oh, where did that go now?” I have to figure it out. But I think that, thankfully, each time it's updated, it's been easier to use.

Mary Black from the same site paralleled similar phrasing as Ericka London, “a lot of, even this year things have changed, and I go, “Oh, that's where this is!” So finding things on the platform is a major hurdle and being able to interact with the platform (during trainings) is helpful.”

Jeremy Sanders reinforced this idea by saying:

The basics are still there, as it's still the same platform and the same mode of instruction. But, a lot of the critical elements have changed. The way in which I approach a situation... I have modified over the last three years.

So how are teachers using the platform? Have they personalized it for themselves? Based off of the data collected, teachers are using the Pinnacle platform according to their own needs. For example, LAMS’ Jeremy Sanders uses Pinnacle’s platform in such a way that it replaces the need for textbooks. According to LAMS’ WASC report, teachers are able to use McGraw Hill, TCI, and Glencoe curriculum and other supplemental materials to further develop curriculum instruction for students to ensure a rigorous course of study. With this being said, no teacher

interviewed at LAMS mentioned using these other curriculum resources in conjunction with Pinnacle. Similarly, SFMS' self-study report for LAUSD charter renewal states that they have textbooks, although they are not named. With this being said, no teachers mentioned how they use or do not use textbooks in combination with the Pinnacle program.

Although the platform may replace textbooks for some, it does not diminish the load teachers have as they work toward balancing direct instruction and independent personalized learning in their classrooms. LAMS' Allen Hershey explained the difficulty in balancing between traditional teaching and the platform. In his classroom, he is providing direct instruction 40% of the time and using the platform the remaining 60%. Kara Huck (SFMS) mentioned that she too works on balancing direct instruction and student self-direction:

On the days we're not (using Pinnacle), it usually is something that all the kids need. It's usually some sort of direct instruction, or it's like some sort of group work where they all have to be learning something at the same time. You know what I mean? Like some days, I have to just actually teach them, that's usually what we're doing then.

Even on days when teachers pause on using the platform, they are still teaching concepts tied to what students are covering on the platform.

Finding 10: Teachers are Using Google Classroom to Supplement the Pinnacle Platform.

A surprising piece of news that came from asking teachers about how they are using the Pinnacle platform was that almost every teacher interviewed was using Google Classroom in conjunction with the Pinnacle platform. According to Google.com, Google classroom "makes

teaching more productive and meaningful by streamlining assignments, boosting collaboration, and fostering communication. Educators can create classes, distribute assignments, send feedback, and see everything in one place.” Furthermore, “Classroom also seamlessly integrates with other Google tools like Google Docs and Drive.”

Even though teachers are using the Pinnacle education platform depending on their own needs and the needs of their students, all 8 teachers at LAMS and 7 teachers at SFMS discussed that they are using Google Classroom to supplement Pinnacle. Teachers are using Google Classroom to post content related to projects and personalized playlists more quickly, house assignments, provide feedback, and grade. For example, Mary Black described how she uses it which is typical of the majority of interviewees:

I think that I use it to house major assignments and to give them feedback. I think those are the two big things that I really like about the platform that I use; however, the ability to adapt materials and change materials is still really not where I would like it to be. So a lot of it is me blending Pinnacle with Google Classroom, and so I'll like... What I can't put in Pinnacle, what I can't utilize as a quick exit ticket or have a little bit more, not like, structured data but just formative data, that's Google Classroom. I definitely can't rely on it (Pinnacle) for the day to day details.

Nick Carraway elaborated in his interview on the ease of Google Classroom when it comes to uploading assignments. Additionally, he discusses the lack of Pinnacle's integration with the school's current grading system and the ease of using Google Classroom for grading versus Pinnacle.

I use it pretty regularly for content instead of Pinnacle. I find Google Classroom more user-friendly because it's like one step. Beginning with the little classroom then click on the assignment and then click on the announcement (with Google Classroom) versus Pinnacle's multiple steps. There's like multiple steps to getting into my class on Pinnacle. And since, I don't grade things in Pinnacle unless it's a project, the portfolio problem or a unit assessment. I don't need to grade things in Pinnacle, so it doesn't necessarily help me to push things out through Pinnacle. So, I use Google Classroom to post do-nows and to post resources. And some of those are linked through the Pinnacle resources, but I just put it out through Google Classroom instead.

Overall, teachers referred to the fact that Google Classroom's speed and ease of its features in regard to uploading, organizing, and grading was better than Pinnacle's.

Project Based Learning (PBL)

The second of four Pinnacle elements teachers discussed was how they used project based learning, projects that are housed on the Pinnacle platform that students work on during core content classes with the support of teachers. A blog on the Pinnacle Education website focused on PBL states, "a school really needs to develop a project-based learning culture. It is not just the same old routines in a project-based learning school." These new routines require teachers and students to accept the ideology of "we're all exploring these issues together. Teachers have discretion over whether projects can be individual projects or group projects. The teacher doesn't have the right answer. The teacher doesn't always know the solution to the problem, or the best way to do a project. So the teacher is a learner alongside the students."

Furthermore, teachers are encouraged to be the facilitators in the classroom and coach students to apply their cognitive skills in their learning. Students are guided through a learning cycle of self-direction.

PBL is described in LAMS' WASC report as projects that are "built around the idea of blended learning with a competency-based progression. Projects develop students into self-directed learners." Similarly, the LAMS' WASC report states that the ultimate goal of PBL is to allow students to apply their knowledge, skills, and habits through real-world scenarios. The SFMS report emphasizes that at their school, "teachers assign rigorous content projects that students complete using the personalized learning platform, over the course of a unit of study. Students can see all resources, rubrics, and feedback that teachers have inputted for them in the platform."

Teachers at both sites were asked, "How do you use projects in your classroom?" All teachers who are content teachers that attended Pinnacle's training discussed their use of projects. The only teachers who said that they are not using projects are those who either are: special education teachers who are not present in content classes while projects are being implemented, teachers who did not attend summer training and do not understand how to use the projects, or those who teach math and do not like the projects. It became clear from the data gathered that 12 out of 16 teachers are implementing long term projects during class time which is what is expected of all teachers at their school sites according to their self-study documents.

Projects are the bulk of class time. My focus is that projects are collaborative and inquiry based. With the focus on real world applicable elements. So that a student can use the information and content that they learned independently through their notes and homework and content assessments and to then apply that into a project in some sort of real world

application. I have never used a project exactly how Pinnacle designs them. The majority of projects that I have done were completely of my own design, modeled on what I had seen in Pinnacle. Some of the other ones were from the Pinnacle Platform that I have modified to decide ... when I decided what should be emphasized and how best to have students meet those objectives. - James Sanders

Although teachers are implementing projects, how projects are being implemented is different from teacher to teacher depending on student needs and teacher interpretation. The good news is that teachers are trying to implement projects that meet their students' needs; however, the bad news is that there is a lack of consistency as some teachers struggle more than others, specifically math.

Finding 11: New Teachers Struggle to Balance Understanding How to Edit Projects on the Pinnacle Platform while Simultaneously Facilitating Projects in Class with Their Students.

When teachers were asked interview questions tied to question 2a about what elements are not being used, they shared about their hardship with projects. A new teacher at LAMS, Roy Truong, didn't believe that students in his classroom were able to grasp that they were working on smaller pieces of a larger project.

I don't think the students are aware that they're working on a project. I take parts of the cultural narratives project, and I uploaded bits and pieces on to Google Classroom and I don't think they realize they're working on a project. Well, it took me the last week to figure out how to edit everything the way I wanted it.

Additionally, from his statement, Mr. Truong also revealed that he is still working on learning how to edit projects. Chloe Ramirez, an experienced teacher at LAMS, added that both of her co-

teachers (English and Math) are not using projects and both of these teachers are new. This is not an isolated statement, because overall, newer teachers reported having more difficulty with projects as compared to teachers who have been using Pinnacle for over a year. Teachers that are newer to Pinnacle must not only understand how to work the platform on their side, but they also have to understand how to house a project that students will also see on the student display. In other words, teachers are responsible for creating a project that they understand how to post on the platform so well that they can make it user friendly for their students. This can prove a challenging task if they are still learning the program.

Finding 12: Teachers who Implement Projects in Their Classroom are Personalizing Them to Fit Their Interpretation of Students' Needs.

Teachers shared that when they use projects, they are tailoring them to their students' needs. A more experienced teacher at SFMS, Mary Black, explained that Pinnacle-provided projects are not always ready to roll out according to individual teacher taste and school expectations:

I will manipulate some of the projects that were within our platform, and they have plans that, like suggested plans, on how to utilize them, and I will occasionally follow them and occasionally manipulate them, or sometimes just do my own thing. So it definitely depends on the actual project and what I'm trying to achieve. I think our school has set a precedent of making sure that all the project stuff aligns to Common Core standards, so sometimes it fits, sometimes it doesn't.

Sometimes, Pinnacle materials are not always aligned to school site expectations. For example, SFMS expects that the content teachers are teaching be Common Core aligned, so when it doesn't fit, Mary Black modifies projects so that they are aligned. Yolanda Torres (LAMS) had also mentioned that some projects were not aligned to Next Generation Science Standards, so she too had to adjust projects. Ten teachers explained that they often customize projects or develop completely original projects that better meet their students' needs. According to Yolanda:

I also have modified the amount of projects as well, so they have a little bit longer timeline because they need so much time to even complete one task. I've really edited Pinnacle a lot for our class.

Some examples of reasons given by teachers for needing to customize projects are: accommodating students' reading levels, adjusting project themes to be culturally relevant, adjusting project timelines, adding in materials for scaffolding knowledge, and deleting materials that appear unnecessary. Teachers also sometimes already have units that they have created and would prefer to use their own projects. Teachers shared the types of projects that they created and they were often tied to topics that they knew interested their students (because of cultural relevance and opportunities to express multiple intelligences) and still covered Common Core standards. They also commonly included an element of choice so that students did not have to work on the same project as everyone else, but targeted the same concept. Furthermore, teacher created projects focused on allowing all students of different abilities the chance to access text at their level.

Hillary Gibbons from SFMS explains how not all projects can easily be adapted to what curriculum and resources schools are already using:

Pinnacle does do a lot, but the thing is, because we have a novel based program here, we couldn't totally adopt the projects 100%. So I teach an hour of reading, then my other ELA teacher teaches an hour of writing. So we have two hours a day of ELA. So we already had a lot of projects developed related to novels. So it was hard to just straight adopt what they had. So I do have to upload my own things (resources such as notes, activities, Powerpoints, etc.) just because of that.

Finding 13: Math Teachers Struggle More Than Teachers in Other Subject Areas to Incorporate Projects into Their Classrooms.

When asked interview questions related to question 2a, math teachers shared more than other subject teachers that they are struggling to incorporate projects into their classroom. LAMS math teachers who were interviewed stated that they are not using Pinnacle projects, and they are also not using concept units. In addition to the projects that all teachers are expected to implement, math teachers also have an additional component called concept units that students are expected to complete. According to the Pinnacle website, concept units are a collection of math tasks that lead to students learning one or more mathematical concepts. Rebecca Garcia explained why she does not use projects or concept units provided by Pinnacle:

The projects from Pinnacle I don't use, because it's very time-consuming to go into, and math is very different from all the other ones because we have concept units. So, concept units are like a separate entity within one overarching project. But, admin doesn't know

how to use it and give it out. So, and I haven't had much training, so I don't use Pinnacle's projects, I use my projects.

Rebecca Garcia further discussed how projects require dedicated time and are confusing because of the many steps involved in setting up projects with multiple documents as compared to Google Classroom. Furthermore she elaborated on concept units and explained that not only are they a collection of math tasks geared toward learning a particular concept, but these concepts end in an assessment. A unit typically takes anywhere between 2-5 weeks to complete. Ultimately, projects for math can linger longer than a teacher has time when coupled with concept units, which leads teachers to create their own projects. For example, Rebecca shared:

I don't know how to use Pinnacle projects or implement it. And I would like it if they (admin) had given me time to do that, but I don't, so it's easier for me to make my own. I am still very still, very shaky on projects.

Teachers are advised by Pinnacle to select the tasks students do and facilitate their learning experience. All math teachers at SFMS interviewed are incorporating concept units and like, Rebecca Garcia, they are creating their own projects, but through portfolio problems. Ericka London explained how portfolio problems are being used:

Through math, we have portfolio problems, so it's a little bit different than like the ELA projects. In math, it's a portfolio problem that's basically demonstrating the same key concepts, so in that, we have designated time. So for an hour, it's like one class period in a few weeks that they're only working on their portfolio problem. And that's like an

extension that bridges there, not just procedural, but also do they conceptually understand it? Are they able to do it and apply it to a real world problem? So that's mostly how projects are shown is through their portfolio problems.

Personalized Learning Block (PLB)

The Pinnacle website explains that “during Personalized Learning Block, students’ progress through the content area playlists contained on the Learning Platform at their own pace.” Pinnacle also states that “playlists introduce each topic and link to videos, slideshows, websites, readings, and practice worksheets. Presenting content in multiple modalities like this allows for greater practice.” This block also allows teachers to work with students who need additional assistance, require more rigor, or who simply need a check-in in a small workshop setting or 1-on-1. During this time, students can also work with peer tutors as other students continue to work independently.

When and where does this take place? Usually, students are divided amongst teachers like a homeroom, but instead of the homeroom being a study hall, students are working on Pinnacle playlist related work and teachers pull kids to mentor or target specific skills. Usually, this takes place for 45 minutes to an hour at the end of the day. Additionally, schools typically designate one entire day to PLT a week, where kids move from classroom to classroom, but instead of working on projects like they usually do, they are working on their playlist in their content teacher’s classroom. The ultimate goal during PLB is for students to direct their own learning in conjunction with teacher support. LAMS’ WASC report states:

The playlist on the platform allows students to guide their learning and utilize the resources that best meet their learning needs. Teachers work to guide and differentiate the content in order to ensure that students are able to access the content and demonstrate academic progress. In the classroom, this work is more evident on Wednesdays.

Wednesdays and the last advisory course every day is dedicated to Personalized Learning Time (PLT). This allows students to see all their teachers in order to complete work for that specific course. The following is student behavior of self-direction that would be evident in the classroom through: independently setting learning goals, planning the appropriate strategy for academic success, independently engaged in the assigned work, self-monitor of work and assignments, and other skills.

Furthermore, teachers interviewed mentioned that students are expected to complete at least six topics in their playlist within their content areas a year.

Finding 14: All Teachers are Implementing Personalized Learning Block, the Third Element of the Pinnacle Education Program, but Teachers Observed that Students Who Work through the Playlists the Best are Those Who Can Self-Teach and Self-Regulate Their Behavior.

Similar to LAMS, SFMS expects students to use the personalized learning platform during PLB. The SFMS self-study reports says that “SFMS has adopted a personalized learning philosophy that places emphasis on teaching students how to internalize concepts at their own pace using time management and teacher support.” They also expressed the belief that:

In Pinnacle, students are guided through a personalized learning cycle (playlist) that develops self-direction by teaching them how to set goals, make plans, demonstrate their skills and knowledge, and reflect. If a student is achieving content at high levels, an accelerated or more targeted pace is offered. This pace will continue as long as they continue to master the content. Once a student feels they are ready to show what they know, they will take an on-demand, proctored content test. This type of personalized learning has enabled teachers to move away from a lecture-oriented classroom environment, and spend more time as a mentor and facilitator, creating small groups to support students performing below grade level.

All teachers interviewed from both sites explained that personalized learning block is used for students to work on learning specific content areas within each subject. Nathaniel Evans from SFMS, shared how he introduces content areas to his students, which is similar to what most teachers at both sites reported:

When it comes to content learning, well, most of it is done during their personal learning block, their PLB, and then what that looks like for them is, first, they take their diagnostic for whatever subject it is. They see how they're doing. We have a little discussion on which objective in that diagnostic is one that they should really focus on. After they've done their diagnostics, they'll take their notes. They'll go back and they'll look at their diagnostic, figure out which objective they need to study, they'll write down their objective, and then they'll use those resources provided with that objective to go ahead and take their notes. After they're done with their notes, then they go back and then highlight where their notes helped them better understand their objective, and then they're

done with that set of notes. That's what it looks like in that PLB time. They could also be taking the assessment for that content area during that time as well. Instead of focusing and taking notes and studying for that, they also have the opportunity to take the assessment there as well.

Melody Simmons (SFMS) elaborated that students do not always have to work independently during personalized learning block. Sometimes, she will make it a group task where she works with students on the side of the room, which gives her the opportunity to read things aloud and students can give verbal responses. Additionally, she shared that sometimes the whole class can practice writing their answers together if needed. Working with students in both groups and individually during personalized learning block is not uncommon for teachers, because not all students are able to self-teach as well as others according to the majority of teachers' responses. For example, Nick Carraway, said:

I haven't found as much success with the majority of students teaching themselves how to find percentages using content areas on the platform, but there are, probably 10 to 15 percent of students who are focused, which really allow them to extend their knowledge and work ahead.

Another example, came from Tristan Pitt (LAMS):

The majority of my students with IEPs struggle during personalized learning block because they are not able to read at the level of the resources, some have audio processing disorders so the videos are not helpful, and others just get bored.

Reasons mentioned by teachers as to why students struggle with the content areas are: low reading levels, lack of maturity and the need for redirection, lack of engagement, lack of culturally relevant content, information processing disorders, and behavior issues.

Nick Carraway elaborated on different students' needs in regard to use of content areas on the playlist during personalized learning block:

So, I have... I think I have almost 10 students that have completed all of sixth grade math right now and it's the month of November. Because they're able to work ahead and they're able to go through the research and really teach themselves and start to learn things that I haven't even addressed in class yet. And, some of them have even started seventh grade math and surpassed all of sixth grade. For these few students, it's a way for them to extend and move past and beyond where class is right now. So, it depends on students, but for the majority of students, it's a way to make sure they understand what we've already learned in class and show understanding of that.

The few students who are able to self-teach and self-regulate their behavior are thriving the most during personalized learning block according to teachers. For the majority of students who need guidance, differentiation, additional academic supports, and behavior supports, teachers are addressing issues found within the content playlists.

Mentorship

The fourth Pinnacle element discussed was mentorship, mentoring that teachers do (usually during PLB) while the majority of students are working mostly independently, but often

times whenever they can fit it in like class time, after school, etc. to mentor students. The LAMS' WASC report states "1-on-1 mentoring supports the socio-emotional development of students by providing a teacher mentor that strives to support and develop a sense of purpose through creating short and long term goals." SFMS' self-study explains that they are:

Creating the opportunity for every student to have a student mentor in the grade level ahead of them. This has fostered a community of support and encouragement that provides students with a sense of belonging. Additionally, all students have an adult mentor who supports them through as they learn to have greater autonomy over their learning.

Furthermore, "the goal of the teacher is to instill the values necessary to support self-directed learning and develop rapport and relationships between the mentor and mentee. Every teacher has been assigned mentees for the semester." Interviewees at LAMS indicate that they have approximately 20-21 mentees; whereas, interviewees at SFMS state that they have 10-12 mentees. The Pinnacle website explains mentoring as:

Each student is assigned a teacher mentor who is the student's coach, college counselor and advocate, and supports them to excel both inside and outside the classroom. The mentor and student meet 1:1 each week to discuss both challenges and success as well as goals and plans for the following week. The mentor coaches the student to take responsibility over their own success by setting and meeting personal goals.

Overall, the good news is that teachers view mentorship as important; however, the bad news is that out of all four core elements, mentorship is the least implemented.

Finding 15: Teachers Struggle the Most Implementing Mentorship Because of the Lack of Time, Although They Recognize That it is Important.

Hillary Gibbons (SFMS) shared that she has 12 students and uses Pinnacle’s guiding questions when she meets with students every other week during PLB; however, Hillary is representative of the minority of teachers who are able to regularly meet and are using the Pinnacle guiding questions. Of the four Pinnacle elements explored in this study, mentorship was reported as the most challenging of all to implement. 14 out of 16 teachers report that they are mentoring on a regular basis; however, their definitions of regular meeting times varied e.g., once a week, bi-monthly, and monthly. Although teachers report that they believe mentoring is good for students, lack of time was given as the reason across all teachers as to why mentorship is difficult to implement. SFMS teachers report that when they mentor, it is usually done during PLB. Dissimilarly, LAMS teachers tend to mentor more during their advisory period when students are silent reading and less often during PLB.

The New Role of Teacher

According to the literature available from Pinnacle, teacher’s roles in a personalized learning classroom should be different from the role of teacher in a traditional classroom. Specifically, the Pinnacle website describes the role of teacher as a coach or guide rather than just a direct instructor. In response to the interview question ‘How would you describe your role as a teacher in a classroom using personalized learning?’ which is tied to research question 3, a range of responses was elicited. This question served as a way to gain insight on teachers’

perceptions of their image, a determinant of perceived usefulness according to the conceptual framework.

Finding 16: The Majority of Teachers Describe Their Role in a Personalized Learning Classroom as a Coach and say That Transitioning into the New Role of Teacher in a Personalized Learning Classroom Takes Time.

First off, teachers were given a list of words and were asked to pick any number of words from the list that they felt best described their role as a teacher. Additionally, they were allowed add words that they also thought should be considered. The majority of teachers identified as a coach, half of all teachers selected monitor and facilitator, slightly less than half of teachers identified with instructor and mentor. Noah Marquez explained why he chose coach:

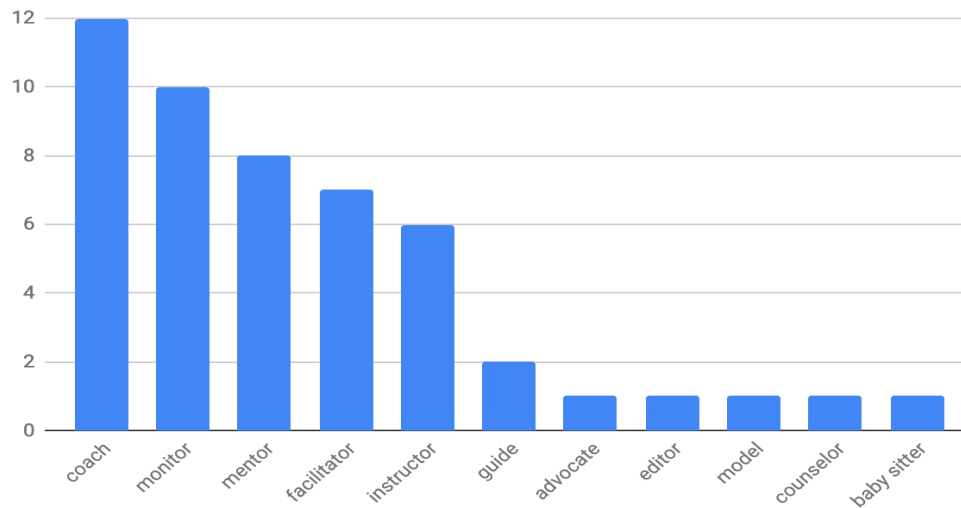
I think I'm more like a tennis coach, in a sense that you do the coaching in the background, but once the game time comes on, you're in a sense, not supposed to interact as much. I mean, you are in the background, cause you're busy correcting, doing grading. It's very difficult.

Noah Marquez's and 11 other teachers' explanation of the coach label encompasses the idea that teachers are promoters of students' independent learning and only step in when needed.

Furthermore, I would like to highlight that all eight teachers from the SFMS campus selected coach; whereas, four teachers from the LAMS campus selected this label. Ten teachers that selected monitor described their role as "observing students as they work, while watching for loopholes that students try to find online during PLB"; whereas, the seven teachers that selected facilitator believed that their role is "like facilitator more because it's more than monitoring, just

observing and watching, of actually how are we moving through this. Where are you at? And pushing them.” Mentor was selected by eight teachers because many teachers identified that they may not be perfect in this area, but they are working on it as mentioned before. The word instructor was chosen by six teachers, three from each site, and was the word most associated with traditional direct instruction that teachers know should no longer be their primary role in the classroom. Only one teacher chose a more negative descriptor than monitor, which was babysitter; however, this individual was new to Pinnacle, stated multiple times that they had issues with understanding the platform, had difficulties with behavior management, and also had the lowest ratings of level of ease of use and usefulness.

Figure 2: Participant's description of the role of teacher in a personalized learning classroom (N=16).⁴



As teachers described their role in the classroom, slightly less than half of teachers opened up without questioning about how their workload has also changed. Melody Simmons (SFMS) explains how her workload has increased to the point that she has to plan during her personal time:

⁴ Some teachers added multiple descriptors.

I'll have to use my personal time sometimes to support students and make resources, which you know, I think it is part of the reality of the teaching role but that is very difficult. I have a child at home, so it's, yeah. It's a struggle there.

Additionally, Mary Black (SFMS) added that even though she has been teaching seven years, she is now spending time working beyond school hours as if she were a novice teacher again:

I would say that something I haven't had to do since my second year of teaching is just spend a night grading, and this has become a bit less of a hurdle this year, but the amount of feedback you have to give back is a lot, and I think that while it is good, it's a lot of work, and to commit the time, I had to commit more outside time than I have in the last six years I was teaching, so that was a bit of a frustration to know that that component is actually worse now.

Overall, teachers' discussion of their workload parallels with one of the supports they said they needed which was time.

Next, seven teachers who had previously taught without using Pinnacle discussed how their roles have changed since using personalized learning in their classroom. Jeremy Sanders (LAMS) described how his role has changed from being the primary source of information to being more of a guide:

It is very much student-centered. In a more traditional classroom as I have taught at a school before this one, was where teacher on a stage, delivering information, guiding students through the same activity together. That we're all going to go to page 32 and take

notes on this, this and that. But with the personalized learning, it has transformed my role into more of a guide, that I will do my best to set students up for success with the materials that they need, then make myself available when they struggle or need help.

Teachers like Mary Black (SFMS) also discussed that transitioning into the new role of teacher required practice.

I would say that I struggled with it in the beginning because Pinnacle says this should be used in a way that is more hands off from the teacher perspective. That's how it was interpreted by me, and so I struggled to like pull myself back. And I think now, I've found a good blend of days whenever students work, I critique, versus I tell you what to do, and I guide it like a typical lesson. I would say now it's definitely blended. Some days, I will be going "Oh yeah, you guys just use the platform, and I will give feedback as need."

Teacher Identified Implementation Barriers

Interview questions tied to research question 4 asked teachers about the implementation barriers they have experienced. Six barriers that make implementing personalized learning difficult were identified by the teachers interviewed. They are listed as follows in the order from most frequently reported barrier to the least frequently reported barrier: student foundational skills, time management, teacher knowledge, teacher interpretation, behavior management, and technology issues. The teacher-identified barriers touch upon many of the elements of Venkatesh & Bala's (2008) ease of use and Venkatesh & Davis' (2002) level of usefulness. For example, the foundational skills that students enter a teachers' classroom with are variable and may impact

teachers' perceptions of their external control over a students' experience with Pinnacle. Ultimately, the lack of external control a teacher has may also impact how they perceive the program to be useful. Furthermore, through question 4, more information is revealed about teachers' perceptions of the program's usefulness by collecting more information about their experience with the program, the relevance of the program to their job (teaching low SES students who possess a range of different needs), and the output quality of the program (how teachers view the quality of the program is impacting students' academic growth?).

Finding 17: Teachers Identified Student Foundational Skills, Time Management, Teacher Knowledge, Teacher Interpretation, Behavior Management, and Technology Issues as The Biggest Barriers They Face while Implementing the Pinnacle Personalized Learning Program.

Student foundational skills. The most frequently identified barrier is students' foundational skills because they are outside of the teacher's control, which makes planning for instruction more challenging. Hillary Gibbons said:

So if you are used to just teaching kids the same thing the same way, then it is harder to plan in that sense, because it could take some kids five minutes and it could take some kids five days.

Some reasons that teachers gave for students' weak foundational skills were low reading levels, lack of technology skills, lack of English proficiency, and special education needs. Special education teachers, like Chloe Ramirez, for example expressed that they have:

Accommodated the curriculum for most of their students with special needs because the material is not tiered. Especially, the readings are not tiered, so they have a lot of trouble understanding the material. Especially, those students that are reading at a second, third grade level, given that the material on Pinnacle for seventh grade is at seventh grade level. Because it's not accessible for my students we have to do a lot of pre-teaching, re-teaching, we have to shorten the amount of resources, give them alternative resources, give them extra time, give them the ability to re-take low-scoring tests on the playlists. We also have to give them less playlist assessments, so they are able to attain the grade that they need to pass. So yes, there is a lot of accommodations that need to be made with this curriculum. It's just not accessible to all of our students.

Although foundational skills are outside of teachers' control when students arrive in their classrooms, they have taken control to fill some of these foundational needs. As Chloe Ramirez discusses the need for tiered readings and material, she is referring to readings and content that are tiered by level. For example, if students are learning about minerals in science she and her co-teachers would have to create the option of reading an article at grade level, below grade level, or above grade level. The majority of teachers and all SPED teachers expressed concern that the program lacks supports for students who have Individual Education Plans (IEPs) and/or are designated English Learners (ELs). Terry Simmons (SFMS) elaborated on how student's foundational skills coupled with IEP needs lead to inadequate support for these students:

I don't think this is a platform that benefits all students, and students with IEPs I feel are having a hard time. They're so stressed about trying to match (other students' accomplishments), make their Pinnacle goals and complete their playlists because that

affects their grade in the classroom. But there's not a lot of accommodations. I have students who have visual and auditory deficits, or they just have different types of learning, and that's not embedded in this program. I have students that have reduced questions or reduced assignments and that's not embedded within Pinnacle and I feel like it's a disservice to them. And I feel like I'm doing a disservice to them because I don't know. I went to training trying to ask them questions and there were no answers on how to make these accommodations happen. There should be read to text. I feel like students with IEPs should be a priority in this platform because it's the law for them to have these accommodations met and they're not being met in the platform. And it's not the school, it's the program. I'm having a hard time being won over by this program.

Read to text is sometimes referred to as text-to-speech (TTS) and is considered an assistive technology that reads digital text aloud. SPED teachers mentioned that they would like students to have access to similar accommodations that they would be receiving on the California Assessment of Student Performance and Progress exam as determined by their IEP and 504 plan. These assistive technologies are not currently available in Pinnacle.

Time management. It is the expectation at both school sites that teachers implement all four elements of Pinnacle Education, in addition to providing students with accommodations to personalize their learning; however, 8 teachers reported struggling with time management. The teachers who mentioned time management as a barrier also discussed how they struggle with being able to implement all four Pinnacle elements at once. What ultimately happens is that teachers prioritize some elements of the program over others. LAMS' site mentioned that new teachers in particular struggle the most, because veteran teachers have limited time to share their

knowledge in an effort to mentor the newer teachers. Veteran teachers also shared that they felt burned out from having attempted to mentor new teachers the previous year, who ultimately left their school site, so they did not have the energy to invest in teachers who may not stay on long-term. Additionally, when a SFMS teacher new to Pinnacle was asked “Do you feel like you have enough time embedded to the day to do all of these accommodations?” the response was “No”.

Limited Pinnacle program knowledge. While on the topic of teachers new to Pinnacle, many felt that their limited knowledge of the platform and how to teach with it was a barrier to their facilitation of personalized learning. Melody Simmons (SFMS) expressed concern over her lack of knowledge “I’m still very new to this world, and I’ve never created a new curriculum before. Personally, I sometimes don’t feel adequate; though I think I’m doing my best, I don’t feel trained enough in really modifying the work with confidence.” The 8 teachers that reported having limited knowledge, as well as, the remaining 8 who felt knowledgeable, expressed that teachers interpret and facilitate the program in their own way.

Teacher interpretation of Pinnacle Education. Even experienced teachers like Yolanda Torres (LAMS) explained how she interprets and facilitates the program in her own way. “It depends on how I present it to the students. It can be direct, it can be indirect. I teach depending on what I see students need based on my experience. I’m modifying a lot of things, but I know in the future kids will be successful in using Pinnacle.” Rebecca Garcia (LAMS) further expressed her own use of the program and the individual interpretation of the program amongst teachers at her site:

As a whole, I mean, we're all supposed to be using it, but every teacher uses it a certain way. Pinnacle's one of the ways we personalize learning, but every teacher does different types. So, it's very scattered. It's not concise, as far as what it's supposed to look like, and the expectations. So, some teachers heavily rely on it, that's their main thing is using Pinnacle as a form to relay the information. I use it more as a supplement to what I'm already teaching because there's no way I can just front-load with Pinnacle, 'cause the students would just be lost. So, I use it, yea, more of like a supplement to what I'm already doing, so that the student who need extra help, that's their time to get extra help. Or, the students who get it, they can just continue moving on. So, school-wide, it's very dependent on the teacher.

Behavior management. Six teachers mentioned behavior management as a barrier to implementation. A new teacher, Roy Truong (LAMS), expressed "I am not comfortable with differentiating instruction if I cannot get plain instruction right." When this teacher asked why they were uncomfortable with differentiating instruction, he explained it was due to "Not following through with expectations and guidelines" on his part. An experienced teacher like Ericka London (SFMS), shared:

It's really hard for them to be self-motivated. So training them, obviously, training them to be self-motivated is the plan and the goal, but it's a definitely difficult thing to get them there. And then I think that the hardship of things being on the computer. It lends itself to a lot more because they're looking up games or looking up random stuff, and it's always having to get them back on track, which is, you know, it's just a challenge.

Although in previous sections, it was determined that students had difficulty with accessing the Pinnacle platform and its academic content, many teachers like Ericka London (6th grade), shared that students are technologically savvy enough to find loopholes even with the assistance of monitoring programs. Chloe Ramirez (LAMS) explained that even after three years of teaching the Pinnacle program, “A big barrier to implementing Personalized Learning is the fact that students are always trying to find loopholes to being on the site they need to be on, and go on to different websites. Which at times can be very hard to monitor.”

She shared that LAMS even tries to combat loopholes by using:

GoGuardian in our classroom, which definitely does help. But when they go on Google Drive, the students can download music, movies, all kinds of things onto Google Drive. Which then defeats the purpose of using GoGuardian because they're accessing all the material that they are not supposed to be looking at. So the kids are always bypassing...

LAMS is using GoGuardian, a software that helps schools protect their students online and also allows teachers to manage classroom time and resources better by blocking websites that students should not be on. As Ms. Ramirez explained, Students were able to find a way around GoGuardian with the help of Google Classroom. Students learned how to upload games, music, and other files to their Google Drive which cannot be blocked on GoGuardian because teachers use Google Classroom according to Tristan Pitt (LAMS). When Allen Hershey (LAMS) was asked about why he felt student behavior was a major hurdle for implementing personalized learning in his classroom he said “I would say first of all is maturity. A lot of them aren't ready

or used to having expectations where they can work on their own. I have to be checking in with them, and making sure they're on task or on track with everything.”

According to LAMS teachers, behavior management has always been a challenge but the introduction of 1:1 technology opened up more opportunities to become distracted and teachers have to diligently monitor to keep on top of new loopholes that students discover.

Technology issues. The final issue teachers expressed as being a barrier to implementing the Pinnacle Education program is related to technology. Nathaniel Evans (SFMS) expressed that teaching students about how to use technology for academic purposes is a major feat. Noah Marquez (LAMS) similarly discussed that every year, the sixth grade has the challenge of teaching all incoming students how to use tools and learn technology skills, such as how to use the Pinnacle Education platform, navigating Google Classroom and using its tools, as well as, how to type correctly. Noah Marquez shared that students know how to find games and music online, but they are unable to navigate technological academically and that must be taught. Mary Black (SFMS) shared that in addition to teaching students technology skills, they also have to teach parents about how to interpret the program. For example, grades have proven challenging to explain to parents. Mary Black elaborated on the difficulty in merging Pinnacle with traditional school structures like grades:

I think that trying to blend the Pinnacle ideals with our need for structure when reporting data to our parents, and explaining that process. Having to blend like they need grades in order to move on to high school, but with the platform that's supposed to be just like fluid and whenever they get it. I kinda like the idea of that, but it is very difficult to

communicate that to parents who want their kids to know what they have to do, and whether they're passing.

Furthermore, teachers also expressed that students not having access to the internet at home made using Pinnacle outside of school challenging. Almost all students have smartphones and/or tablets, but less than half of students have laptops or home computers. Pinnacle is the easiest to navigate on a laptop or desktop. According to the Pinnacle website, iPads and Android devices are not compatible. Although a listing of public computer sites was shared at LAMS, teachers reported that students rarely visited them for academic purposes. Lastly, LAMS teachers shared that their first two years of implementing Pinnacle were challenging because the internet connection was not stable; however, since then it has been much improved.

Teachers Overcoming Implementation Barriers Within Their Control

Finding 18: Teachers are Overcoming Barriers that are Within Their Control Such as Curriculum and Platform Design but are Limited by Lack of Time.

In finding 18, teachers identified barriers to implementation: foundational skills, time management, teacher knowledge, teacher interpretation, behavior management, and technology issues. While discussing these barriers, teachers also shared how they are working to overcome obstacles that are within their control, foundational skills by modifying and/or supplementing the Pinnacle curriculum and platform. Teachers shared that students differ in the following areas: content knowledge, technological skills, behavior, language levels, cultural backgrounds, and learning needs. Although Pinnacle is labeled as a personalized learning program, Pinnacle's differentiation is focused on providing students with the ability to learn content at their own

pace. In order to meet student's other differentiation needs, all teachers interviewed discussed how they worked to further personalize Pinnacle's curriculum and platform. Noah Marquez (LAMS) expressed what most teachers had also shared while explaining why they make changes to Pinnacle's curriculum and platform - "I use things that I think my students will relate to more."

Students within both schools belong to one or more of the following labels: general education, special education, English language learners, and gifted. The majority of teachers believed that Pinnacle is best suited for general education and gifted students who are at or above grade level; whereas, students who are below grade level, in special education and/or are English language learners struggle the most and therefore, require the most teacher supplemental supports to personalize their experience with Pinnacle. In low SES schools like LAMS and SFMS, the majority of students happen to be those who are below grade level and these schools also have a large population of students who are classified as special education and English language learners. The majority of teachers expressed that they have to create accommodations for many of their students. For example, I will refer back to the quote where Chloe Ramirez from LAMS previously described the accommodations in Pinnacle that she made for her students who are in special education:

We have to do a lot of pre-teaching, re-teaching, we have to shorten the amount of resources, give them alternative resources, give them extra time, give them the ability to re-take low scoring tests. Because they often score badly on the content area tests. We also have to give them less content area assessment questions, so they are able to attain the grade that they need to pass the content area.

Rebecca Garcia (LAMS), like other teachers, similarly shared that readings could be too long in length or too high in reading level at times. Google Classroom was also mentioned frequently as a tool that is used to quickly host supplemental tiered readings for content that is on Pinnacle. Furthermore, teachers have felt like content should sometimes be rearranged in order to improve sequencing, so teachers make changes to the Pinnacle platform and its curriculum. Mary Black (SFMS) reinforced this idea when she said:

Sometimes I'll change like, I'll add in a different component to the project, sometimes I will completely change the novel that's being read, and so maybe they're suggesting one thing, and I don't have that resource, so I use something else, or additionally I will change up the order that things go in, because I think sequencing would be different in my classroom.

In addition to academic content not being accessible to all student's based on their foundational skills and academic needs, three teachers expressed that the content also is not always culturally relevant. Tristan Pitt (LAMS) candidly spoke out about the fact that he has had to teach math using popular culture references, as well as, incorporating elements of his students' ethnic backgrounds in order to capture students' engagement. He added:

Students who are on my special education caseload, are struggling readers, and/or struggle behaviorally, lose interest with Pinnacle when they are required to work independently during PLB or when working collaboratively on projects during class time. I usually teach content that is similar to what Pinnacle has, but infuse references, scenarios...like cartoons, television shows, food, or elements of their culture that students

are interested in learning about. If I don't customize for students, I know that behavior management will become even more challenging than it already is with middle schoolers.

In interviews, teachers shared that the work performed on their part to personalize learning for students in multiple ways is usually done on their own time because the preparation time that they are given at school is not enough. Teachers who are new to Pinnacle have the hardest time with personalizing learning beyond what Pinnacle provides, because there is so much for them to learn simultaneously. Teachers who have been teaching two years shared that they still feel like there is a lot to do, because they realize that what they were using year one could be improved upon. Educators who have been using Pinnacle for 3 years seem to have the least difficulty with planning and preparation; however, they share that they are still in need of supports unique to teachers with two or more years of experience. For example these teachers would like time to collaborate with each other, use staff meetings for planning rather than hearing the same information that new teachers have to learn, and attend professional development that is more focused on their content, differentiating for students, and advanced features of the platform. Therefore, it appears that there is a steep implementation curve that teachers must overcome. Teachers no matter their experience level mention that they are still in need of supports.

Summary

During the interview process, teachers shared that they have had an increased workload since adopting the Pinnacle program in their classroom, because the learning curve is steep and many of their students need additional accommodations to be able to access the content housed in the platform. Despite the heavier workload, they recognize that there are benefits to using the

Pinnacle platform, such as students having the ability to self-pace if they are able. They also recognize that the program still has room for improvement, such as increasing accommodations for students who need them to access content, as well as, increasing user friendliness for teachers so that they do not have to spend as much time supplementing Pinnacle with tools like Google Classroom and their own materials. Additionally, teachers identified the role of teacher in a personalized learning classroom as that of a coach and it could be due to various factors: the regular feedback that they have to give students, the personalized exercises designed to strengthen specific skills, or even the mentorship provided so students can meet their goals.

Chapter 5: Discussion

Introduction

The exploratory nature of the study permitted deeper understanding of teachers' perceptions of the personalized learning program in relation to its impact on training, how they used elements of the program, their role, as well as how they are overcoming implementation barriers. Additionally, the in-depth conversations during interviews allowed me to attempt to capture how teachers view their ability to personalize learning for their students with Pinnacle.

Post-data analysis, what became clear are the lessons learned about reform movements and teachers. Reform movements rely upon people to be reformers, in this case teachers. Without teacher buy-in, the reform will never get off the ground nor have the inertia to continue the movement. Although this study did not necessarily measure teacher buy-in, this study aimed to explore the experience teachers had with the personalized learning program, through examination of the teachers' rating of ease of use and the level of usefulness. What became clear is that a reform movement has occurred and teachers have already bought into using the program, even if they may not have initially been given much of a choice. More importantly, they have positive feelings toward the program although it needs work to be truly personalized in more than just pacing.

From what teachers said during interviews, SFMS was focused on including teachers in decision making during adoption as well as now, which could explain why they have more positive levels of ease of use and usefulness; whereas LAMS, did not take time to listen to teacher voice during the adoption of this program when they chose to roll out implementation to

all grade levels year 1 and they still struggle to have a clearly defined outlet for teacher voice. It is my hope that schools be cautious when jumping into personalized learning programs and also fully understand what they are getting and what work will be required on their part. When programs offer free curriculum and free professional development, what school would not get excited at an opportunity like this? It makes sense that a school looking to improve academically would get overeager at the chance to improve every grade level right away. Pinnacle, like other personalized learning programs, not only claim to be personalized, but they also allude to potentially being the silver bullet that will close the opportunity gap. This study reveals that personalized learning is not the silver bullet. I believe personalized learning is one of two pieces needed. The metaphor I see as more appropriate is a double headed battle ax where personalized learning is one head and teachers are the second. Additionally, time is third element needed to chip away at a big problem, being the opportunity gap, because this change is not going to happen quickly or easily. The decision to adoption personalized learning should not be rushed and if a site chooses to adopt, it should not be rolled out too quickly. Furthermore, if a school chooses to roll it out, they must be mindful that it will still take time to train teachers and support them. Lastly, schools must be mindful that implementing these programs with full fidelity is detrimental to students because teachers are the key to personalizing learning beyond whatever programs provide. Moreover, personalized learning does not take work or responsibilities away from teachers or administrators.

I believe that teachers know that if Pinnacle and other programs like it were improved, they could be a powerful tool in a teacher's arsenal. In this study, what stands out is the importance of teachers in the classroom and the fact that they are currently in need of supports.

Most have already bought in, but without support, teachers who are working to further personalize for their students are never going to be able to move beyond helping themselves. Teachers need to be able to develop as leaders and administrators need to become comfortable with seeing teachers in a new role. If teachers are expected to facilitate personalized learning, then administrators must also facilitate personalized teacher PD and meetings.

The first theme in this study is ironically the lack of personalized professional development. The second was the fact that not all teachers are able to fully implement all elements of the personalized learning program. The third theme is how the role of teacher has changed. The fourth is the fact that teachers were able to identify the barriers they encounter during implementation. This theme in particular highlights that teachers are in the know if only their voice was included in decision making. Finally, what is the most empowering is the fact that teachers are overcoming barriers that are within their control. If administrators and program developers begin to give teachers more control by listening to their suggestions, I would bet that they would be able to overcome even more barriers.

Summary of Findings

Teachers overall tend to view their experience with the personalized learning program positively, although they also expressed areas within their experience where there could be improvement. The data from this study also showed that teachers from these two low SES schools are working to provide their students with additional supports that they need in order to access the Pinnacle personalized learning curriculum. In this final section, I summarize the findings, tying them to the Technology Acceptance Model 3 (Venkatesh & Bala, 2008) and other

personalized learning literature. Next, I discuss the limitations of the research. I spend the majority of this chapter discussing the implications for educators, low SES school sites, in addition to researchers and donors. I end with a reflection on this research journey as it has challenged my role as a teacher and researcher.

The two key findings of this study are related to the likelihood that teachers will continue using the Pinnacle personalized learning program. First, teachers perceive Pinnacle Education's level of ease to be moderate and the longer the system is used the easier it becomes. Secondly, teachers perceive the Pinnacle Education program to be useful. Based off of the two key findings, it is likely, given the Technology Acceptance Model 3 that teachers will continue to use the program albeit in their own way. From the interviews, there are an additional 16 findings that arose.

Preparation & Supports

Research question 1 concerns the impact of personalized learning training. With respect to support for implementation of personalized learning, I found that finding three, four, and five are related. The third finding is that the level of school-provided training and support teachers receive is dependent on different school sites. It became clear that SFMS felt more supported than LAMS by their administrators. SFMS described their communication with administrators as open and described their willingness to change and learn with teachers about the program as flexible. Although SFMS reflects teachers who feel adequately trained and supported, there are still school sites who lack training and coaching as seen by LAMS' experience (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). SFMS also spoke more positively

about their school site meetings where they have time to collaborate with other teachers; in contrast, LAMS teachers explained that they had strict meeting guidelines which left little room to collaborate and brainstorm.

According to Darling-Hammond, Austin, Orcutt, & Rosso (2001), to ensure that teachers understand personalized learning and facilitate it in their classroom, teachers should be well-trained and grounded in pedagogical and subject knowledge. Preparation and ongoing supports to school sites is provided to teachers by Pinnacle Education. However, my fourth finding suggests that Pinnacle Education prepares teachers for initial implementation but lacks differentiation in ongoing training. Teachers requested that they be given personalized training that is dependent upon their content and experience level with the program. Additionally, teachers requested that they have time during Pinnacle trainings where they are allowed to collaborate with other teachers. The trainings that they learned the most from and found useful are those where they are given the freedom to choose the topic or are given time to work and brainstorm with other teachers.

Both finding three, four, and five suggest that teachers would like voice and choice over school site meetings and Pinnacle trainings when possible so that they can communicate what they need. Personalized learning literature reveals that teacher feedback should be taken into consideration as a way to improve training and supports (Cole, Kemple, & Segeritz, 2012). With this being said, the sixth finding is related to supports that teachers want: differentiated training, time to collaborate, time to explore the program, receive coaching, and plan, as well as, improve the Pinnacle platform to increase the program's ease of use.

Implementation and its Challenges

This next group of findings is related to research question number two - teachers' ability to personalize learning using the Pinnacle platform. Courcier (2007) explained that teachers are now working toward understanding personalized learning and all of the different learning styles and approaches it embodies. According to Courcier, the more clearly teachers understand personalized learning, the more easily pupils may become independent and lifelong learners. The data from this study shows that teachers are striving for a clear understanding of personalized learning in hope that their students become independent learners, but they have not yet mastered it.

Findings six and seven state that teachers are unable to personalize all four elements of the program (personalized learning platform, projects, personalized learning block, and mentorship) equally. However, the eighth finding revealed that 12 out of 13 of participants use the personalized learning platform daily. From the interviews, it was clear that all teachers were trying to implement the program although many were still learning.

Next, the ninth finding is that it takes time for teachers to learn the personalized learning platform, keep up with updates, and personalize it to their teaching style. This finding aligns with the RAND study performed by Pane et al. (2015). In their study, they found that schools often implemented elements of personalized learning that were the easiest to implement. Based on this study and my own personal experience, I believe that it takes at least two years to learn and implement all elements of the program thoroughly. Furthermore, I believe that it would take three years to implement all elements of the program equally and support students beyond what

Pinnacle provides. The tenth finding reveals that all teachers are using Google Classroom to supplement the Pinnacle platform as it provides a faster, easier way to host and submit learning materials and resources.

It was not surprising in the eleventh finding that new teachers struggle the most as they work to balance understanding how to edit projects on the Pinnacle platform while simultaneously facilitating projects in class with their students. The expectation for teachers to learn all four elements of the program and facilitate it fully after approximately a week of summer training, if they attend, is unrealistic; no teacher interviewed shared that they were able to implement all four elements of Pinnacle perfectly when they had first started.

Once teachers begin implementation of Pinnacle in their own classrooms, the twelfth finding shows that they use their own interpretation of the program based on their knowledge level and their students' needs. In the RAND 2015 study, researchers reported that the extent to which students were able to make choices about their learning varied by course, teacher, and age of the student, which aligns with the findings that the teachers who participated in their study also made decisions based on their own interpretation of content appropriateness for their students. Gross and DeArmond (2018) discussed how teachers are often left to discover personalized learning on their own due to the limited research surrounding personalized learning programs and how to best support teachers. Students who are using these programs belong to different age groups, communities, cultural backgrounds, etc. so teachers make adjustments to the Pinnacle provided curriculum as a way to ensure relevancy for students' knowledge level and interests.

Educators discussed their experience with the four elements of Pinnacle and shared that only some teachers and students were able to successfully navigate each section of the program. The thirteenth finding revealed that of all subject areas, math teachers struggled the most to incorporate projects into their classrooms. The fourteenth finding reveals that while facilitating personalized learning block, teachers observed that students who were not as successful with program navigation were those who: performed below grade level, are in special education, or are learning English as a second language—which is a significant portion of students in a low SES school. Of the four elements, the fifteenth finding reveals that teachers struggle the most implementing mentorship because of their lack of time in the classroom although they recognize that it as an important program feature. Similarly, a recent *New York Times* article shares that although schools who adopted a personalized learning program said their teachers' new role would be that of a mentor, teachers did not have time to mentor for the full time or at all (2019). It is important to note that just because a program features mentorship as a component, that doesn't mean that teachers actually have time to mentor.

The sixteenth finding reveals that the majority of teachers describe their role in a personalized learning classroom as a coach and say that transitioning into the new role of teacher in a personalized learning classroom takes time. Similar to what other personalized learning literature states, the role of teacher changes with the adoption of a personalized learning program like Pinnacle (Hanover Research Group, 2014; Cavanagh, 2014; Prain et al., 2013; Roberts-Mahoney, 2016; The Center For Digital Education, 2013). According to the RAND 2015 study, one-fifth of teachers reported holding unconventional roles such as co-teaching, job sharing, or working with small groups of students primarily under the supervision of another teacher while

implementing personalized learning. In this study, the majority of teachers describe their role in a personalized learning classroom as a coach and say that transitioning into the new role of teacher in a personalized learning classroom takes time, much like learning the program. Overall, teachers viewed their role positively and given the importance of teacher buy-in and the time they have invested, it is likely that teachers will continue to use Pinnacle in their classrooms.

The penultimate finding identifies that students' foundational skills were one of the largest barriers to implementation that teachers identified in addition to time management, teacher knowledge, teacher interpretation, behavior management, and technology issues. Despite the challenges teachers faced, the eighteenth finding highlights that they are overcoming barriers that are within their control such as curriculum and platform design with the limited time they have available.

Limitations of the Study

Due to the exploratory nature of this research, no conclusive statements can be made; rather, the purpose of this study is to explore and describe teachers' perceptions of their experience with personalized learning so that researchers can better understand how to best support teachers. Despite the relevance and significance of this study, there are research limitations that must be acknowledged: the study sites and the positionality of the researcher.

Because this study is focused on one personalized learning program of many available and includes two charter schools in a particular part of the country, this study's findings may not truly be a representative of the more general phenomenon of personalized learning. Furthermore, even though charter schools are public entities, they are in the unique position of having

independent governance, which allows both of these school sites to be the only school within their charter organization to be piloting the Pinnacle program. However, there is also no particular reason to think that the challenges in implementing are unique to these two schools and specifically to these 16 teachers. Granted, findings may have been different if I would have been able to observe the teachers' use of the platform. With this being said, there are a lot of suggestions that may still be relevant to other low SES schools who are using or are thinking of using a personalized learning program.

An additional potential limitation that may have created bias in this study is my dual role as a teacher and a researcher, as well as the fact that I was a former employee of one of the sites, which forced me to shift lenses as I analyzed the data. Like the participants, I used to teach middle school students and this created a unique dynamic. I am well versed with the Pinnacle platform as I used it for two years. Despite the potential bias, the result is that I felt at ease with the participants and they felt at ease with me given my knowledge of the program. We both spoke "teacher talk." Because of my role both as teacher and researcher, the benefit is that the participants were more willing to disclose information about their experience with the program that they might not have with researchers who have never been in the classroom or have used the Pinnacle platform. In gathering the data, my position as a teacher was definitely a strength of the study. They knew I understood their experience and in turn they spoke freely about their students, their school, the Pinnacle organization, and even their administration. I feel that I was able to capture equally strong data from each site given my background despite not having worked at the second site.

Implications

Teachers Have Voiced Recommendations. Will Decision Makers Listen?

As discussed in the literature review, there is a need to continue to capture teacher voice and their experience with personalized learning platforms like Pinnacle. The teachers in this study, spoke candidly about their experience with the platform and the benefits and struggles they and their students have encountered. Teachers acknowledged the benefit of students being able to pace themselves through the Pinnacle curriculum when they are capable of self-teaching, but beyond pace, Pinnacle lacks in further personalization. With this said, teachers grappled with the challenge of implementation and created supports for their students who are not able to self-direct to give them access to the curriculum. I first recommend that teachers have the opportunity to collaborate with each other and curriculum specialists so that they can share the supports they are creating and also what they are in need of so that individual teachers do not have to continue to reinvent supports. Furthermore, teachers have iterated how much they have learned and grown professionally through the adoption of a personalized learning program. Although teachers are optimistic now, I fear that continuous lack of support from Pinnacle and their administrators may lead to long term career disappointment after the initial excitement of implementation wanes, ultimately leading to lack of program use. While teachers are still optimistic about students' potential for academic growth through personalized learning, it is critical that teachers feel heard and validated by their school and Pinnacle through having their needs addressed.

Because the data captured in this study reveals that teachers are incapable of learning and implementing all elements of Pinnacle simultaneously, teacher training and implementation

expectations require scaffolding. By tiering expectations of teachers, teachers can then focus on mastering one element at a time under the direction of a coach. If we expect teachers to adapt to the needs of their students, it is sensible for school expectations to adapt to teachers' needs, relieving pressure and avoiding burnout. My second recommendation is for schools to create scaffolded expectations for teachers by setting implementation goals for individual teachers while keeping in mind years of teaching experience and years of experience with Pinnacle.

Additionally, teachers had many ideas about how to make their continued training more effective, but it appears that there is a lack of policy at both school sites about how teachers can efficiently give their feedback to administrators and Pinnacle. Furthermore, teachers are tasked with the job of personalizing learning beyond what Pinnacle provides, which requires much time on the part of teachers. The trainings and supports teachers need are not personalized, which is ironic given that they are expected to be facilitators of personalized learning. My third suggestion is that Pinnacle and school site administrators create a task force that works closely with teachers at each site to create transparency in regard to the supports that are being created to assist teachers, as well as to provide an official channel for teacher feedback. Finally, my fourth suggestion is for schools to think more creatively about ways to create time for teachers to plan, exchange ideas, and receive coaching rather than just attending traditional professional development meetings where information is talked at them. I envision this time looking like a teacher version of personalized learning block, where some teachers are working independently while coaches pull teachers 1-on-1 or in small groups to target specific areas.

Personalized Learning Programs Require More Supports In Low SES School Sites

As digital personalized learning platforms continue to spread throughout the United States, an increasing number of low SES students will make up a larger portion of the overall student population using platforms similar to Pinnacle. Students are given the ability to pace themselves through Pinnacle; however, teachers are personalizing learning beyond pace. Since the majority of teachers believed that Pinnacle is best suited for general education and gifted students who are at or above grade level rather than students who are below grade level, in special education and/or are English language learners struggle, low SES schools need to be knowledgeable of what personalized learning programs are actually personalizing.

Many of the supports that students are receiving from teachers could be embedded within the platform to ensure that all students have access, not just those who are fortunate to have a teacher that is willing to personalize beyond what the platform provides. Until platforms like Pinnacle account for students who tend to perform below grade level, it is important that school sites with low SES populations looking to adopt personalized learning be aware of the level of personalization that Pinnacle actually provides and the effort that their teachers will need to input in order to provide content access to their students.

Recommendations for Researchers and Donors Advancing Personalized Learning

The promotion of personalized learning across the nation was made possible through generous donations and research that spoke of personalized learning as a promising option to closing the achievement gap. Although personalized learning spread quickly, I am advocating that researchers continue to include the teacher voice in their studies in an effort to improve these

programs for teachers and students. Additionally, more studies should be conducted that focus on other low SES schools implementing personalized learning in order to see if themes from this study arise in others. Furthermore, donors that are giving to the advancement of personalized learning need to consult new research to ensure that they are donating to programs that benefit all students including those who belong to vulnerable populations, not just those who are able to self-direct. In future research, it is important to continue to study these schools who are piloting personalized learning to see how their needs change over time. Because these programs are still relatively new, it would be helpful to understand the perceptions of teachers who are using these programs for five years or longer to continue assisting teacher and school sites as they mature in their personalized learning use. Additionally, research which compares teacher perception of personalized learning compared to student academic outcomes will be helpful once schools overcome their fifth year of implementation.

Reflection

I started this research process after being in education for seven years and after having taught in a personalized learning setting for two of those seven. Over those two years, I came to believe that the best system of support during a challenging personalized learning program adoption was talking to other teachers. I had many conversations with administrators which were unhelpful given their lack of experience with the platform from the teacher's perspective. I was considered a strong teacher in the classroom, yet implementing Pinnacle was challenging. It became clear that our school site was not aware of the challenges it would face during implementation when they chose to adopt.

Similar to the findings in this study, year one of adoption was the most challenging because I was trying to understand the program while also being expected to implement at the start of the school year. Year two, I understood the program but lacked time and supports to implement all elements equally. I also found that my students lacked adequate supports so I spent as many hours as I did as a first year teacher customizing the Pinnacle platform to meet the needs of my students. Additionally, I found school meetings and Pinnacle trainings redundant beyond year one. Following the second year of Pinnacle implementation, I left my school site. There were multiple reasons which contributed to my decision, but a primary factor was high administrator expectations coupled with a lack of support; there was no doubt that my colleagues and I were burned out and lacked the excitement we once had during the early stages of implementation.

Teachers in this study echoed similar experiences to what I had; however, I was surprised at the positive ratings they gave in regard to ease of use and level of usefulness. I anticipated much lower scores, but was pleasantly surprised by the optimism that teachers shared surrounding personalized learning. I got the feeling during interviews that Pinnacle had already improved initial implementation issues that I had experienced. I also got the impression that teachers genuinely believe in the potential that personalized learning has and are willing to work toward seeing its full potential met if that is what is in the best interest of their students. Furthermore, I believe that personalized learning can provide a more rigorous and equitable education for all if teacher's insights are taken into consideration. The integration of technology into personalized learning has pushed teachers to prioritize making their classrooms more student centric; however, personalized learning is still not a silver bullet. As mentioned in the literature

review, personalized learning is not a new notion. With the integration of technology, personalized learning can be done more quickly and on a wider scale, but it is far from being perfected. Teachers are the foundation of a personalized learning classroom as they know their students best and until they are treated as professionals and their feedback given weight, personalized learning programs will not improve the education of all students. Additionally, it should be mentioned that if implemented incorrectly, programs like Pinnacle, can result in students being babysat by a computer and teachers feeling ineffective. It is my personal belief that personalizing learning is not an easy undertaking and teachers should already be strong teachers and well versed in direct instruction before undertaking personalized learning. I also believe that while teachers are learning how to implement, the expectations that administrators have of teachers should be communicated and scaffolded given their knowledge level. Furthermore, teacher's positivity surrounding Pinnacle-like programs must continue to be fostered by taking their voices into account and providing them with support.

This research study became a personal journey for me. I felt strongly that if anyone was going to research teachers using Pinnacle, that it should be another teacher who had also used it at a low SES school. Too often, students of low SES backgrounds serve as the test subjects of new curriculum. As a youth, I attended schools within a community that is considered low SES and I felt that as a teacher-researcher it was my duty to provide insight into low SES schools that are piloting Pinnacle so that other similar schools considering adoption know what to expect. I currently do not support low SES schools taking on programs like Pinnacle if they are struggling; instead, only low SES schools with a strong teaching staff and supportive administration should consider adoption.

Appendix A: Interview Protocol for Administrators

The goal of this interview is to gather data that will give me a better understanding of your school site and expectations of teachers who have experience with the personalized learning program. Questions revolve around training, instructional expectations of teachers, and their use of elements of the program.

Introduction

Good morning/afternoon/evening. Thank you for your willingness to participate in a study that will provide your campus as well as other schools who are implementing personalized learning with important information about your experience. As you know, I am a UCLA doctoral candidate and I have been collecting data that will provide your campus with important information that will enable teachers to be better supported. You signed a consent form to participate in this interview before the study commenced. If you would like to review the consent form, I have it available.

This interview will last approximately 45 minutes. Everything you discuss with me during this interview is strictly confidential so please feel free to speak openly. In order for me to accurately record our conversation, I would like to digitally record it so I can later transcribe the interview verbatim. The recording will not be shared with anyone else. If there are points during the interview where you would like the recorder off, please feel free to simply press the off button on the machine. Do you have any questions before we get started? If not, let's begin.

First Name: _____ Last Name: _____

School Site: _____

1. If you are an **administrator**, please complete the following.
 - ❖ Check the boxes for the subjects and grade levels taught at your school site that utilize your school's personalized learning program

Sixth Grade	Seventh Grade	Eighth Grade
<input type="checkbox"/> English # of teachers _____	<input type="checkbox"/> English # of teachers _____	<input type="checkbox"/> English # of teachers _____
<input type="checkbox"/> Math # of teachers _____	<input type="checkbox"/> Math # of teachers _____	<input type="checkbox"/> Math # of teachers _____
<input type="checkbox"/> History # of teachers _____	<input type="checkbox"/> History # of teachers _____	<input type="checkbox"/> History # of teachers _____

<input type="checkbox"/> Science # of teachers _____	<input type="checkbox"/> Science # of teachers _____	<input type="checkbox"/> Science # of teachers _____
<input type="checkbox"/> Spanish # of teachers _____	<input type="checkbox"/> Spanish # of teachers _____	<input type="checkbox"/> Spanish # of teachers _____

❖ Months of administrative experience with your personalized learning program

❖ Did you have at least one year of administrative experience at this school site prior to utilizing the personalized learning platform?

Yes (1)

No (2)

2. Does your campus practice full-inclusion? ('Full inclusion', 'full integration', 'unified system', 'inclusive education' are terms used to describe a classroom in which all students with disabilities receive their total education within the regular education classroom.)

Yes (1)

No (2)

3. Explain how your campus came to adopt personalize learning.

4. Describe the training and professional development provided to teachers on personalized learning. (Potential follow-up: What is the frequency and duration of training?)

5. Describe the instructional expectations of teachers who are implementing personalized learning.

6. Would it be possible to share any documents with me that describe the training and instructional expectations of teachers implementing personalized learning in their classrooms?

Appendix B: Demographic and Biographical Questionnaire for Teachers
Biographical Questions

First Name: _____ Last Name: _____

1. School Site: _____
2. Gender
 - Male
 - Female
 - Other
3. Ethnicity
 - Hispanic or Latino
 - Not Hispanic or Latino
4. Race
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Native Hawaiian or Other Pacific Islander
 - White
5. Current Role
 - Teacher
 - Administrator
6. If you are a **teacher**, please complete the following.
 - ❖ _____ Years of Teaching Experience (RQ4)
 - ❖ Subjects taught that utilize your school's personalized learning program

 - ❖ Months of teaching experience with your school's personalized learning program

7. Are you a general education teacher or special education teacher? (If you select other, please explain your role.)
 - General education teacher (1)
 - Special education teacher (2)
 - Other (3) _____
8. Are you a co-teacher? (In a co-teaching relationship, also known as a "push-in" arrangement, a general education teacher partners with a special educator. A co-teaching team works in the general ed classroom and students with special needs are not pulled out to receive services in another location.)
 - Yes (1)
 - No (2)
9. Did you attend the summer training for your personalized learning program? (RQ1)
 - Yes (1)
 - No (2)
10. Have you attended a local conference for your school's personalized learning program? If so, how many? (RQ1)
 - Yes (1) _____
 - No (2)
11. Did you have at least one year of teaching experience at this school site prior to utilizing the personalized learning platform used at your school?

- Yes (1)
- No (2)

12. How many years of experience do you have with blended learning? (Q4)

Appendix C: Interview Protocol - Teachers

The goal of this interview is to gather data on the perceptions and beliefs of teachers who have experience with personalized learning. Questions revolve around the impact of training, characteristics of classroom roles of teacher, their use of elements of the program, and differences in implementation.

Introduction

Good morning/afternoon/evening. Thank you for your willingness to participate in a study that will provide your campus as well as other schools who are implementing personalized learning with important information about your experience. As you know, I am a UCLA doctoral candidate and I have been collecting data that will provide your campus with important information that will enable teachers to be better supported. You signed a consent form to participate in this interview before the study commenced. If you would like to review the consent form, I have it available.

This interview will last approximately 45 minutes. Everything you discuss with me during this interview is strictly confidential so please feel free to speak openly. In order for me to accurately record our conversation, I would like to digitally record it so I can later transcribe the interview verbatim. The recording will not be shared with anyone else. If there are points during the interview where you would like the recorder off, please feel free to simply press the off button on the machine. Do you have any questions before we get started? If not, let's begin.

Q1 What is personalized learning to you?

Q2 What does personalized learning look like in your classroom?

Q3 What does personalized learning look like at your school as a whole?

Q4 - How do you use elements of the personalized learning program in your classroom?

Potential follow up questions:

How do you use projects in your classroom? (RQ2)

How do you use focus areas in your classroom? (RQ2)

How do you incorporate mentorship in your classroom? (RQ2)

How do you use the personalized learning platform in your classroom? (RQ2)

Q5 How would you describe your role as a teacher in a classroom using personalized learning? (RQ3)

Q6 Select **one or more of the following words** that you feel best describe your role in the classroom as a teacher facilitating personalized learning. (RQ3)

- a. Coach
- b. Mentor
- c. Facilitator
- d. Monitor
- e. Instructor
- f. Other _____

Q7 - What are some barriers to implementing personalized learning in your classroom? (Q4)

Q8 - What supports, if any, have/do you receive/d to implement personalized learning in your classroom? (Q4)

Potential follow up questions:

Which did you feel were the most helpful?

Which did you feel were the least helpful?

Q9 Describe how any meeting/s, conference/s or training/s you attended provided you with the knowledge to effectively implement personalized learning in your classroom? (RQ1)

Q10 What additional training/support do you need to successfully implement personalized learning? (RQ1)

Q11 - Describe the level of ease your school's personalized program is to use. (Q4)

Q12 - Describe the level of usefulness you feel your school's personalized program is in your classroom. (Q4)

Q13 - Would it be possible to show me a document or something else to demonstrate to how you are personalizing learning? (Q2)

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