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Secondary Teachers' Perceptions of Training Needed to Apply Personalized Instruction

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Walden University
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Abstract

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EdS, Walden University, 2017

MA, College of Staten Island, 2008

Project Study Submitted in Fulfillment

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Abstract

The problem at a Southwestern private school is that secondary teachers have insufficient training to apply personalized instruction (PI) with fidelity to meet the needs of students with severe to moderate cognitive impairments. The purpose of this basic qualitative study was to explore the secondary teachers' perceptions of the training they need to apply academic interventions using PI. The conceptual framework that grounds this study was Bruner's theory of instruction. The theory is used to focus on the process of gaining knowledge beginning with predisposition toward learning, in this case, the teachers' attitudes toward PI. According to the theory, individuals structure information in the most effective way, present new knowledge in proper sequence, and place extrinsic or intrinsic rewards accordingly. Two research questions were used to explore secondary teachers' perceptions of training needed for them to apply PI with fidelity and how they perceive current training practices provided by their school administrative team. Semistructured interviews with six special education teachers and teachers' assistants, ranging from 1 to 20 years of experience provided qualitative data. Data analysis began with coding action verbs to develop a list of actions taken by teachers during instruction that was later used to develop emerging themes based on elements of Bruner's theory. Findings showed participants did not acquire enough information about PI, its components, and application to present PI with fidelity. Results were used to develop a series of training courses in PI with opportunities to practice effective strategies. These training courses will provide teachers with improved skills with which to implement PI with confidence and efficiency.

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Section 1: The Problem

Introduction

Traditional teacher-centered instruction is based on the idea of equality in education for all students. Allowing all students to receive the same academic information does not change the fact that students acquire information differently. Cramer et al. (2018) questioned the feasibility of equality among all students if each learns at varied academic levels and has diverse interests. Due to variations in students learning processes, teachers must adjust their instruction to accommodate each student's learning abilities (Barieva et al., 2018). The differences in academic abilities result in the need for a supportive and personal approach, or personalized instruction (PI), that is used to address students' strengths and needs (Cramer et al., 2018). PI refers to teachers' initial and ongoing appropriate application of instruction that is focused on a student's needs and experiences in the classroom or learning environment, that in turn provides equal opportunities for each student to attain the same academic content during the learning process at a level that adheres to their capabilities (Bruner, 1975).

Personalization in learning has been the focus of educational legislation with a goal of closing the achievement gap between educational equality in instruction and improvements in student academic achievement (United States Department of Education, 2019). Many districts and schools are turning to PI to meet the needs of diverse students (Bingham et al., 2018). In a 2017 annual symposium, data collected from Southwestern states reflected that roughly 62 schools have adopted the PI approach (Paz-Albo, 2017). The United States Department of Education (2019) encouraged districts to transition to PI

by providing grants to help schools and teachers incorporate a system for personalization. Similarly, Every Student Succeeds Act (ESSA) gave schools the opportunity to use a percentage of their Title I and IV funding to complete a comprehensive needs assessment that would determine areas for improvement in instruction. These assessments would be focused on implementing a personalized learning (PL) approach and professional development (Gross et al., 2018). The encouragement to use PI to increase academic achievement for all students is present, but challenges are still faced.

In Section 1 of this study, I discuss the local problem, rationale of the problem, and significance of the problem at the local site level. I define the terms aligned with PL and present the research questions. The terms personalization and PL are used interchangeably throughout the study and differ from PI. I also provide a literature review and an exploration of the conceptual framework associated with the problem. Finally, the section concludes with implications for teachers' professional development and a summary of key points.

Problem at the Local Site

The study site, which will be referred to throughout using the pseudonym, Mountain School, is a private school located in the Southwestern region of the United States and provides academic content to K–12 students with varying levels of cognitive and academic abilities. Teachers at the study site have flexibility in creating student schedules and curriculum, a key component of personalization that may be useful in the application of PI (Northwest Evaluation Association, 2018). According to the principal of the Mountain School, the school includes students who require personalized approaches

on various levels, resulting in exploration of varied approaches across all grade levels The problem at Mountain School is that secondary teachers have insufficient training to apply with fidelity, academic interventions using PI to meet the needs of students with severe to moderate cognitive abilities.

The National Center for Learning Disabilities (NCLD) advocates for personalization learning systems for students with learning disabilities, like those at the Mountain School (NCLD, 2017)**.** Although PI approaches can be successful, personalization, in practice, may prove to be challenging for teachers (Netcoh & Bishop, 2017). According to the principal of Mountain School, the results of administrative surveys from the study site have led administrators to conclude that little is understood about their teachers' experiences with applying PI based on student academic needs. The principal also stated that the school leadership meeting minutes show that leadership has said that teachers are not using training provided to affect their practices while applying PI. As school leaders prepare their teachers for PI, they have adopted assessments that result in the development of student profiles.

Student profiles are the center of a PL environment. Northwestern Evaluation Association (NWEA) student profiles are created using measures of academic progress (MAP) gathered from the growth assessments completed by students, and the results are provided to teachers to help plan for applying (PI) (Northwest Evaluation Association, 2018). The school has also adopted i-Ready diagnostic software that personalizes instruction for students based on determined overall grade level capabilities. Despite the approach to applying PI, Mountain School has faced challenges.

Problem Within the Larger Population

Personalization is an innovative practice of instruction that was not clearly defined when initiated. Personalization became a topic of reform and covered innovative methods of teaching; however, a working definition that teachers can refer to is an area that is lacking (Bingham et al., 2018). The development of a clear definition led to a reform of innovation in classrooms, showing success. However, the approaches are not consistently used which makes using personalization to modify instruction a challenging process (Gross et al., 2018). A personalization system exhibits four essential components: (a) learner (student) profiles, (b) personal learning paths, (c) mastery or competency-based progression, and (d) flexible learning environments. These components are combined to create a basis for designing PI approaches (Barieva et al., 2018; Bingham et al., 2018). The approach is centered on each student's motivations and academic needs to encourage engagement in the learning process. The process of preparing to apply PI based on student academic needs poses many challenges for teachers and is often misunderstood when proper training is not provided (Cramer et al., 2018).

Educators lacking experience in applying PI is a larger situation and challenge (Ma et al., 2018; Pasatta et al., 2017). Professional development training should transform a teacher's practice for the benefit of their students but without training administrators and stakeholders cannot expect student growth (Al Chibani, 2018). Krutka et al. (2017) suggested teachers need ongoing training opportunities to improve their PI skills. The transformation in applying PI regularly is not a quick or easy change. Bingham et al. (2018) indicated the importance of training prior to applying PI that may

help teachers with challenges due to a lack of clear definitions and exemplary models of implementation. Traditional forms of professional development are structured, standardized, and do not meet teachers' needs (Tour, 2017). It is important to explore teachers' perceptions about what they believe they need to apply academic interventions using PI to provide support in all areas.

Rationale

The rationale for this problem choice is the need for understanding teachers' perceptions of what training they need to apply academic interventions with the use of PI for students with severe to moderate cognitive abilities. School district report cards provided by Mountain School indicate populations of students with learning disabilities are not achieving their academic goals. As a school that serves such populations, the Mountain School may be able to provide educators with ideas about teachers' perceptions about applying PI. The state's data show a need for teachers to share their experiences whether they be moments of success or challenges. For a personalized approach to be successful, training and support are needed to guide teachers in applying PI. Meaningful professional learning is self-initiated and based on teachers' needs (Tour, 2017). Providing teachers with PL training will in turn provide students with opportunities to excel academically despite their cognitive abilities.

According to the principal the lack of the expected positive results for Mountain School, along with teachers' reflections from the previous year's surveys, led administrators to believe they need to understand their teachers' experiences so they can offer more training and support. Supporting teachers through the process of applying PI

may increase a students' opportunities to excel academically because their teacher has the right knowledge needed. The dynamic aspect of PL is its promise of increased investment to fill the gaps in academic student achievement (Thompson & Cook, 2017). Filling the achievement gap for students with disabilities like those at Mountain School includes a student's response to instruction (Jung et al., 2018).

Understanding teachers' perceptions about the training needed to apply PI may result in teachers receiving training on best practices and illuminate emerging themes or areas of focus for future research. The purpose of this basic qualitative study was to explore Mountain School secondary teachers' perceptions of what they need to apply academic interventions using PI for students with severe to moderate cognitive abilities.

Definition of Terms

The terms that I used in this study are used in educational settings and literature. Personalization of learning is an innovative approach that provides multiple meanings because of its evolution over time. The terms listed below are the educational terms used throughout this study as they relate to PL systems.

Personalized Instruction (PI): Instruction targeted to students' specific strengths and needs that is based on data-driven decisions and flexible content. These components are the building blocks of PI that spiral throughout the application and process of personalizing content for a student's needs (Education Elements, 2020; Olofson et al., 2018).

Personalized Learning (PL): An innovative, evidence-based learning approach encompassed by four elements: flexible learning pathways, PL plans, competency-based

assessments, and student profiles (Barieva et al., 2018). The approach results in students working collaboratively with their teachers to design an experience that is responsive to their learning. It includes students' interests, needs, and goals, a part of developing cultural inclusion, and providing equitable education for students (Netcoh & Bishop, 2017).

Personalization: The act of using students' interests in topics outside of academic tasks to enable outcomes (Bernacki & Walkington, 2018). The development of the Common Core state standards incorporated culturally inclusive practice that requires educators' lesson planning to adhere to all students with unique stories, accomplishments, and challenges (Arizona Department of Education, 2019).

Significance of Lesson Planning, Instruction, and Professional Development

PI approaches can yield positive academic results and foster better student engagement (Barieva et al., 2018). The Mountain School's 2019–2020 school year began with teachers applying PI, with the use of the Common Core curriculum standards and curriculum maps providing a timeline for covering standards. In previous years, according to the principal, teachers used language arts and math corrective supplemental materials to provide remedial instructional interventions to their students without assessing for growth in their academic skills. The start of the 2019–2020 school year included professional development in lesson planning based on students' profiles created with the use of NWEA MAP growth assessments and classroom data; however, according to the principal challenges were expressed by teachers throughout their application process. Teachers expressed the need for exemplary lesson plans and

strategies for intensive interventions when students were not understanding content from initial instruction. Using students' data is more complicated than just a collection process so the lack of training can lead to lack of teacher's confidence in PI preparation and application (Filderman & Toste, 2017). In this process, instructional decisions are tied to the collected data and may be adjusted based on the student progress reflected (Filderman et al., 2019).

Advantages for Local Setting

This study may result in increased understanding of teachers' perceptions about what training they feel they need to affect the site's success in decreasing the gap in academic achievement among its students. Increasing a teacher's understanding of diverse types of training including instructional practices may support professional development opportunities to further support teachers' application of PI. Consequently, the purpose of this basic qualitative study was to explore Mountain School's secondary teachers' perceptions on what they need to apply academic interventions using PI for students with severe to moderate cognitive abilities.

The findings of this study may be used to assist school leaders, school administrators, and teachers to engage in more collaborative and reflective decision-making processes when planning for teacher training. Teachers' attitudes and motivations stemming from their experiences connect to the perceived quality of training and collaboration in implementing initial and ongoing instruction (Hartwig et al., 2017). Information and evidence from the study may include new guidelines for training and collaboration in the application of PI. The findings from this research study may be used

to create professional development content needed for teachers to establish a better understanding of the personalization application process. Approaches in filling the gap involve using intensive academic intervention that can come from the appropriate training. The steps in this process are establishing current student levels, setting academic goals, implementing high quality instruction based on frequent progress monitoring, developing hypotheses about the students' needs, and using frequent progress. Training is required to better understand why and how this process works (Filderman & Toste, 2017; Filderman et al., 2019; Jung et al., 2018).

Reformers can use this information to suggest best practices through professional development opportunities. The information in this study may be used by school leaders to support teachers with an efficient preparation program. In this study, I collected data about a teachers' perceptions of what training they feel they need to apply academic interventions. By understanding teachers' application of PI, it may be possible evaluate their approaches (Thompson & Cook, 2017). Findings from this study may be used to develop recommendations for comprehensive training.

Research Questions

The purpose of this basic qualitative study was to explore Mountain School secondary teachers' perceptions of what they need to apply academic interventions using PI for students with severe to moderate cognitive abilities. According to the principal of Mountain School teachers have expressed having challenges with applying PI, along with a desire for additional training. I conducted interviews with participants to gain a deeper understanding of their beliefs and opinions associated with personalization and the

training needed for the application of PI. School leaders can use this information to better support teachers in personalization of learning to help strengthen teacher confidence in application of PI.

I developed the following research questions for this basic qualitative study:

Research Question 1 (RQ1): What training do secondary teachers at Mountain School need to apply PI

with fidelity?

Research Question 2 (RQ2): How do Mountain School secondary teachers perceive training about the application of academic interventions?

Review of Literature

Conceptual Framework

The conceptual framework that I used to ground this basic qualitative study was Bruner's theory of instruction. The study is rooted in Bruner's (1975) major features of instruction: (a) specification of experience, (b) structured introduction of knowledge, (c) effective sequence of learning, and (d) the nature of the reward process. Bruner's theory is congruent to the learning theory of constructivism's focal points that encompass learning: constructing meaning of training, learning independently with existing understanding, authenticating learning tasks and social interaction in training and readiness for learning (Bruning et al., 1995). The theory of instruction concerns how teachers can best learn what they wish to teach with improvement of their skills (Bruner, 1975). Bruner's (1975) prescriptive theory has provided a set of rules concerning the most effective way to achieve gaining knowledge and skills in instruction.

Elements of the Framework

Bruner's contribution of the learning theory resulted in exploration of teachers needs for specifying experiences that are most effective for their instructional success and specified ways that knowledge can be structured so teachers can grasp concepts (Bruner, 1975). The elements of the framework, Bruner's four features of the instructional theory, are in relation to the research questions used to guide the study, data collection instrument to be used, data analysis, and semistructured interviews.

First, the theory of instruction specified teachers' experiences that are most effective (Bruner, 1975). A part of growing instructional skills is exploring experiences and perceptions of those experiences. The research questions for this study are guided by the perceptions of teachers and what they believe they need to be effective in their practice.

Second, the theory of instruction specified the way knowledge should be structured (Bruner, 1975). If training is structured in a way that offers teachers an opportunity to grasp the information, teachers' experiences may have positive perceptions. These types of experiences may be a part of the data collected from the semistructured interviews that guide the research questions for the study.

Third, the theory of instruction specified the most effective sequence in presenting knowledge (Bruner, 1975). Teachers' data from the interview process offers information about training, the sequence in which they have been introduced and teachers' perceptions as to whether the training has been effective in altering their application of PI.

Fourth, the theory of instruction specified the nature of rewards in the process of teaching (Bruner, 1975). The analysis developed from the interview data resulted in the Mountain School's process of preparing its teachers for PI application. Data results in an understanding of teachers' perceptions of the rewards of applying PI or the lack of them and the need for shifting the process to one that is illustrative of teachers' perceptions about the skills and knowledge needed to apply a PL approach.

PL is used to collect data to adjust the presentation of instruction in ways that will adhere to a student's process of obtaining and sustenance of knowledge. There is a need for teachers to adjust their application of PI based on the data they collect about their perceptions of their successes or failures of the process of trial and error during application. The instructional features for PI and the application process relates to Bruner's features of instruction. These features can be used by school administration to create a more effective training process for their teachers.

Review of the Broader Problem

This section of the literature review is an overview of the research used to gain a deeper understanding of PL and the training needed to drive appropriate and ongoing application of PI. To address the problem, I explored and integrated the following subjects within the refined search of PL: (a) teaching, (b) teaching methods, (c) individualized instruction, and (d) personalization. To search this information, I used online EBSCO Research databases such as Academic Search Complete, Education Source, Educational Resource Information Center (ERIC), Research Starter-Education, and Teacher Reference Center were used with the parameters of peer reviewed scholarly

journals and a year range of 2017 to the present. I exhausted the following search terms during the search: *learning strategies, curriculum and programs and teaching methods, data collection, PI, personalization,* and *instructional effectiveness*. In addition, I used Boolean phrases such as *PL*AND *data*, *PL* AND *instruction*, and *PL* AND *teacher training*. I conducted a review of literature to build an understanding of PL strategies, designs, curriculum, instruction, and support.

Personalization Overview

Personalization is a student-centered learning process and framework. The PL framework was built around four components: (a) targeted instruction, (b) data-driven decisions, (c) flexible content and tools, and (d) student reflection (Education Elements, 2020; Olofson et al., 2018). The student-centered learning approach to personalization involves the student as an active participant in the learning process. Student-centered learning takes place through a process in which knowledge is built on prior knowledge foundations that result in learning from experiences that transform information, construct a hypothesis, and then inform decisions about how to use the information (Bruner, 1975). The framework of PL starts with experiences to target instruction then uses student data to develop the flexibility needed for positive student reflections (Olofson et al., 2018).

Personalization entails students being supported to regulate their learning process using the framework components and flexible varied approaches (Cramer et al., 2018; Gross et al., 2018; Netcoh & Bishop, 2017; Prain et al., 2018). The approach to PI results in increases to not only students' academic strengths but also the organizational strengths of the school. The strategy in implementing a personalization approach should be

personalized for the stakeholders implementing the changes (Gross et al., 2018). With such an appealing but innovative system, there is a need to follow a framework when starting the process that will guide the transformation of the school in efforts to assess the needs of the school before implementation (DeArmond et al., 2018). This transformation is influenced by teachers who reconstruct their practices to align with a personalized approach and its expectations. Transformation of practice includes a shift toward personalizing the approaches already used to fit the practices of the overall approach of PI.

Implementation of personalization begins with a strategy that relates to the vision, rollout, alignment, and expectation for teachers beginning the process of putting PI approaches into effect (Education Elements, 2020). Aligning the vision of PI with a strategy for support for teachers will give the stakeholders accessing the ongoing process a clear idea of its purpose. Putting these changes into effect depends on factors such as employee perception, reaction, cynicism, capability of the change agent, and a teacher's expectation of change (Bingham et al., 2018). A successful approach to reform should change the beliefs and strategies teachers use (Cramer et al., 2018; Rutledge et al., 2017). When a school's vision aligns with the strategy for change, the plan for transformation occurs faster and rolls out a simpler transition (Rutledge et al., 2017).

An organized plan for implementation of the initial rollout of PI will increase a teacher's readiness for the change in instruction. A good plan can change a teacher's cynicism to feelings of encouragement toward putting efforts in increasing organizational learning of personalization (Prain et al., 2018). Readiness for implementation presents

significant challenges for appropriate and ongoing performance of PI (Prain et al., 2018). An environment in which teachers are supported throughout the process may provide a culture of learning new ways to strengthen instruction.

The shift toward strengthening instruction requires teachers to change the function of the content, their role in instruction, their responsibility for student learning, and finally, the purpose and process for assessment (Abos et al., 2017; Bingham et al., 2018; Bruner, 1975; Education Elements, 2020). With a need for elevated levels of student engagement and learning, teachers implementing PI should be using high-impact teaching practices (Dalrymple et al., 2017). The push for PI requires encouraging teachers to use innovation, creativity, and a clear representation of best practices to encourage students to engage in the learning process (Cramer et al., 2018). Personalization is intended to provide students autonomy in their learning process for the benefit of preparation for real-world situations and interactions (Dishon, 2017). Despite the intent, there is a focus on teachers in the process of implementing ongoing and appropriate strategies with the inclusion of data-driven decisions.

The processes of making data driven decisions is more complicated than the collection and timing of the collection; it requires teachers to deliver instruction based on the targets students have mastered or struggled with throughout the learning process (Filderman & Toste, 2017; Jung et al., 2018). This type of data-based instruction (DBI) is based on decisions derived from establishing a student's level of performance, setting academic goals, and implementing high-quality instruction, all while frequently monitoring student progress (Jung et al., 2018). Adapting instructions to personalize the

needs of each student takes a deep understanding of how to analyze data. This process may be challenging when it is not a part of training (Filderman & Toste, 2017). Feelings of being a novice within the area of data analysis and DBI can lead to barriers of fear of criticism and can result in a lack of motivation in teaching the skills needed for students to succeed (Barieva et al., 2018; Bingham et al., 2018; Keiler, 2018). These barriers pose challenges for teachers who do not want to lose control of classroom management and those who strive to perform proficiency as educators. Experiences of feeling overwhelmed change a teacher's choice in practice and may leave feelings of uncertainty about making data driven and well-informed decisions in the process of initial and ongoing application of PI (Barieva, et al., 2018; Netcoh & Bishop, 2017).

Analysis of Broader Problem

Teachers' Practices

Personalization in students' learning process results in the students' data being a part of the plan for instruction. Ongoing modification based on student data is a dynamic aspect of PL (Thompson & Cook, 20017). Aligning instruction based on learning analytics (LA) will increase the teacher's capacity to use student data to make decisions (Pardo et al., 2018). Instructional alignment with PL is not a minor change and requires exploring an organization's strength and possible challenges as much as it does those of its students. These are not slight changes for an educator who has practiced a more direct and traditional way of teaching. Challenges are faced when traditional or seasoned teachers reject the approach. If ongoing application of PI does not include opportunities for implementation practice that is based on assessment of student knowledge, there is no

room for mistakes, and failure to succeed becomes a barrier preventing appropriate and ongoing performance of a PI approach (Barieva et al., 2018; Netcoh & Bishop, 2017). These barriers may leave teachers feeling a lack of support.

PI brings on a shift in a teacher's practices that come with discomfort and cynicism about the expectations and indicators for success (Bingham et al., 2018). The shift in roles brings the teachers to a facilitator position in which they must identify and organize a student's targets based on the use of DBI. This new position required teachers to focus on the assessment of a student's prior knowledge and capabilities of autonomy to guide instruction, instead of using lectures or whole group direct instruction that may follow a preset pacing guide of standards (Keiler, 2018; Netcoh & Bishop, 2017; Olofson et al., 2018). This role, unlike in a traditional direct approach, is to encourage and accept a more constructive approach to teaching and learning (Abos et al., 2017; Bingham et al., 2018; Bruner, 1975; Education Elements, 2020; Keiler, 2018). What it means to teach has changed to a co-present facilitator in the PL process.

A constructive learning approach adds extensive scaffolding to the learning environment that differs from the traditional objectivity of instruction, posing challenges for teachers (Kallio, 2018). The need to work with a student's capabilities brings varied approaches to implementation. Teachers may not know which is the best or exemplar approach to assessing students and teaching effective strategies without the knowledge of PI approaches. The unknown of PI is a barrier preventing ongoing use of new and appropriate strategies along with how to make use of data to make modifications to these strategies. The unknowns of PI lead to interests in teachers' abilities to adjust their

pedagogy due to the need for filling the gap in achievement and meeting the needs of diverse populations through varied types of data (Filderman & Toste, 2017; Hartwig et al., 2017; Netcoh & Bishop, 2017).

Teachers' motivations to change pedagogy approaches can be connected to teachers' perceived quality of training and collaboration, along with the experiences they have thereafter (Netcoh & Bishop, 2017). A quality training program may be useful to get teachers comfortable with the strategies or approaches that are suggested and use data to make DBI decisions; however, it may not be enough to keep ongoing exemplar performance. A basic introduction to the pedagogy style of personalization is not enough for teachers to feel comfortable with implementation. Instruction that will prepare teachers to apply appropriate ongoing PI requires a solid foundation that may be achieved with ongoing support through collaboration, trial and error, and the experience of successes over time (Gross et al., 2018). Growth in learning depends upon internalizing events or experiences that correspond with events (Bruner, 1975). Establishing a solid foundation built on a teacher's prior experience considers the individual learner, the teacher.

Understanding how someone learns any content in any given situation requires consideration of the individual's learner variability, desired outcomes, various measures of success, and the instructional processes (Bruner, 1975). These considerations may be addressed in training or through experience (Hartwig et al., 2017). As learners themselves in this training process, teachers can construct the knowledge needed for appropriate and ongoing performance and best practices through their interactions and experiences

(Zhang et al., 2020. The broader problem associated with the local issue is that teachers do not use data to drive instruction (Barieva et al., 2018). Challenges with this component of personalization lead to barriers that are developed over time, which may keep teachers from showing appropriate and successful progress in performance (Zhang et al., 2020).

Ongoing appropriate performance is possible and may include the study site's teachers personalizing their current approaches to PI. The need to make personalization personalized to a teacher's approach during implementation are possible barriers for teachers. The challenges in not meeting student performance expectations present a need for understanding teachers' process of using data to drive instruction for their students. Analyzing learning data restructures instructional methods and tackles some challenges with personalization (Dishon, 2017). Challenges with LA pose the need for exemplary evidence of practices and resources that are not readily available with such an innovative approach. Collaboratively developed learning targets leading to personalized approaches and efforts to develop strategies are needed to bring in teachers' voices into the PI process (Netcoh, 2017). PL includes a series of framework components, transformation of teacher skills and a sense of big data to drive instruction (Thompson & Cook, 2017). Transforming instructional practices makes teachers flexible in their current approach. Flexibility and adaptive skills are enforced in personalization in efforts to prepare for PI (Prain et al., 2018). This idea is the same for teachers who become the learners in the process of putting PL into effect. Flexibility in their approach and strategies will appeal to the teachers' strengths.

Flexibility provides an individualized touch into what will be an adaptive approach that adds to their instructional skills. A willingness to be flexible in approach can show readiness for change. Readiness for PL presents teacher challenges (Prain et al., 2018). The roles of teachers are an essential factor in personalization, leaving a strong need for support in readiness. The success of students is determined by a teacher's effectiveness in implementing instruction (Prain et al., 2018). When implementing any strategy, roles, and responsibilities for supporting teachers through a professional learning plan, coaching, communication plan, resource banks, and evaluation systems are key in determining teacher success (Education Elements, 2020). A PL system and approach is appealing but is not without its challenges either (Cramer et al., 2018; DeArmond et al., 2018; Paz-Albo, 2017; Rutledge et al., 2017). Results toward success in PI will come from an adjustment in thinking and understanding of PI and mapping of the initial implementation of the process (Paz-Albo, 2017; Thompson & Cook, 2017).

Stakeholder Support

Today's research presents PL as a recurring trend that can occur in varied ways. However, there are no design guidelines that portray its implementation (FitzGerald et al., 2018). There is a strong demand to support teachers throughout the PI process. Support comes with the flexibility to make PL their own in terms of what it looks like for teacher instruction, the classroom environment, the students, and the process of learning and using LA (Prain et al., 2018). LA must go beyond single data sources to show promise (Pardo et al., 2018). Sustainable change must include a trial-and-error period for teachers to overcome obstacles as they use data to try innovative approaches and reflect

upon their results as they work toward promised expectation for personalization (Bingham, 2019).

As innovation and performance are causes for change, implementing a personalized approach will make considerable demands on stakeholders involved (DeArmond et al., 2018). A strategy that involves providing teachers with knowledge of varied approaches or foundational knowledge about personalization will enhance a teacher's readiness for change (Bingham et al., 2018). Setting a baseline for success without knowledge management of the design or framework in a PL system is a common pitfall (DeArmond et al., 2018). Emphasizing flexibility in practice is only half of the equation. Although flexibility is important, there must be some structure in applying innovative approaches. Lack of knowledge in the planning phase of PI is the cause of failure presenting a need for maintaining teacher readiness (Bingham et al., 2018). Consistent support through improvement plans that include a vision to work toward may be more beneficial as opposed to being too open about experimenting with approaches (DeArmond et al., 2018).

Understanding PI approaches can clarify misconceptions teachers have and allow them to go into the process with an open mind. An open mind about the change shows readiness to learn something new as teacher's experiment with strategies for PI (Barieva et al., 2018). A person's perception of and reactions to change can determine the success of an organization (Bruner, 1975). Building on teachers' knowledge can reduce teacher cynicism and determine their motivation to take part in the change leading to greater success in their efforts and for the organization (Saldana, 2016). Successful reform will

not only move a teacher's attitudes toward change but will also change the norms, providing a solution of building a culture of improvement within an organization (Myszewski, 2018; Rutledge et al., 2017).

A structured plan for improvement will encourage the culture for improvement. Sustainability and continuity of improvement enable the transfer of knowledge and the effect it has on teachers' PI (Myszewski, 2018). Transformation toward innovation can yield more significant effects with a high degree of teacher belief in the process of improvement. This improvement is reliant on principals or administrators (Rutledge et al., 2017). These stakeholders should be present and consistently involved. Readiness will result in how well stakeholders, teachers, and administrative staff safeguard the improvement and sustainability to ensure long-term goals are met and challenges overcome (Prain et al., 2018).

Implications

Based on the findings of the study, I created a series of professional development (PD) training courses for teachers and school leaders. The findings were used to explore teachers' perceptions of what they need to be effective in their application of PI. Teacher interview data collected during the study provided details of these perceptions and illuminate areas of training that may need immediate adjustments. In turn, alternative strategies for providing teachers with training that is ongoing emerged. Implications for the results may assist in supporting teachers at the beginning of the school year and throughout as needed to strengthen ongoing efficiency in PI. To implement a clear set of successful PI training approaches that will encourage the use of personalization and

reduce probable future challenges, support should be continuous as the school continues to provide PI.

Summary

PL refers to classroom culture and instructional strategies (Kallio, 2018). Personalization in school systems has not lived up to its affirmations (Bingham et al., 2018). This approach highlights a more organic learning environment as opposed to the traditional direct instructional approach. A direct instructional approach defined by curriculum or teachers instead of a scaffolding learning process where students can negotiate what and how they learn does not always lead to success (Myszewski, 2018). Keiler (2018) found that teachers who viewed their practices as undesirable found the implementation of PI to be easy. However, researchers lack a framework to design, develop, and implement student-centered learning approaches such as personalization (Bingham et al., 2018). Educators need an understanding of the personalization process and the knowledge needed to prepare for PI. This study will provide an understanding of teachers' perceptions about the training they receive and the training they believe they need to effectively apply PI. Understanding a teacher's perception may lead to opportunities for improvement in the school's training practice.

Section 1 of this study focused on the problem of a local private school's experiences in implementing PL strategies using learner profiles. According to the principal of Mountain School, leaders and administration have expressed their teachers' feedback showing challenges in the ongoing application of a personalized approach for each student). The literature review section addresses the key ideas of personalization.

The findings of the study may be used to understand a teacher's perception of training and provide support in the form of professional development training to strengthen a teacher's opportunity for success in applying PI.

Section 2: The Methodology

Research Design and Approach

In this section, I discuss my use of a basic qualitative design to examine Mountain School's secondary teachers' perceptions of the training needed to apply PI for students with severe to moderate cognitive abilities.

Experience is self-reported data, and a personal account provided by participants makes the method of research qualitative in design (Creswell & Creswell, 2018). For this reason, I rejected a quantitative or mixed design approach. A qualitative design is appropriate for this study because it will result in an exploration of teachers' experiences and perceptions relevant to PI. The data I collected and analyzed will result in an increase of understanding regarding the experiences of the participants. Each person has their reality; therefore, an approach based on exploring reality subjectively is required. Qualitative interpretive methods can result in dialogue and narrative methods that explore memories (Creswell & Creswell, 2018). The answers to the study's research questions result in a need for a descriptive analysis of teachers' experiences to identify themes about application of PI. I explored and rejected similar designs that were less appropriate to address the research questions.

I considered ethnography but rejected it because the research questions did not include a study of the school environment or culture. Phenomenological research design focuses on the phenomenon as described by a participant's understanding of their experiences (Creswell & Creswell, 2018). I rejected this strategy because the purpose of this basic qualitative study is to explore teachers' perceptions, not an understanding or

self-reflection of their experience. A phenomenon is defined as an observable fact or situation that is remarkable (Creswell & Creswell, 2018). PI is not a phenomenon but a process for learning. For this reason, I chose an exploratory case study strategy of inquiry. A case study involves exploring a process in-depth and is aimed at developing an understanding of what is (Creswell & Creswell, 2018). The case study was exploratory because of the need to explore the challenges that need further support and investigation to begin efforts toward approaching the challenges faced by the study site's teachers. A qualitative design involves exploring human behaviors to discover why challenges are faced and how people can change them (Kelly, 2017). Education is a process of giving systematic instruction, and for this reason, an exploratory basic qualitative study approach is appropriate.

I collected information from open-ended interviews. The data collected was used to form themes or categories used to make broad patterns. The nature of a qualitative design process involves a constant dialogue between ideas, such as expected outcomes and reality, and personal commitment and challenges (Knapp, 2017). These require interactions between the researcher and participants. This type of interaction requires the researcher to be understanding of the participants' explanations of accounts based on the participants' prior experiences. The quality of data needed to determine areas of need derives from a qualitative approach in which descriptive analysis of a person's experience is needed (Creswell & Creswell, 2018). The findings may also result in an understanding of challenges faced during PI.

Participants

The study site is a K–12 school, including a total of 30 teachers and teaching assistants. This total number of participants included three secondary teachers and three teaching assistants who taught in varied levels of classes and with different student capabilities. I used a purposeful sampling strategy. Purposeful selection depends on the information sought to respond to the research questions (Creswell & Creswell, 2018). Creating a purposeful sample required the use of parameters that aligned with the focus of the study and with the number of participants available. The parameters of the study included all secondary-level teachers and teaching assistants who followed a set curriculum provided by the school administration. The parameters excluded all elementary level staff and included the six secondary level teachers and teaching assistants because they also provided instruction to students. The number of participants was a combination of three teachers and three teaching assistants (n=6). Given the purpose of this basic qualitative study was to explore teachers' perceptions on what they need to apply academic interventions using PI, participants were selected based upon their natural setting, a classroom that included academic content on a secondary grade level.

After approval from Walden's Institutional Review Board (IRB), a letter of cooperation, shown in Appendix B outlining the site's specific responsibilities for the study was developed and presented to the principal for approval before the invitations were presented to possible participants during a weekly professional development meeting. The letter of cooperation outlined the needs of the researcher along with the

levels of access needed to work with the participants involved in the study. The letter included an explanation of the time needed for participant interviews and accessible times participants would be available that did not interfere with their regular job responsibility. Upon initial discussions with the study site administrators, participants were virtually accessible during their planning periods throughout the week.

Authorized access by the study site principal was required for me to communicate the purpose of the study with participants. I recruited participants at a weekly professional development meeting by providing a written invitation including a brief description, participant responsibility, and the focus of the study. Participants were able to meet for a question-and-answer session regarding the details of the study and an overview of the topic prior to making a final decision. Upon agreement to participate in the study, I presented a consent form to participants. I sent consent forms to participants via email and responded with "I consent" to confirm consent to participate in the study. The informed consent provided to participants included a brief description of the case study background along with measures taken for the protection of participants' privacy, confidentiality, protection from harm, and their rights to terminate their involvement during the case study if they choose.

To establish a deeper trust between myself and the participant working relationship, member checks for prolonged engagement were conducted throughout the study to alleviate possible invalidation of data. One-member check after the interview via email took place and all participants responded to the follow-up questions when applicable. The need for extensive interview data requires a researcher to reflect upon the

data collected. In building a working relationship with the participants to ensure adequacy of data, participants were asked to clarify my reflections about the interviews. The participants were given the opportunity to clarify matters that were unclear, correct misrepresentation or add afterthoughts that they had not had the chance to during the initial interview to mention, supporting the design and methodology of a qualitative study.

Data Collection

Instruments and Sources

To address the research problem, I collected data using semistructured interviews. Interviews are at the center of qualitative research and a critical part of gaining a deeper understanding of a teacher's perspectives and experiences (Creswell & Creswell, 2018; Kelly, 2017). To strengthen the reliability of data, I used an interview protocol that will ensure interview questions are aligned with the research questions' focus of applying PI after training (Creswell & Creswell, 2018). I used Bruner's theory to develop my instrument because my interview protocol was developed in accordance with Bruner's four features of instruction. The interview questions were developed based on training that teachers had received throughout the school year and the perceptions of their effectiveness, and the structure, sequence and pacing of the training provided in preparing them for applying PI.

The interview protocol, shown in Appendix D included questions about trainings provided by the school, instructional strategies taught and used, alternative interventions provided, structures and forms of PI knowledge provided in training, functionality of the

sequence in training, pacing and reinforcements for application of PI. I used these areas and key words of the theory of instruction to generate varied questions included in the interview protocol; however, they were also used as follow up questions, subquestions, or prompting questions when information provided during the interview did not answer the initial questions. The interview protocol included a brief introduction to the study's background, a review of consent aspects, and an opportunity for interviewees to ask questions before interview begins. The questions asked were introductory questions relating to general interviewee background information and transition questions preparing interviewees for key topic about to be discussed. The key questions were focused on the alignment of the research questions and study purpose. The closing questions asked provided an opportunity for closure to the conversation, and finally, an opportunity for interviewees to add additional information they believed was relevant to the study's focus. Interviewing results in the researcher having control over questioning but also provides information that may not be available or obvious (Creswell & Creswell, 2018).

Data Collection Procedures

Due to the limitations of face-to-face interviews at the time, virtual sessions using Zoom software or phone conferences were the platform for conducting interviews with participants. During the interview, I audio recorded some participant interviews and others were dictated. During Zoom recordings, I asked participants to turn off their cameras for the duration of the interview. I took notes during each interview. I then transcribed the audio recordings.

Transcriptions were coded using a combination of process and focused coding. I used both techniques were used simultaneously. I manually coded in the margins using a process coding that related to how participants described the actions they had taken that may show routines in the process of training they discuss. I used focused coding to show categories aligned with Bruner's four features of theory of instruction. Focusing on codes related to these areas is needed to analyze the use of Bruner's features of instruction as they relate to the teachers' process of learning the skills and knowledge of PI to apply in their classrooms. Process coding resulted in the ability to attune myself to the teacher's perspectives, and the focused coding resulted in the development of connection to the study's framework.

I kept all the electronic files of interview notes and transcriptions. All notes taken during the interview are scanned and saved with transcripts in a virtual folder. The main folder is separated into participant folders so that each participant's interview notes and transcriptions are kept together for ease of organizing.

Role of the Researcher

My role as a researcher for the current study was to conduct audio-recorded Zoom interviews with each of the six participants, transcribe the interview data, provide the participants an opportunity to provide clarity of their transcriptions and responses to the interview questions. I conducted recorded interviews with six teachers and teaching assistants in a private school using PL approaches. After IRB approval, I invited teachers verbally during a staff meeting and sent an email with a formal invitation to follow. Those who consented to be a part of the study were invited to an interview.

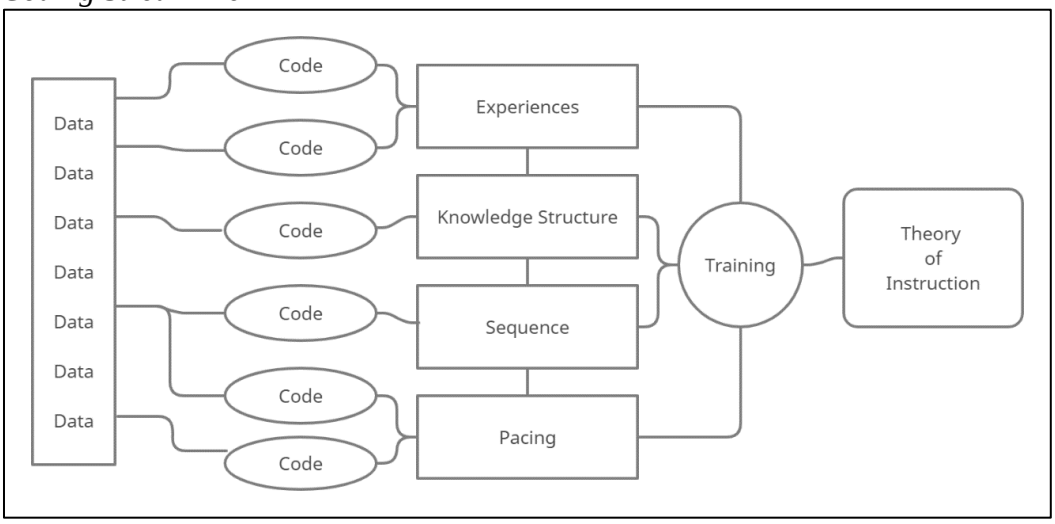
I was the only person collecting, analyzing, and interpreting data. I am a former lead teacher at the study site and was an instructional coach to some of the participants. I did not serve as a supervisor, nor did I conduct evaluations for any of the participants at the study site. I have experience as a teacher using PI and PL techniques in varied academic levels of K–12 classrooms. My position as an instructional coach at the Mountain School was focused on supporting academic teachers with formatting lesson plans and student engagement techniques. I kept participants' interview transcripts confidential and did not share them with administrative staff at the study site. Final findings, after analysis of data, will be shared with the study site to explore their interest in implementing the training series.

Data Analysis

As the study is qualitative in method and included an interview data collection tool, I used a process and focused coding method. Coding is used to provide an inventory of topics using basic labels (Saldana, 2016). The streamline of code to theory is shown in Figure 1. The first cycle of coding included process coding so that the actions relayed through participants' interviews are selected as possible words that show the participants' routines in the training process (Saldana, 2016). The second cycle happened simultaneously with the first. Focused coding was used as an analytical strategy to develop the code into categories that aligned with the framework of the study. I used focused coding with the goal of not distracting attention to the dimension of the framework so much that it deterred the emerging ideas coming from the first cycle of coding.

Figure 1

Coding Streamline



Note. A streamline from data to theory

The following analysis procedures are used to explain how and when data was analyzed after the interviews had been completed:

1. I recorded audio and/or dictated responses of each interview.
2. I took notes during each interview to record possible sub questions asked during the interview that were not included in the interview protocol.
3. I transcribed the audio recordings after each interview was completed.
4. During the first cycle of coding, I manually coded the transcriptions in the margins using process coding to label action words participants have relayed during interview to show routines in the training process.
5. I was reviewed the interview transcription codes to check their alignment with the research questions and the second coding cycle began with focused predetermined coding of categories selected that are aligned with

the study framework that may have developed and changed based on data analysis.

6. I compared each participant's data to explore the development of the coding into Bruner's features of instruction categories used in the focused coding cycle and possible consolidation of data were placed into the categories.

The data analysis provided information on the process of training for the study site's teachers' implementation of PL that may be used to develop future research questions in personalization. Each interview data was analyzed individually and then compared to all other interview data to explore trends in teachers' perceptions or features of instruction. To ensure the validity of the data collected, a member check occurred to serve as a check throughout the interview process. Member checking included frequent dialogue with participants regarding my interpretation of the data to ensure the truth value (Creswell & Creswell, 2018). Any inconsistencies with teachers' perceptions were noted in the findings and its inclusion in one of the categories explained to show a relation to the category and its properties. Differences not included in the development of the study's findings are explained and reasoning provided for exclusion in the findings section of the study.

Data Analysis Results

The study concluded with six participants ranging from novice to seasoned certified teachers and/or teaching assistants (TAs) with up to 20 years of experience. To ensure the quality of the study, the procedures for data collection and analysis of data

were followed as mentioned in previous sections. All participants were given the opportunity through member checks to provide additional information or comments at the conclusion of the interview. The interview protocol included opportunities for participants to add comments or thoughts outside of interview questions that they may have wanted to add to the interview. After transcription was complete, participants were also given a second opportunity to review their responses to the protocol interview questions with the researcher to ensure accurate transcription. The analysis process of the study followed the description in the data analysis section in which two types of coding were completed after transcriptions were prepared. The first part of coding, selecting action words, was highlighted within each of the four elements of theory of instruction. This was followed by re-examining the action words used in Bruner's theory of instruction descriptions. The data is provided to show the patterns of action words provided across all interview data and the relationships between the action words and theories components.

Findings

The following section discusses the results. Although there was a small sample size, the participants were able to provide saturation of data based on their experiences with PI. The selected certified teachers and former administrative support were knowledgeable about the components of PI in that they were able to name the elements when describing the definition of PI. The selected TAs were able to define PI as a need to support students with what was needed to learn new material. Although the TAs were not clearly defining PI, they knew enough to say that the purpose was to help students

understand the learning process through making modifications that appeal to their individual learning plans or needs. The experiences collected through interviews came from six participants. The sample size provided data saturation.

Data saturation is met once there is no new information collected from data (Fofana et al., 2020; Guest et al., 2020; Gugiu et al., 2020). It has been met once the data collected has shown the same results, improving validity of the data (Mwita, 2022). After analyzing the data collected from the first few participants, it was evident that the themes of training needs were consistent across participants. To ensure that the same would be repeated, three more participants were interviewed, and the same themes presented in the data analysis process. After collecting the additional data, coding through the additional interview data was not needed because the data collected did not show new data points or themes. All interview data pointed to the same findings in the analysis coding phase and repeated themes.

Predetermined themes were selected based on the criteria of PL elements as per Bruner's theory of learning. The main themes reflected the teachers' lack of readiness and stakeholder support. The themes described in this section are meaningful contributions to the study's findings and research questions. Data saturation occurred. All participants instructed students while implementing PI and participated in PLC to strengthen their practice using resources provided by their administrators. This purposeful sampling increased chances of data saturation (Mwita, 2022). Also, no new themes were forthcoming (Fofana et al., 2020) during the last few interviews. The coding and themes from the interviews presented were enough to show information thresholds.

Interviews were conducted over a sixty-to-one-hundred-and-twenty-minute time frame providing an extended period with a higher chance of achieving saturation affecting the quality and relevancy of the data collected (Mwita, 2022). A new information threshold calculation can show the percentage of new information provided from data analysis to show data saturation with a percent of new data to show less than or equal to 5% (Guest et al., 2020). Guest et al.'s (2020) suggested calculating the percentage of saturation by dividing the base themes (30) in the first two interviews conducted by the number of new themes (4) from the first run of the next two followed determining the ratio of saturation (13%), calculating the number of new themes (0) with the remaining two interviews, and finally dividing that number by the base number of themes. The data saturation calculation shows 0% of new information coded in the analysis phase. Despite the sample size is small of six participants, the new information threshold presents data saturation. All themes are consistent among participant interviews and stages of analysis.

The first stage in analyzing the data collected from the interviews included highlighting all the action words used to describe the participants' actions taken throughout each step of the learning process. The terminology used to explain Bruner's (1975) four features of theory of instruction provide action words to show where the learner would be in that specified process of learning. During the first stage of experience, verbs such as learning, willing to, able to, and exploring alternatives are used to explain the learning process. The second stage, structure includes words such as grasp, simplifying information, and generating new propositions about the knowledge to explain

delivery. Stage three, sequence includes words like presenting concrete information or questioning, achieving mastery, encountering tools, and problem solving in an active and ongoing manner to express sequence of learning and finally, the last stage, nature of pacing includes words such as learning, teaching, putting efforts, comprehending, and using corrective measures to understand and comprehend information. This terminology, the action verbs showing teachers' skills in applying PI are used in Bruner's explanations of the theory of instruction with regards to a learner's readiness are used by participants' as they explain their experiences and perceptions of training provided. The four elements of Bruner's (1975) theory of instruction: experience, sequence, structure, and the nature of pacing when introducing new knowledge within the interview questions show common terminology in actions taken by participants throughout their learning process are shown in Table 1.

Table 1

Action Word Coding

Action Words	Experience	Structure	Sequence	Nature of Pacing
Discussing	*	*		*
Researching	*	*		*
Teaching	*			
Brainstorming	*			
Attending Training	*			
Examining	*			
Connecting	*			
Asking questions	*	*	*	
Jumping in	*			*
Applying training	*	*		
Exploring			*	*

In exploring the emerging action words listed from the interview data, many words were repeated across the elements of Bruner's theory of instruction. After the first step in analyzing data, selecting the verbs repeated across participants, synonyms were considered in the selection of the action words. The next step in analyzing data was to explore patterns within the selected coding words. The list of verbs created patterns along the elements. Actions such as researching, exploring, and examining of information provided or otherwise were combined to show a pattern of exploration of the knowledge provided in training or of information that may not have been provided in which participants had questions about or sought to self-explore through their own research of new knowledge. The coding verbs were consolidated and used to develop patterns. The patterns connected from the codes were placed into Bruner's (1075) categories for the instructional process. The patterns, relationships, and themes in findings are aligned with the study's two research questions.

RQ1: How do Mountain School teachers perceive training about application of academic interventions?

RQ2: What training do secondary teachers at Mountain School need to apply PI with fidelity?

Table 2 shows teachers' perception about training applications. Perceptions are separated into positive and negative themes that present teachers' feelings about their experiences.

Table 2

Perception Themes

Positive	Negative
Willingness to learn.	Unprepared
Ready to explore.	Confused
	Needed support

The outcome of the data logically aligns with Bruner's four major features of instruction. The participants expressed willingness and ability to learn through the sharing of perceptions and needs, the first feature in Bruner's theory of instruction. A theory should specify the experiences that would encourage predispositions toward learning (Bruner, 1975). The participants attended training ready and willing to learn and were able to apply what was learned. Their experiences show they sought to grow knowledge in PI through exploration of alternatives to instruction. The second feature of providing optimal structure in training is where the data presents a gap. Bruner (1975) stated that an optimal structure in presenting a body of knowledge is relative, not absolute. The study site presented information at the start of the school year with no set structure for adding support after training throughout the application process. Training provided throughout the year is focused on behavioral interventions as opposed to academic. Teachers take the information provided to establish tools for personalization; however, they are not provided specific information about PI. During the interview discussion regarding the structure of training, participant 1 said "I went into this position

and middle of the year and I'm just kind of thrown in" and another, participant 2 stated "To really learn, I need to have multiple ways of having the information presented". These participants' responses showed a need for more training and that they did not feel prepared. Another participant simply stated they did not have the resources they needed to apply PI at all, whereas another developed their own tools and resources over time on their own. The fourth and last feature that focuses on inclusion of accountability in the pacing appears to not be a part of the site's routine in training. One participant suggested having "the standards set up in a way that shows how each build on the next so that the teacher can plan accordingly." The same participant also stated, "I feel like the pacing is made to fill a time - slot rather than encourage exploration" where another stated "I do wish I had an opportunity to reconvene with my colleagues to discuss how their successes and struggles would have provided me with a deeper, richer experience." The data in this section showed another gap in support from administrators and follow through.

The summary of the analysis shows that although training is provided for teachers and their assistants at the study sites, they are not effective. The perception of teachers and their assistants at the study site is that initial training is not specific to instructional practices per se and is missing simplification and explanation of terminology that is focused on students' diagnoses that are initially unclear but essential to understanding the students' learning process and capabilities in obtaining or sustaining new knowledge. The data shows a need for the study site to provide a more in-depth training on PI and its components so that the employees have a better understanding of what it looks like when

implemented in the classroom and how to provide alternatives when their first attempts are not successful.

Table 3 shows the needs of teachers when applying PI with fidelity. The needs of teachers are separated into what they need before and during implementation.

Table 3

Teacher Needs Themes

Before Application	During Application
Simplification of knowledge	Opportunity for trial and error
Knowledgeable facilitator	Accountability
Hands on Application	Administrative support
Exemplary Examples	Consistency in Training

The sequence and structure of training appears to be where the gap primarily falls at the study site. Employees who begin the year at this site are provided with selected training whether suitable or not for implementation of personalization; however, those that enter at a different point of the year are not given that same training. The gap falls then within the site providing ongoing training within the area of personalization so that its teachers and teachers assistants can implement what they are being taught during trainings with the opportunity to then discuss and collaborate not only with their colleagues but the specialized trainer that is providing the initial training. The ongoing support is an area in which all participants expressed a great need for at the study site. Participants also expressed the need for accountability throughout the process. Collaborating with colleagues to share experiences is not the accountability they are

searching for from their administrative support system. Participants were looking for more concrete feedback on their practices provided in the classrooms based on the information the site provided as well as the information they had found through their exploration and searches for alternatives. The last phase in the theory of instruction shows that there is a need for accountability in the form of providing rewards, in either small or large processes regarding participants' practices in application of PI. All participants expressed a need for accountability after training. Participant 2 stated "There is no guidance from presentation to practical application, participant 3 stated "I do not believe there was any oversight," and participant 4 stated "I have discovered during my career, there is an unwritten rule. The administration may want me to attend a particular training, however, they never follow up or hold me accountable," participant 5, "follow up was not there," and lastly, participant 1 simply answered no to having any expectations after trainings. All responses showed a need for follow ups and reconvening after training to express their needs in applying PI.

Patterns, Relationship, and Themes

As the patterns in actions taken by the learner are evident in the initial data analysis phase, axial coding was used to place the code verbs into themes. Selective coding was then used to place the themes into patterns for categories of Bruner's (1975) theory of instruction. Themed categories were used to form relationships between what the participants are experiencing during their learning process and the implementation of an effective course of training, as per Bruner's (1975) four levels of theory of instruction. The sections of the interview presented patterns in teachers' experiences overall. The

experience section of the interview implied feelings of frustration. All participants discussed trying all the strategies and interventions presented to them. All participants clearly stated that there is a lot of figuring it out on their own through exploration which they felt was the source of frustration in their practice. Participants are provided with training material and then expected to apply it immediately after. Three participants expressed the need for asking questions related to terms included in the trainings that they have not heard before or do not understand because they have not received the basic trainings on terminology that is used regarding the student populations diagnosis and needs based on their disabilities. Two participants expressed the level of frustration was also due to the fact they had never received training because of the time in which they were hired for their positions. This is evidenced by participant 3, who said, “I felt I had an incomplete understanding of PI alternatives” and participant 1 who said, “I’m just kind of thrown in”. Employees hired after the initial training period at the start of the year are not given the opportunity to participate in another training course because it is not available a second time after the initial training dates. The lack of experience, the need to explore additional information on their own, and processing of the information provided leads to challenges in the structure of the training. These feelings were expressed during the second part of the interview about the structure and presentation of the training. When discussing the sequence, all participants expressed feelings of being overwhelmed as they tried to figure it out on their own. For example, “participants expressed the training felt like they were isolated in application and training was few and far between.”

During discussions on the nature of pacing, one participant expressed the feeling that the training provided was just time fillers and left them with an incomplete understanding of the concepts presented. These feelings led participants to discuss the need in the training process, which "participants expressed it may have helped to better understand PI and feel supported throughout the application process." All participants also expressed their need during the elements of their training process, speaking to the second research question of the study regarding training needs to enable them to apply PI with fidelity. The experience in applying PI left all participants with a need for administration to support them through follow-ups and check-ins during application. For example, participant 1 expressed "the need for the content to be simplified in terms of terminology they may not understand." The need for help in developing tools and providing more resources was expressed.

Participants also preferred learning the content from an experienced educator in the field of PI as opposed to a behavior specialist. This is evidenced by participant 5, who stated "the best way for me to learn the PI is to observe the trainer during their classroom time," speaking to the need to learn from a trainer who can apply the knowledge presented in training. A need to dig deeper into PI and step back to examine the progress or lack thereof was expressed by participants during the discussion about structure of training. The discussion on structure and sequence presents needs for debriefing opportunities, more practice before application, and observation by the training facilitator to examine progress. For example, four participants expressed the need to be held accountable during the application process so that more guidance is available. Concrete

training in PI alone was a major need expressed by participants, especially those who had not received the initial training provided at the start of the school year. Participants hired after the start of the school year specifically expressed this need. The needs expressed by participants will be used to determine possible alternatives for the training process.

The relationships categorized the learning process into Bruner's (1975) elements of instruction to form a professional development series that appealed to the teachers' needs. All codes and categories point back to Bruner's (1975) theory of instruction. The patterns of teachers' responses and coding in the first section of the interview showed that all participants were ready and willing to learn new material for applying PI. The second section and feature of instruction of the interview showed a need for how the information was presented. With participants' experiences of not having enough information, they were left with a gap in knowledge and a need to explore on their own without guidance. This leads to a need for the presenting of information in the most effective sequence, Bruner's third feature. There is a need for concrete materials and a way to proceed in application that was not provided by the training system provided nor is the training specific to academic interventions. The data in the last feature of instruction, nature of pacing shows participants' need for more training at a steadier pace and purpose for training. With feelings of no accountability or rewards in achieving outcomes, teachers felt there was a need for more conversation and accountability for their progress in applying PI. All patterns show a relationship between the features of instruction and needs they have for training. The themes align with the research questions as they show a need for training and a current negative experience in the most essential areas of training

needed to practice the most effective ways of applying PI. The themes cover the salient points of training, a structured process and effectively sequenced professional development that will also include opportunity in its pacing for trial and error along with reflections that may enhance their practices.

To ensure the quality of data collected, the study followed the data collection and analysis procedure mentioned in previous sections. One-time member checks were completed after each interview to ensure all questions regarding responses were answered and an accurate transcription of interview responses was completed. The interview protocol shows the semi-structured interview questions asked along with an ending question requesting any further comments or experience that participant may have not shared that may have been relevant to the study. The coding system used was developed from action words taken directly from the interview transcripts and were provided by the participants during the interview process. The interview protocol was designed to separate the questions into categories of features of instruction to assist in developing relationships between experiences and features of instruction. This allowed for developing a clear outcome for areas of need in presenting a professional development series designed to meet the participants' needs.

Summary of Outcomes

This qualitative study is based on the following research questions:

RQ1: How do Mountain School teachers perceive trainings about application of academic interventions?

RQ2: What trainings do secondary teachers at Mountain School need to apply PI

with fidelity?

The data collected clearly presents the perception of the teachers. I was able to get a picture of how participants felt about their application process with the training they had or had not been provided. The perceptions provided an answer to research question one. The overall perception presented by participants was an overwhelming feeling of not being prepared to apply PI due to a lack of knowledge and adequate training. The patterns stated above show the teachers' levels of frustration with the structure, sequence, and pace of training. This outcome leads to answering research question two. The data showed the need for more structured training that will provide teachers with all the necessary foundational knowledge of PI. The data shows a need for strategic structure in training with pacing providing ongoing support and accountability for practices. The problem for this study speaks to a gap in training opportunities that do not provide a clear picture of how to apply PI. The outcome of a series of training that provides hands-on experience in using PL to apply instruction relates to the problem and the teachers' needs. Bruner's (1975) theory of instruction used to develop the studies framework aligns with the teachers needs in varied areas of learning how to provide effective instruction. The needs of the teachers clearly fall into the three features and were used to develop the PD outcome**.**

The project deliverables of a series of PD will provide teachers with the tools they need to deliver effective PI and ensure ongoing support with hands on practice where reflections are included. The project will deliver the foundational knowledge in a carefully structured way to provide the teachers with time to practice with the facilitator

before moving onto the next component of personalization. The project will also provide teachers with a timeline of support and opportunities to discuss reflections that may enhance their skills. The structure, sequence and pace of the PD meets the needs of the teachers and will provide for more practice in the application of PI.

Summary

The data outcomes represented themes that turned into relationships that were used to present patterns in the teachers' experiences and perceptions. Teachers' perceptions showed the need for pacing of training to be based on the needs teachers expressed. The perceptions of training showed positive and negative results of willingness to learn and explore to feelings of being unprepared leading to the need for more support. Experiences showed a strong desire for application of PI with fidelity leading to the need for simplified knowledge from an experienced with hands on and exemplary models to show application processes. The deliverables presented in the study are created based on the needs expressed. The deliverable need led to developing a professional development series that met needs of support during application of PI.

Section 3: The Project

Introduction

The project is a PD training series. The purpose of the series of training is to provide teachers with the foundational knowledge of PI with the expected outcomes over the course of the school year. The target audience for the series of training courses are all secondary level teachers and their teaching assistants at Mountain School. The components learned throughout the series of training are the four core areas of PL: (a) targeted instruction, (b) flexible content and tools, (c) data driven decision, and (d) student reflections. The training begins at the start of the school year. The initial training is a 4-day series, in which teachers learn the foundational skills from each component, exploring components one, two, and four, one per day and the last, data driven decisions during the final day of training. Each day, there are hands-on activities and exemplar modeling of how to implement the components of PI in their classroom. The proposed PD trainings include a PowerPoint, shown in Appendix A to present the core areas of PL, implementation, a schedule for the school calendar year, and an evaluation plan that takes place consistently throughout the school year and implementation of PI. The schedule shows specific hours for each day of training and number of observations that will be part of the evaluation plan to assist teachers in implementation and evaluation of overall effectiveness of PI. The goal for the project is to provide teachers with the foundational skills needed to fully understand the components of PL and provide them with support during their implementation process.

Rationale

A community approach is important when the goal is to achieve outcomes such as efficiency in innovative practices (Dalrymple et al., 2017). An innovation such as PI is appealing but any leading innovation comes with challenges (Paz-Albo, 2017; Rutledge et al., 2017). Education is a natural process of improvement, and that improvement stems from the challenges teachers face with students and their practices in corrective actions (Myszewski, 2018). With challenge comes the opportunity for constant development that can create a continuity of improvement. (Myszewski, 2018). Training programs that meet teachers' needs should come along with innovative practices and stress developing skills for pre and in service teachers (Seema et al., 2021). This section of the study is a product that resulted from the findings, a series of training opportunities recommended to leadership at the Mountain School to better meet the needs of their teachers with regards to applying PI. The proposed project is a result of teachers' need for a deeper understanding of PL and support for school leadership from the training facilitator throughout the school year.

Review of Literature

This section of the literature review is an overview of the research used to explore personalization and professional development to prepare teachers for implementation. To address the findings of a need for understanding components and support from leadership, I explored and integrated the following subjects within the refined search of PL: (a) professional development and (b) PL. To search this information, I used online research databases such as: EBSCOhost, Academic Search Complete, Education Source,

Educational Resource Information Center (ERIC), Research Starter-Education, and Teacher Reference Center were used with the parameters of peer reviewed scholarly journals and a year range of 2017 to the present. I exhausted the following search terms during the search: *professional development, PL,* and *teacher development*. In addition, Boolean phrases such as *professional development* and *PL* were exhausted.

Professional Development

Innovative approaches such as PI bring challenges and can be difficult to implement (Paz-Albo, 2017; Rutledge et al., 2017). There is a lack of understanding of how to operationalize PL and PI due to the unclear definitions provided in research (Zhang et al., 2020). The lack of a clear understanding can affect teachers' abilities to provide PI in a way that is efficient. Teachers find it challenging to adapt their practice based on the diversity of their students (Smets et al., 2020). Beltramo (2017) argued that teachers should provide students opportunities that resonate with their individual interest, social needs, and preferences, all elements of PI. These challenges present a need for teachers to have a growth mindset and adjust their instruction to respond to the individual needs of their students (Smets et al., 2020). Teachers cannot be expected to provide PI with efficacy and a growth mindset without a well-designed and intensive professional development program (Smets et al., 2020).

PD may alleviate these challenges and strengthen implementation. Ginja and Chen (2020) confirmed the challenges of lack of training for educators, misunderstandings of processes or terminology, and limited PD on implementation of differentiated instruction processes such as that of PI. A lack of direction can lead to

pitfalls of application for only part of the approach (DeArmond et al., 2018). PD is not the sole driving force in applying change in practices; a community approach is needed to secure outcomes (Dalrymple et al., 2017). Cowart (2021) stated that teachers struggled with the operational day to day processes in providing varied levels of support for students and management of instruction to accommodate all students' levels and needs. The inevitable result is that teachers need more training on instructional techniques and a willingness to use the approach (Ginja & Chen, 2020; Zhang, et al., 2020). Readiness in practice through gaining an understanding of the foundations in the innovative approach is essential for initial application; however, there is a need for ongoing support and accountability (Prain et al., 2018) This support comes from monitoring and improving practice, a continuity of improvement (Myszewski, 2018).

In addressing inconsistencies in the implementation of PL, building a framework through collaborative efforts from all stakeholders (teachers, administrators, and trainer) that will guide the process of implementing PI may benefit from the development of best practices in the classroom (Zhang et al., 2020). Developing a framework that meets teachers' needs benefits the teachers, administrators, and school in a way that allows for school and student outcomes to be met. If PL is to be the structure that leads to PI and achieving outcomes, teachers demand and needs for a better understanding and support during implementation must be met (Zhang et al., 2020).

Meeting Demands of Teachers

PD is the driving force of school and teacher improvement (Zhang et al., 2021). PD opportunities should meet the demands of teachers and their needs (Zhang et al.,

2020). As teachers are working to modify their curriculum and instruction, guidance is needed to strengthen their knowledge in personalization and PI (Zhang et al., 2020). This guidance can be provided by developing an experience-based pedagogical opportunity that informs teachers instruction (Wan, 2020). Just as students' needs are varied, a teacher's professional development plan should also be specific to their personal needs so that effective learning and teaching situations are present for both teachers and students. Zhang et al. (2020) stated while teachers need PD opportunities, the school system must also include a pathway to deliver the model of learning such as job embedded opportunities. Teachers need continuing PD to enhance their effectiveness and support growth as they are working through implementation on a day-to-day basis (Zhang, et al., 2021).

Ongoing Coaching/Mentoring

Teacher training systems include appropriate prepared plans and arrangements for preservice training in addition to ongoing professional development plans showing a need for teachers to have opportunities for professional development series that will provide ongoing training practices (Ozer, et al., 2020). The professional development series I propose in this study is a coaching/mentoring professional development approach in which teachers are provided the foundational skills in initial training but also provides guidance throughout the application process throughout the upcoming school year. The quality of supportive interpersonal relationships between the trainer and teachers is emphasized by the research of Ozer, et al. (2020) and Zhang, et al. (2021), and provides a continuous opportunity for teachers to develop their skills and provide an opportunity to

communicate with the trainer during their trial-and-error process of implementing personalization in their classroom, at their level of experience and knowledge. With this model and type of professional development every teacher has a supporter with no conditions attached (Ozer, et al., 2020). Learning communities during the processes of learning about PL and PI can enhance the opportunities for growth (Wan, 2020).

PLC Opportunities

Professional development provides parts of teachers training. Training should provide foundational skills but also explicitly introduce teachers' engagement in PLC's and consistent collaborative practices with stakeholders involved in the training process (Wan, 2020). PD that includes PLC and collaborative discussions are associated with improvement in instructional practices (Wan, 2020). Therefore, a professional development plan should also include opportunities for teachers to coordinate with other colleagues and trainers with an individual guideline to follow as they grow their skills in practice (Ozer, et al., 2020). Teachers must also partake in the PD opportunity with an open mindset where they take ownership of their implementation skills and contribute to ongoing coaching to continuously assess and adapt their practice (Cowart, 2021). Collaborative PD efforts can take place in context of reflective dialogue between colleagues and trainers that are focused on peer sharing to gain feedback leading to organizational improvement (Wan, 2020). A collective student improvement focus positively correlates with improved instruction and collaborative discussions (Wan, 2020). Collective efforts among all stakeholders can provide for better training and framework that will be beneficial for teachers.

Productive Professional Development

Researchers have shown teachers understand that they must have updated knowledge in efforts to perfect their skills of instruction. The research of Chu, et al. (2020) shows that teachers are challenged when implementing effective PI; however, do not always see the need for training. Although teachers may believe they do not need PD, there is a need for a deeper understanding of PL to strengthen PI and teachers' growth (Chu et al., 2020); tailoring instruction to learners' needs becomes increasingly difficult (Smets & Struyven, 2018). Because education is a natural process of improvement, challenges are expected and invited because they lead to encouragement and the constant change that is needed for improvement (Myszewski, 2018). Challenges will create a conclusive environment for teachers' classrooms to reshape and redesign the knowledge needed to work toward success in meeting the goals set for application of what is learned in PD (Seema et al., 2021). A PD approach that defines the goals for application of knowledge presented in PD's and what it looks like as opposed to listing options for application will deepen understanding of the condition's teachers need to have in place to accommodate the needs of all their learners (Prain et al., 2018).

To accommodate the students' needs there must be a plan in place to provide support for planning effective instruction that focuses on the needs of the diverse learner (Melese, 2019). Highly qualified instruction is necessary based upon higher student expectation (Smets, 2019). As leadership increases expectations for students, teachers' expectations must also be aligned with the outcomes. Strong leadership support plays a

significant role in meeting the needs of teachers despite whether teachers see an immediate need (Vanblaere & Devos, 2018).

There is a need for teachers to teach in inclusive classrooms where the students have varied need, showing a need for teachers to be provided productive training that will meet the need for enhancing areas of their instruction that will meet PL needs (Alberta Education, 2018a, 2018b; Ozer et al., 2020). Providing personalized PD to teachers will increase the opportunity to promote PL and PI (Yang, et al., 2021). A part of PD should include ongoing participation with colleagues for shared experiences to show a need. The sharing of teaching strategies will show a greater need or desire to enhance PI. Productivity of PD should include teachers' participating in ongoing training that reflects on practices and contributes to PD (Songul, 2019). Teachers want beneficial and diverse professional development specific to their needs and that supports their overall professional growth (Ozer, et al., 2020). Identifying a framework in professional development for PI can guide the process of PL (Zhang et al., 2020). The productivity of the PD will be based on the needs of the teachers. It is essential in establishing an efficient framework that teachers are willing to partake in the training.

Approaches to Training

An effective PD exhibits trends targeting initial training and continuous learning (Hughey, 2020). Initial pre- and in-service training is essential to developing indispensable competencies (Seema et al., 2021). Targeted training in PL along with a working definition of what it is and the components that make it work may provide teachers with the foundation they need to feel competent in their application. The shift in

instructional practices should also be supported by leadership through continuous monitoring for improvement which requires a deliberate approach (Schaps, 2021). The PD approach should set out to recognize challenges of application, deploy systematic resources from the moment of training through ongoing support of the facilitator of those trainings, deploy aligned instructional materials, and monitoring with results that will be shared with all parties included in the process of application (Schaps, 2021).

As previously stated, being given verbal examples of what PI looks like is not enough to build competencies in the approach. PD should involve opportunities to construct actual practice to experience what teachers will indeed need when they prepare for application of PI (Seema et al., 2021). Challenges faced by teachers will come from the students' needs for which the teachers must take corrective actions to enhance their success (Myszewski, 2018). This hands-on training comes with collaboration and dialogue with peers and should be continuous as teacher's experience challenges or successes in application.

The opportunity for dialogue about applications and successes or the lack thereof allows for sharing of experiences, inform decisions made along the way, and optimizes efficacy of the program (Seema et al., 2021). This approach creates an operative PD constructed around teachers' needs and required skills (Seema et al., 2021). The continuance of dialogue creates a community of practice (COP) through not only in job training but also peer learning, a connection that is emphasized in the works of Hughey (2020) and Krutka et al. (2017). A COP develops systems for sharing resources, tools, and experiences of ways to address challenges that may arise and build a supportive

environment for skill development (Hughey, 2020). Social learning leads to skill development and opportunities that ensure teachers' experiences are at the center of the implementation process (Krutka et al., 2017; Tour, 2017). Being at the center of the PD approach is more than dialogue for sharing of experiences, it is also important to have ongoing accountability through the application process (Prain et al., 2018).

Accountability comes with continuous monitoring and improvement in practices (Myszewski, 2018). Lack of improvement can discourage teachers which in turn discourages students leading to the lack of student data needed to show improvement. A well-developed program stresses skill development so the training and PD framework or approach must account for including continuous support using continuous monitoring (Prain et al., 2018). Leadership may not recognize challenges as an outsider to a teacher's classroom, underestimating the need that teacher may have; therefore, various supports during monitoring for improvement and allocation of their time as leaders and training facilitators will show support while giving the teacher opportunities to make moment to moment adjustments as they experience application challenges (Schaps, 2021). The process of monitoring for improvement plays a role in COP's. Leadership has the role of motivating, sharing resources, and serving as role models through discussions (Krutka et al., 2017). Organizational support includes providing guidance and assistance throughout the process. An essential element of COP is communal experience and opportunity to share face to face meaning that the support provided and should also be face to face through observation and modeling of strategies in application (Krutka et al., 2017Support through collaboration, knowledge exchange, problem solving, and finally teachers'

reflections may strengthen competencies and the success of meeting goals set forth in training. The next section provides a description of PD training in PL and instruction provided to secondary education teachers and their assistants.

Project Description

Due to the study findings, a PD series is presented to support secondary teachers in their PI application. The series of training provides teachers with the foundational skills within the four components of PL and provides them with PI strategies that can be used to implement instruction that adheres to all students' academic levels of need. The project will include existing support already in place at the study site, additional resources provided during training, and prepare all stakeholders for solutions to possible barriers that may present themselves during the implementation process.

Existing Supports

The demand on school administration to support teachers' practices is crucial to the improvement of instructional strategies and personalization for students (DeArmond et al., 2018; Rutledge et al., 2017). The study site administrators are currently able to provide the resource of support in the form of time from the start of the year and as the year moves forward support is provided through weekly collaborative planning; however, the consistent change that comes with PI present challenges for all stakeholders. Improvement in practice is reliant on administrators ongoing support (Rutledge et al., 2017). Supporting teachers with the time to discuss their data and exchange strategies is a part of PL and its framework. This ongoing support from stakeholders can evolve teachers' practices as they work through the application of PI (Bingham et al., 2018;

Prain et al., 2018). Ongoing support will come from regular collaboration amongst teachers and their trainer/coach.

The PD includes a session focused on collaboration throughout the implementation process to guide teachers through their trial-and-errors of implementation. The collaboration process includes teachers meeting regularly for PLC meetings. Each meeting would be guided by an administrator and focused on student data after PI strategies are applied. Teachers share their strategies, successes and/or failures. The introduction to how this step of PI looks in practice may strengthen teachers skills and result in a greater opportunities for reflective discussions during these meetings. In addition to PLC's, reflective sessions with the trainer/coach as needed will help teachers strengthen and develop their practices.

Reflective sessions with the facilitator are a part of the PD's ongoing support as well. The strategy of providing ongoing support throughout the process of developing teachers' practices is a beneficial factor in providing training with consistent follow through (DeArmond et al., 2018). Building upon one's reflection, those of the group, and those share with a coach can benefit the improvement process during PI applications. The ability to reflect on practices with the support of the facilitator of training adds to continuous support toward improvement and results in development of learning outcomes through the sharing of achievements and goals (Prain et al., 2018; Rutledge et al., 2017). Support through the learning process is a resource already set into the culture of the study site that is expected to be maintained throughout the training period.

Resources

The study site comes with experienced staff members that represent an existing resource. The staff is provided with training that speaks to the behavioral needs of their students' behavioral accommodations. In addition to these resources, all classroom teachers are also provided with additional assistance from two teaching assistants to help facilitate instruction and provide students with guided support during instruction. An additional support and resource for implementing the series of PD is additional regularly scheduled time for working with the training facilitator. During training and the PI implementation process throughout the year, teachers will have additional support from the facilitator and/or coach during informal observations.

The regularly scheduled time offers teachers an opportunity to fully understand the elements of PL and how to apply PI with guidance. The proposed PD requires administrator support throughout the implementation process with allotment of time during the initial training week prior to the start of the school year but support through the trial-and-error phase may also add to teachers meeting their goals. Stakeholders' support through time for trial-and-error reflections of strategies is an essential factor in providing consistency and follow through (DeArmond et al., 2018). Trial-and-error reflections will be a part of the support provided to teachers during PI application. Teacher reflections will be discussed during weekly scheduled PLC meetings among colleagues that work with the same students in varied content areas. Discussing the challenges during implementation may shed light on other teachers that have not

attempted the same strategies. Likewise, the successes reflected upon may motivate others to try strategies they have not during their application of PI.

Time to reflect with colleagues is a much-needed resource for teachers as it will guide their instruction as fellow teachers may be using strategies that are effective but unused by others; however, time to discuss reflection among one's coach is a part of the learning process as individuals. The coach will be able to guide teachers in making changes to their approach that will help their application of the same strategy be successful when attempted again. The scheduled and current allotted time to work with a coach will help to guide how strategies can and should be implemented through ongoing support (Bingham et al., 2018; Bingham, 2019; Prain et al., 2018). The existing support for reflection along with support from a coach may strengthen the improvement process. Although time with colleagues to reflect is a crucial detail, adding the support of a coach during this time can also be a potential barrier.

Potential Barriers

A potential barrier to the implementation plan will be time allotted for working with a coach during training and/or meetings with teachers. The existing support for mutual meetings exists; however, additional coaching time must also be provided presenting the possible barrier. Providing too little attention to direction for teachers and instructional coherence gives teachers the idea that applying PI is too open (DeArmond et al., 2018). Study data showed teachers felt a need for more support during implementation along with recognizing a lack of support during their trial-and-error

phase. Effects of training vary depending on frequency of support; more support results in more success (Jung et al., 2018).

Another potential barrier faced with the proposed PD is administrator involvement from start to finish. Administrative stakeholders have not been trained in PL and PI themselves. Not having the same training as teachers and not offering a coach for support means the administrators are not readily knowledgeable about PI to provide ongoing training and feedback on their own. Stakeholders at the study site express that they are in support of their teachers and occasionally stop in classrooms to observe instruction; however, there is limited support for instruction in the form of modeling practices or guiding in instructional preparation. A community among implementation brings opportunities for all stakeholders to contribute to the process and work together to meet goals (Dalrymple et al., 2017).

Solutions

A solution for the potential barrier to the implementation plan would be hiring the training facilitator as a consultant to act as the teacher coach throughout the school year to ensure teacher support in applying PI with efficacy. Beginning the school year with preset frequency of interactions with a coach may yield greater effects of training and outcome achievements. DeArmond, Maas, and the Center on Reinventing Public Education (2018) emphasize that ongoing teacher support with consistent follow through on the teacher's part is beneficial in developing effective and successful teaching strategies. With frequency of support comes a need for knowledgeable support.

The potential barrier of administrator involvement in the training process from initial foundational PD to coaching may be resolved by planning for all administrative staff to attend all sessions of PD and sign up for time with the facilitator along with teachers to emphasize how they as administrative support can continue coaching in the years to come after the initial year of training. The benefit of consulting with the trainer quarterly and as needed to better provide their teachers is that it would allow for the coach to model the coaching process during informal observations. Just as teachers would sit to reflect upon their practice with the coach, administrators can reflect upon how the reflective session and suggestions were conducted. The resource of human services in the form of experts and mentors during ongoing support helps develop learning outcomes (Prain et al., 2018). Continuous improvement approaches should enable implementers to work with outcomes exchanged in shared improvement goals with all stakeholders (Rutledge et al., 2017). The proposed training ensures that all stakeholders can receive the same knowledge and can support each other.

Proposal Implementation

The proposed training is to be presented at the start of the school year as a four-day presentation with time to apply each component with communal experience. The training facilitator will provide the initial training over the course of a week through hands on and independent practice after instruction and guided practice. Modeling during and after instruction will strengthen teachers' practices. The facilitator will provide clear examples of how to apply the PL components to develop PI through multiple student scenario introductions. The content per day is based on the core framework of PL.

The plan for implementation is developed to meet the needs of teachers in the process of PD. The plan shown in the timeline includes four days of training: (a) targeted instruction, (b) flexible path and pace, (c) reflection and setting goals, and (d) collaboration and creativity. Each day will include extensive practice and developing an understanding of the best ways to use the knowledge learned in training to make decision for application of PI. The final day of training includes an opportunity to put all they have learned into practice to develop goals and strategies based on the sites previous years data. The continuous process of practice and reflection will require collaboration and creativity on the part of the teacher and facilitator in the learning process to prepare for the final day of training.

Table 3

Professional Development Timeline

Day One	Day Two	Day Three	Day Four
Vision & Plan Expectations PL Framework Targeted Instruction	Flexibility Paths Pacing Goal Setting Reflection	Collaboration Creativity	Workday: Goal development based on previous year data

Day One

Day one of the proposed PD will cover the PL design, myths of PL, framework of PL, a plan for implementation of training, what the sites expectations are regarding the training and the application of PI, and targeted instruction, the first component of PI. A

framework for implementation of PL will help the process of rolling out the innovative change in instruction (DeArmond et al., 2018). The school's vision and expected outcomes are shared on day one of training along with an assessment of where the teachers believe the school is in its current state of PL implementation. Common myths about PL such as the use of technology, solely utilizing independent work, and students moving at their own pace are discussed to associate what to do and not to do in application of PI are also discussed on the first day of training. Debunking myths about PL and PI will present teachers with what PL does not look like so that any uneasiness about readiness is alleviated. When a school's vision aligns with the strategy for change, the plan for transformation occurs faster and rolls out a simpler transition (Rutledge et al., 2017).

An introduction to the idea of PL and its benefits is then followed by presenting the elements of personalization (i.e.: student agency, differentiated instruction, immediate interventions and supports, flexible pacing, deeper learning, frequent feedback, diversity in learning spaces, and performance assessments). A definition for PL and PI is provided to ensure that teachers have a clear understanding of the purpose of the training and efficient application of PI. The plan for implementation is reviewed with teachers to provide a glimpse of what the training will look like. After teachers have a vision of what is to be expected from the training their perceptions of the current process at the study site are explored. Teachers are asked to provide their perceptions on where they feel they are in the areas of PL and what their strengths and/or challenges are as a site and individually each day. A discussion will follow to gain perspective on the group's

perceptions of PI before training on the first component, targeted instruction begins. This component will explore the types of learners, student articulation and choice, how to accommodate for each type of learner, and practice with student scenarios. The day ends in a reflective discussion about perception of the activity, resources available to complete the task, and needs after implementation.

Day Two

Day two of the training focuses on components two and three, flexible paths, pacing, reflections, and goal setting. Flexibility in material used and differentiation in instruction or the process of introducing knowledge is explored on this day of training. This element of PI goes hand in hand with data driven decisions so fully understanding how to develop instruction that targets our students' needs is essential (Education Elements, 2020). The use of aligned curriculum is also a part of this component as it results in pacing adjustments. Differentiation in content, the process in which instruction is delivered, the products developed to show understanding of content, and the learning environment. Blooms taxonomy's depths of knowledge (DOK) are then reviewed along with action verbs to show how a student would show understanding at each level. A deeper understanding of the DOK levels and how to apply it to setting goals and objectives makes it easier to implement PI (Persaud, 2023). The practice activities for this component requires teachers to find a deficiency based on a scenario and develop strategies using DOK levels to create goals for the student. The reflective discussion is facilitated after the activity and prior to reviewing the next component, reflections and setting goals. Day three focuses on the last component of PL.

Day Three

The last component, collaboration and creativity using student data, is covered on day three. Collaboration at the site is a current resource that is scheduled to take place weekly. The start of the day's session is a discussion about what has and has not worked during PLC meetings held the previous year. How they can modify the meetings is an essential part of the discussion that will show the teachers needs regarding how the meetings are facilitated. This is followed by an in-depth explanation of data-based decisions and data-based instruction (DBI).

PL focuses on big data that provides teachers with a full idea of how their students are doing and the ability to analyze all areas of the data (Dishon, 2017). The process of data mining is described in the training using the sites current learning management system (LMS) data. Teachers are knowledgeable on the use of the LMS used; therefore, the focus of this part in training is on analyzing the variable data, understanding key terminology of data analysis, methods of analyzing data, and types of questions presented in assessment. Making DBI decisions is a process of selecting a tool and baseline to start with, determining a frequency of obtaining data, setting goals based on the change in data and analyzing the data as it continues to come to make informed decisions about what instruction will look like for all students (Filderman & Toste, 2017). The teacher will then practice analyzing data and setting goals in small groups. Teacher will do hands on practice using student scenarios with a reflective discussion to follow. The activity concludes the day and the introduction to the elements of PL.

Day Four

The final day of training is a workday for the teachers. They are directed to use the sites LMS data to prepare for the school year. Teachers are given the opportunity to work with their colleagues and the training facilitator to develop a list of PI strategies that will meet their students' learning styles and goals. This provides a guided workspace and environment in which the facilitator can guide teachers through the process with suggestions for goals and strategies as well as guidance in exploration of data. The session provides the teachers with instructional planning support. At the completion of the four days of training teachers will be reminded of the implementation plan. The remaining parts of the proposed PD will be ongoing support provided for all participants in the training. Responsibilities of all stakeholders will play a key role in the training process.

Roles and Responsibilities

Facilitator

The training facilitator will facilitate a four-day training course at the start of the year during the site's preplanning and training week. During the initial four-day training teachers are provided explanations for PL and PI components and are supported by the facilitator during all hands-on activities. The training provides a detailed explanation of each component followed by a hands-on scenario activity for teachers to apply what they have learned on that given day of training under the guidance and support of the facilitator. Each day will provide opportunities for teachers to be supported as they work with each other to put what they are learning into practice. The facilitator will provide

one to one support as needed to discuss strategies used through the trial-and-error process and teacher reflection of successes and/or challenges, and complete informal observations of teachers' instruction in the classroom to provide feedback during teachers' reflection of their practices. Support throughout the year is also extended to the administrative staff to strengthen their ability to support teachers.

Site Stakeholders

Site stakeholders include administrative staff, teachers, and all teaching assistants. The administrative staff are stakeholders with a large amount of responsibility at the site so they may not be available for the entirety of the training PD; however, they are invited to sit in on all training days. Throughout the school year after the proposed PD is delivered, administration will conduct regular observations of teachers' application of PI.

As the study is focused on the experiences of teachers, they are the focus of support from the facilitator. All site teachers will participate in the series of training at the start of the school year. Teachers are asked to self-assess their skills in the application of PI prior to training. During the training series teachers will participate in collaborative activities with colleagues. The scheduled activities are guided by the facilitator and focus on the content taught for the specified training day. Each activity includes hands on development of plans to accommodate students' needs in the scenarios provided. Upon completion of the training and all activities, teachers will reassess their comfort levels within the areas of PL to determine their readiness for implementation at the start of the school year. The collaboration amongst teachers does not end in training, it is an ongoing activity to provide each other with support.

Teachers will meet as a team weekly during allotted PLC time to discuss their trial-and-error challenges. Teachers will also meet with the facilitator to reflect upon their experiences and needs as the year moves forward through ongoing trainer support after informal observations are conducted. The PD series shows a timeline of annual support for teachers and administration at the study site. Regular communication during the timeline results in continuous evaluation of the plan and progress made.

Students do not have a role in the training or evaluation of the teacher's progress in applying PI. Student data used by stakeholders during preplanning on day four of training is not used as part of the study training or evaluation process.

Project Evaluation Plan

The PD series begins with an onsite teacher core continuum pre-evaluation, shown in Appendix F. The pre-evaluation will determine if teachers are emerging, developing, advancing, or sustaining PI in their practices. The evaluation is a goal based as the outcome of applying with PI with efficacy will vary. This self-evaluation is based on the four core components of PL: (a) reflection and goal setting, (b) targeted instruction, (c) collaboration and creativity, and (d) flexible path and pace (Education Elements, 2020). Exploring data of a teacher's success but the ways in which they are efficient speaks to the outcome of strengthening their instructional practices (Filderman et al., 2019). Teachers are asked to read through each component of PL and select the practices they currently apply within that area of PI. After selecting their practice for each component teachers will determine what level of practice, they are in by counting the

circled sections along each column. The column with the most selection is their current practice level of applying PI. The columns provide varied data in all components of PL that involves action on behalf of teachers and student involvement. To be effective teachers must use varied data (Filderman et al., 2019). Hence, exploring their current practices individually within each component will provide varied data about which component they need the most training or practice in. The pre-evaluation will guide the development of a goal based on teachers' needs.

Teachers will be asked to reflect upon their current data regarding their end of year evaluations of performance and student success to explore if they have successfully implemented the components they have selected on their pre-evaluation. Adjustments in instruction will come from teachers' understanding of their practices and how they relate to the success of applying PI. The pre-evaluation will also increase teachers' predispositions about gaining knowledge about the components of PL throughout the training process. Putting it all together to inform instruction strengthens the possibility of success (Filderman et al., 2019; Jung et al., 2018). The final day of PD will include teachers retaking the evaluation to determine where they feel they can apply PI within each area of the components to determine if their level has changed after receiving the training series. The goal of the PD is to provide teachers with the tools they need to help students master the content delivered. A teacher's agency is determined by how and when the effectiveness of their instructional goal is met to ensure they meet the long-term goal (Prain et al., 2018). Teachers' long-term goal after training is developed and made the

focus to guide them toward increasing their levels of comfort and efficacy with their application of PI.

The overall goal of the PD series is for the teachers to increase their knowledge and comfort by applying PI with efficacy. The key stakeholders, leadership administrators, and teachers make up the communal partnership necessary to make the project work and meet their goals. The collaboration among all stakeholders shows greater success in meeting the sites goals and applying successful PI.

Project Implications

Adopting a personalized approach to instruction is a challenging process (Ma et al., 2018; Pasatta et al., 2017). The effectiveness and success of applying personalization in learning involves a great deal of support for the teachers that implement it (Prain et al., 2018; Rutledge et al., 2017). PL and PI are a system that without proper preparation in operationalizing can cause many challenges (Zhang et al., 2020). Providing teachers with all the appropriate tools at the start of implementation of PL changes the effect of the process and the school's approach (Barieva et al., 2018; Bingham et al., 2018). The lack of the proper tools is what leads to challenges faced by our educators (Ginja & Chen, 2020).

The problem is a gap in application and support from stakeholders in addition to available models to follow. This project can provide an example of what to do when applying PI through its consistency in providing models and ongoing support (Ozer et al., 2020). Showing educators that there is opportunity to provide support from the start as well as through application may change the way stakeholders approach the process of

adopting personalization (Prain et al., 2018). The study site holds students with mild to severe cognitive abilities that require a personalized approach to learning. The diverse student population comes with challenges that teachers will face automatically and are to be expected. Teachers will struggle with day-to-day processes in developing and implementing strategies that will provide accommodations for all learners from the start (Cowart, 2021). This expectancy should motivate the leadership to want to provide more than the basic training for its teachers.

It is important to all stakeholders at the site that their students learn foundational content and are prepared for the world and transition out of school. Helping their teachers be more effective in their practice yields greater successes with their students. Addressing the needs of teachers from the beginning may set a tone for an open mindset and drive for growing as a collaborative force. This will help guide teachers through a process that is already challenging. A teacher's effectiveness in practice is important to their agency but also shows the students that they can learn and prepare for the world outside of school by developing skills in autonomy and goal setting, all a part of PL (Barieva et al., 2018; Prain et al., 2018). The success of its teachers shows the success of the school's ability to provide its students with an education that they could not get elsewhere due to their challenges in learning (Prain et al., 2018; Rutledge et al., 2017).

Conclusion

The project, based on the outcome of this basic qualitative study is a four-day PD training recommendation to the school district based on a review of the literature relevant to the study findings. In Section 3 the project was outlined, the recommendation of a PD

and coaching/mentoring for ongoing support is discussed, and literature relevant to the research findings reviewed. Relevant literature suggests teachers' need for supports based on the pitfalls of PD training of PL and PI, demands on teachers to succeed without resources, communal approaches to training, implementation of change throughout the process, productivity of PD, and approaches to training with ongoing support. Section 3 also included an explanation of the PD training timeline and implementation, identification of potential barriers and how they may be overcome, implication of the project implementation, and the project evaluation plan. The timeline shows four days of exploration and practice with PI. The potential barrier of lack of time with a coach may be resolved with training of all staff including administration. Next, in Section 4, I will discuss the strengths and limitations of the project and the personal growth I experienced throughout the research process.

Section 4: Reflections and Conclusions

Project Strengths and Limitations

The research study resulted in exploring strengths and limitations with data analysis and implementation of a final project. The problem was a result of a gap in training due to a lack of exemplar examples of PI and proper training leading to data collection that included interviews to gain a teacher's perspective of training, a strength.

Strengths

Planning for challenges based on teachers' perceptions plus the need to make changes may result in better planning for allocation of resources (Bingham et al., 2018). Because PL is not well-defined in previous research, basing PD on the need already present in the classroom is a strength in the study's final product. Guiding PD based on current experience develops an experienced based approach to training that will provide guidance throughout the PI process (Wan, 2020). The lack of learning about how to apply PI creates difficulties in preparing, developing, or supporting teachers in applying PL techniques (Bingham et al., 2018). Basing the PD and support systems for teachers on the findings from their interviews and perceptions of support and challenges is a strength. There is a need for a PD plan that accommodates the needs of teachers in their practice and current situations. The correct training will provide a pathway for teachers to deliver modeled strategies and experience growth (Zhang et al., 2020).

The project itself offers teachers a strong understanding of the foundation of PL and PI. Starting the school year with a solid foundation and understanding of the components of personalization is a strength that can build on teachers' capabilities during

PI and include their voice (Netcoh, 2017). The ongoing training provided during the PD process gives teachers the opportunity to not only put what they are learning into practice but also provide opportunities for ongoing reflection through the support of a mentor or coach that follows them through the journey of improvement. A quality supportive interpersonal relationship with the training facilitator provides the comfort of going through a trial-and-error process without the judgment or worry of not making immediate progress (Ozer et al., 2020; Zhang et al., 2021). The ongoing support creates a communal and collaborative environment needed for teachers to make effective progress in the end.

The development of a communal environment when evaluating application of personalization is a strength at most schools (Pardo et al., 2018). Trainings that provide and introduce teachers' collaboration from the start are associated with those that show progress (Wan, 2020). Constant conversation about personal experiences in instruction and student data ensures data-based decisions are made and instruction is changed for the better (Pardo et al., 2018). Although planning is based on teachers' challenges, providing a clear and concise definition, and a communal space in which teachers can learn from each other are strengths these can also have limitations.

Limitations

Limited Perceptions

A limitation for the project deliverables is limited repetition due to the sample size of participants. Judgement on repetition of themes do not offer true solutions to qualitative research as it may lack generalizability (Fofana et al., 2020). With such a small sample size and emphasizing only half of the equation, the teachers' perceptions

only may result in a lack of expanding good practices or spreading help amongst staff (DeArmond et al., 2018). A small percentage of perceptions may not provide the full picture of what is missing in the current research. In addition to this limitation ongoing progress monitoring, an essential part toward making data-based decisions about PI (Jung et al., 2018) may pose more limitations.

Limited Ongoing Support

The project has limitations in implementation regarding ongoing leadership support. Stakeholders setting time aside for the training is dependent on their schedule and many training courses are already preset and part of the beginning of the year required training requirements. The limitation comes with administration also attending all the training. In efforts to support teachers through the PI process, all stakeholders including administrative staff that will be evaluating teachers should take the time to sit through training. The initial training is just a start toward making a more successful approach to PI, but with a facilitator that is not readily available and on staff, is a contributing factor to the limitations.

The inability to sit with the facilitator weekly during teacher collaboration meetings may become part of the deficiency in ongoing support during implementation of the project. When ongoing support is not included in the instructional presentation and implementation of PD for teachers, there are less likely to prevent the making of mistakes through trial-and-error support (Barieva et al., 2018; Netcoh & Bishop, 2017). If access to a full-time specialist in PI and data analysis is not available, administration must be capable of providing the same support. Providing teachers with the knowledge of varied

approaches in PI as they work through their learning process can enhance their readiness for change and outcomes (Bingham et al., 2018). Although there is limitation in the project study's product implementation, there are alternative approaches that can expand the research of efficacy in PI applications.

Recommendations for Alternative Approaches

Recommendations for alternative approaches would be to staff a specialist in PL to provide immediate support to teachers when needed and conduct continuous observations. Another alternative to hiring new personnel would be to include administrative staff in training to also meet with trainer on an ongoing basis to provide consistent routine support for teachers. A part of growing and developing effective strategies is receiving feedback during the trial-and-error process of applying PI (Barieva et al., 2018). The shift to personalization requires a student-centered approach in which teachers are the center of the process of learning and able to be reflective during the process (Zhang et al., 2021).

The challenge in providing effective training is training teachers in becoming self-aware of areas that need to be revised (Bogdanova, 2019). Task-specific and personalized feedback will require the facilitator of the initial training to be present at that moment the error in instruction is made (Ozer et al., 2020). This type of feedback and learning encourages a customized learning experience (Corbin et al., 2019). Corbin, et al. (2019) emphasized the need for sustained relationship between student and faculty. A solid basis for challenging teachers who are learners in the process of learning themselves is challenging them to think historically about themselves and providing them with the

opportunity to see how application of PI looks in action (Bagot & Latham, 2019). Providing administration coaching support along with teachers in efforts to coach them into becoming a facilitator to provide ongoing support through feedback may enhance teachers' ability to show positive outcomes in PI application.

An alternative to staffing an ongoing facilitator or providing coaching to administrators to support teachers can be the use of online additional training in PL to refresh teachers' skills through the application process in addition to the supports presented in the implementation of the project. Online PD increases the opportunities for teachers to support their experience based on the demands of the PI (Yang, et al. 2021). Personalized online training provides opportunities for teachers to search, process, analyze, interpret, and communicate data and information obtained (Hughey, 2020; Yang, et al. 2021). Online formats of training may result in teachers exploring PI more during the periods in which the facilitator is unavailable and begin to develop areas or questions regarding their areas of difficulty, providing guidance on understanding PD in between meeting with facilitators of training (Yang et al., 2021). Online formats promote continuous professional development of teachers and targeted education in the areas the teachers need developing (Hughey, 2020). The online sources for enhancing their knowledge in PI may provide added support in addition to having a solid foundation and knowledge of all its components. Having teachers also log their strategies with its success or failure during this process may provide an alternative to being provided with these models by a facilitator throughout the school year and may also provide points for teacher collaboration discussions.

Scholarship, Project Development and Evaluation, and Leadership and Change

Researching the process of adopting and beginning a personalized approach to teaching has shed light on the need for more research, support, and examples of what PL is all about and how it is implemented. Research has shown the gap in practice that can be fixed with the sharing of information and experiences. Communicating strategies and measures for accessing outcomes is a difficulty faced by many colleagues and facilities applying PI (Bingham et al., 2018). Personal experience has shown me that many educators are focused on their success but are not always ready or able to share their experiences. This lack of sharing may be due to their inability to train or explain what they do in their own classrooms. Not every educator is an expert at working with adults in a training capacity, but they can collaborate and discuss their experience. It is so important that as educators we become accustomed to sharing not only the tools, we use in a classroom setting or those we use to prepare for instruction but also firsthand experiences with the use of these tools and practices.

The desire to share experiences and show my practices has grown throughout the project's development. Interviewing teachers who have opportunities to implement an innovative practice that speaks to students needs has shown me there is a greater need to support teachers so that they can better serve their students in leading them to success. My goal to share my knowledge is even stronger today than it ever has been as I see a need for support. I know that sharing this knowledge is not just sharing my successes but also my mistakes and failures because those have shown me better and more effective ways to educate others. Project development must include experiences and reflections in

practice to better gain success for all stakeholders involved. It is these reflections that develop a greater system of support for all educators.

Reflection on Importance of Work

The importance of developing successful systems and processes for educating others is a major part of my work overall. I see a great need to help educators become more self-aware and efficient in what they do. Enhancing skills as a teacher is a part of what educators do for the purpose of helping students grow but also to grow in their profession. I have learned there is a greater need for support and this support comes from sharing all knowledge. Seasoned and new teachers alike have much to share with their colleagues. There is no one way to educate others nor is there one way to teach a given strategy or content area. As an educator I have seen what putting great minds together can create just as I have seen and experienced what my own skills were able to accomplish that others could not. Knowledge comes from experiences and these same experiences can help others to not make the same mistakes that are shown to be ineffective.

As an educator, I appreciate another educator's honesty in sharing their educational experiences. It is not easy to always share one's downfalls as a teacher but if it can help to enhance instruction then it should be done often. Accepting one's failures is incredibly challenging but what we learn from them is greater. Learning from pitfalls helps an educator or individual in general grow. As education is a vast growing system so should the skill level of teachers be. Continuous growth as a professional should be what drives educators. If educators expect their students to have a love for learning, then there is a need to lead by example. Leading by example is shown by growing as an individual

to show there is always a way to grow. It is important for educators to grow and reflect on skills we possess or those we do not. This reflection drives educators to be better at what they do.

Implications, Applications, and Directions for Future Research

Social change begins with awareness. When teachers become aware of those things they wish to change or things that are not as good as they thought it ignite a drive to want to be better. As educators in a time of innovation, there is always a desire or a force that expects growth in implementation and pedagogical practices. The expectation to grow presents many challenges for inexperienced and seasoned teachers alike. This project has the potential to result in sharing experiences that can shed light on what is needed to provide better support and systems that will lead to their success in implementation. Organizations and schools can see and hear their employees or teachers when changes in systems are made (Bingham et al., 2018).

Supporting teachers is a given in the education world but how stakeholders choose to do that should include understanding the need of those who provide the service. Misalignment of supports and needs is a barrier to showing success (Bingham et al., 2018). Education is a mass and dynamic process that focuses on the production of outcomes (Myszewski, 2018). Showing the community how its teachers are supported shows them there is a great deal of effort put into providing their children with lasting education (Bingham et al., 2018). The community approach brings about a shared interest in the production of outcomes and may support the process even further outside of the school walls. The study was focused on a small school and student population but what

can be done at one site can be replicated at others given the proper support. The methodology of the study was focused on qualitative data, implying that there is importance in understanding experiences of teachers. Understanding experiences of teachers is necessary to developing stronger educators that will provide more effective instruction that will help students becomes lovers of learning and develop lasting tools that can be carried on to future endeavors through a community approach (Darylmple, 2017).

Further research and documentation of strategies used in the classroom may provide more support for teachers applying PI. Emphasizing the importance of qualitative data can close achievement gaps. It is this emphasis that can result in stakeholders getting to the source of the issue. If teachers are faced with the challenges of providing effective instruction, the change must begin with providing them with support. While this support is provided, documenting experiences may add to further research in how to provide effective instruction that is focused on students' needs. Research focused on quantitative data is another direction to consider that can track students' data because of teachers' training during PI application. A quantitative look may result in how teacher training correlates with student data and success. A mixed method approach that combines both students' quantitative data and a mixture of student and teacher perceptions may further research with understanding of all perspectives while tracking pitfalls and successes.

Conclusion

Personalization has been introduced as an innovative approach that can close achievement gaps. The approach was shared but what was presented is limited. It is not

enough to provide definitions and components of PL. Understanding how it works and figuring out what works has brought many challenges to teachers and leading stakeholders who have been asked to roll out the process. The challenges expressed across the education sectors have led to barriers expressed in the study's research sections. With great challenges comes a greater need for support. Support in any new venture comes from evaluating the systems already in place to determine where and if changes can be made to strength success outcomes. This project study provides a small picture of what one school needs to support its teachers.

The study was focused on teachers' perceptions so that a specialized and specific training that meets their needs was produced. The results presented teachers with good intentions but failures and needs to know more about what they were expected to implement. However, the study shows that teachers' experiences can create change when given the opportunity to share them. Making decisions about substantial changes must come from the bottom where the application of strategies is occurring. If teachers are expected to provide success, they should be given all the tools necessary. Hearing the needs of teachers helps to create the change they need to be effective educators. Effective educators create successful students and encourage confidence in their practice. Successful teachers lead to successful students. Successful students are more aware of their strengths and needs and develop skills in autonomy of their learning process. This autonomy creates the desire to succeed, which in turn creates a love of learning. A teacher's greatest success is enlisting in a student a love for learning and desire to grow within themselves. The success of teachers and students also means the success of the

entire facility, school, its administration, and stakeholders. The success of the mass may also encourage other educators and schools to share in the success as they inquire about the systems implemented to create change.

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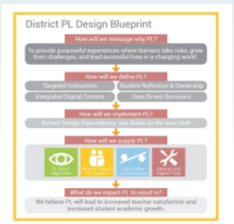
Appendix A: PD Training Series

Personalization Training

Days 1 - 4

Christina Armstrong
Date: June 2023
Doctor of Education: Curriculum, Instruction & Assessment *Project Study*

District Plan



Myths of Personalized Learning

1. Technology is the key
2. Students primarily do independent work
3. Students are moving at their own pace

Miller (2019)

Elements of Personalization

- Student agency
- Differentiated instruction
- Immediate interventions and support
- Flexible pacing
- Deeper learning
- Frequent feedback
- Anywhere, anytime learning
- Performance based assessments

What is Personalized Learning?

An innovative, evidence-based learning approach encompassed by four elements: flexible learning pathways, personalized learning plans, competency-based assessments, and student profiles (Barieva et al., 2018). The approach allows students to work collaboratively with their teachers to design an experience that is responsive to their learning. It includes students' interests, needs, and goals, a part of developing cultural inclusion, and providing equitable education for students (Netcoh & Bishop, 2017).

What is Personalized Instruction?

Instruction targeted to students' specific strengths and needs that is based on data-driven decisions and flexible content. These components are the building blocks of PI that spiral throughout the application and process of personalizing content for a student's needs (Education Elements, 2020; Olofson et al., 2018).

What is the Point?

1. Students are more important than the content
2. Honors their identities and background
3. Empowerment
4. Accomplishments
5. Student Ownership

Plan for Implementation

- 4 Days of Initial Training
- Ongoing Teacher Collaboration
- Ongoing Trainer Support
  - Observations
  - One–to-One support
- Leadership Support
  - Observations

Personalized Learning's Core Four

Components:

1. Targeted Instruction
2. Flexible Path & Pace
   - Content
   - Tools
3. Reflections & Setting Goals
   - Student
   - Teacher Guidance
4. Collaboration & Creativity
   - Data driven decisions

Break Time

Component 1: Targeted Instruction

1. Students articulate what they are learning
2. Students are articulating why
3. Choice

What does it look like?

- Use data to tailor experience
- Deep understanding academic progress
- Modify to meet needs
- Opportunities for voice and choice
- Regularly update groupings

Types of Learners

1. **Visual**
   - Maps, diagrams, charts
   - Patterns and shapes
   - Showing with illustrations
2. **Auditory**
   - Heard or spoken
   - Say it aloud
   - Group discussions

Types of Learners

3. **Kinesthetic**
   - Hands-on
   - Simulations
   - Recreation
4. **Reading Writing**
   - Words and reading
   - Written assignments and quizzes

Example Scenario

1. Remembers what was done, but have difficulty with what was said or seen
2. Hums and/or talks to themselves
3. Tends to sit in the front so he/she can see clearly

Scenarios

- Break up into small group (3-4 people)
- What type of learner is the student?
- How can you modify for the students' needs in math and ELA? (*Choose a standard at your current grade level and a topic you previously taught*)
  - How will you provide the information?
  - How will you ask them to show you, their understanding?

Types of learner Examples.pdf

Discussion

- What was your perception of the activity?
- Did you have what you needed to complete the task?
- If not, what do you think would have helped?

Personalized Learning Day 2

Flexible Paths & Pacing
Reflection & Goal Setting

Component 2: Flexible Paths & Pacing

What's included?

- Varied materials
- Differentiation: *the action or process of differentiating.*

(ex. Readiness, interest, learning profile)

Varied Materials

** Allows flexibility

Use:

1. Aligned curriculum
2. Online educational software
3. Create materials

Differentiation: Content

Examples of differentiating content at the elementary level include the following:

1. Reading materials at varying readability levels.
2. Putting text materials on tape.
3. Using spelling or vocabulary lists at.
4. Presenting ideas through both auditory and visual means.
5. Using reading buddies
6. Meeting with small groups to re-teach or to extend the thinking.

Differentiation: Process

Examples of differentiating process or activities at the elementary level include the following:

1. Tiered activities with the same important understandings and skills but proceeded with different levels.
2. Providing interest centers.
3. Developing personal agendas.
4. Offering manipulatives; and
5. Varying the length of time a student may take to complete a task.

Differentiation: Products

Examples of differentiating products at the elementary level include the following:

1. Giving students options of how to express required learning.
2. Using rubrics that match and extend students' varied skills levels.
3. Allowing students to work alone or in small groups on their products; and
4. Encouraging students to create their own product.

Differentiation: Learning Environment

Examples of differentiating learning environment at the elementary level include:

1. Making sure there are places in the room to work.
2. Providing materials that reflect variety.
3. Setting out clear guidelines.
4. Develop routines; and
5. Encourage movement.

Bloom's Taxonomy

Blooms Taxonomy

6. Remember
   - Recognizing
   - Recalling
5. Understand
   - Interpreting
   - Exemplifying
   - Classifying
   - Summarizing
   - Inferring
   - Comparing
   - Explaining

4. Apply
   - Executing
   - Implementing
3. Analyze
   - Differentiating
   - Organizing
   - Attributing
2. Evaluate
   - Checking
   - Critiquing
1. Create
   - Generating
   - Planning
   - Producing

Example Scenario

Clayton has recently been diagnosed with a visual impairment. He has trouble clearly seeing anything that is smaller than the size of a pencil eraser. This week your students are adding numbers with up to two decimals in math class (example: 12.30 plus 25.50).

Instructional strategy: Allow online practice, text to speech tools, zoom features, larger print on varied colored paper

Practice

Task:

1. Identify the deficiency
2. Identify at least 2 differentiation strategies
   (Use the DOK levels to guide your strategies & select 2 levels to work with)

Differentiation Scenarios.pdf

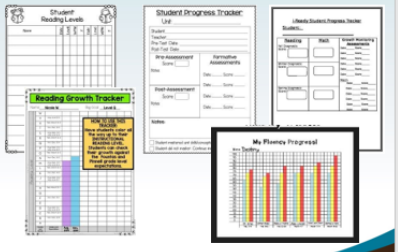
Discussion

- What was your perception of the activity?
- Did you have what you needed to complete the task?
- If not, what do you think would have helped?

Break Time

Component 3: Reflections & Setting Goals

- Student reflection
- Ownership
- Ongoing
  - Roadmaps
  - Data folders, Portfolios
  - Journals
    - Self rating (emoji's, colors, counts, etc.)
  - Conferences



Setting Goals using DOK

Standard: *Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.*

Goals

- *I can identify…*
- *I can label…*
- *I can make observations…*
- *I can develop an argument…*
- *I can create…*

Setting Goals using DOK

Standard: *Apply and extend previous understanding of operations with fractions to add, subtract, multiply, and divide rational numbers except division by zero.*

Goals

- *I can identify operations in a math sentence…*
- *I can apply operations…*
- *I can label fractions…*
- *I can recall the steps to solving addition, subtraction, multiplication, and division…*

Setting Goals using DOK

Standard: *L1 Organisms are organized on a cellular basis and have a finite life span.*

Goals

- *I can identify a plant and animal cell*
- *I can label the main parts of a cell*
- *I can label all part of a plant and animal cell*
- *I can describe the parts of a cell*
- *I can explain what each part of a cell does*

Setting Goals using DOK

Standards: *H2 Cycles of conflict and cooperation have shaped relations among people, places, and environments.*

Goals

- *I can observe cycles of conflict*
- *I can discuss how to avoid conflict*
- *I can observe relationships between people*

Practice

- Select two standards you will be covering in the 1st quarter.
- Develop goals with each of the four DOK levels.
- Be sure to use two content area standards.

Discussion

- What was your perception of the activity?
- Did you have what you needed to complete the task?
- If not, what do you think would have helped?

Personalized Learning Day 3

Collaboration & Creativity
Data Based Instruction (DBI)

Component 4: Collaboration & Creativity

- PLC's
  - Data Meetings
  - What worked?
  - What changes did we make?
  - How will we modify strategies?

Component 4: Collaboration & Creativity

Data Based Decisions

↓

Data Based Instruction (DBI)

Data Based Instruction (DBI)

PL focus = Big data

Educational Data Mining
automatic systems (i-Ready)
adapts to students' strengths

(Dishon, 2017)

How do we help our students grow?

Data Based Decision Making

- Select a tool & baseline assessment
- Determine frequency
- Set student outcome goals
- Graph & Analyze data to make instructional decisions

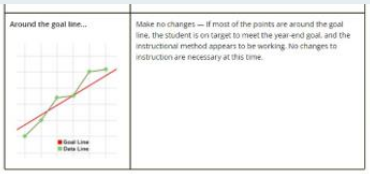
(Filderman & Toste, 2017)

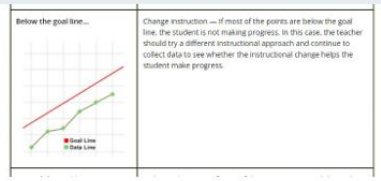
Variable Data

Key terminology

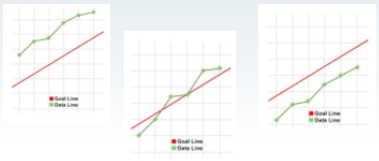
Curriculum -based measurements	A general outcome of student progress in a particular area
Data-based decision making	A method for intensifying interventions by using student level data to make instructional decisions
Data-based individualization	A specific framework proposed by the National Center for Intensive Intervention for engaging in the data-based decision -making process and using data to make instructional decisions
Points -below method	A data decision rule on the last 3-4 data points collected to determine whether instructional change is needed
Slope method	A data decision rule based on the student's slope versus one's outcome goal slope to determine whether instructional change is needed

Point-based Method





Slope Method



Types of Questions

- True-false
- Single best option
- Multiple choice
- Short answer (open-ended)
- Essay
- Key features
- Extended matching

Changes In Instruction

- True-false
  - Identify the error or mistake
  - Choose the correct statement, image, or word
- Single best option & Multiple Choice
  - Label an image or error with the accurate word, statement, or solution
  - Select the accurate option
- Key feature inclusion (visualization)

- Short answer (open-ended)
- Essay
  - DOK 2 (Application stage)
  - Recall + apply knowledge through discussions and articulation
  - Include debates, oral presentations, visual presentation
  - Provide flowcharts to show steps in solving, presenting mastery and finding answers

Break Time

Data Based Instruction Highlights

- Point Below method
  - Uses last 3-4 points of data
  - Easier than slope method (Quick snapshot)
  - May overestimate progress
- Slope method
  - Level remains consistent
  - Easy to interpret
  - Easy to graph

Practice

1. What might the student ability level be at Tier 1? Tier 2
2. What data method shows the most information? Why? (Point or Slope)
3. What instructional changes would you make to tier 1 and/or tier 2 instruction?
4. What needs to change after tier 2 to show greater progress?
5. What assessments will follow your instructional changes?

Discussion

- What was your perception of the activity?
- Did you have what you needed to complete the task?
- If not, what do you think would have helped?

Personalized Learning Day 4

Recap and Workday

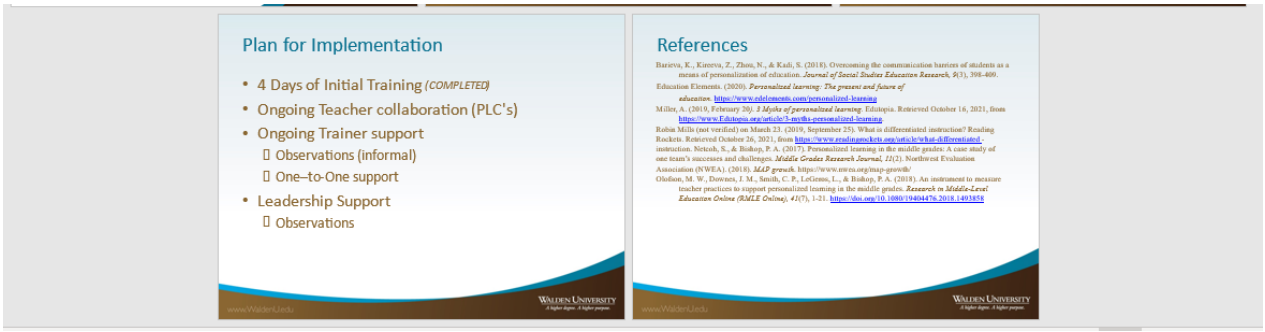
Personalized Learning's Core Four

Components:

1. Targeted Instruction
2. Flexible Path & Pace
   - Content
   - Tools
3. Reflections & Setting Goals
   - Student
   - Teacher Guidance
4. Collaboration & Creativity
   - Data driven decisions

Planning Day

- Use data (previous year) to inform instruction
  - Label student according to learning style
    - Visual (V)
    - Auditory (A)
    - Kinesthetic (K)
    - Reading/Writing (R/W)
  - Develop goals
    - Teacher and Student
  - Develop PI strategies list


Plan for Implementation
• 4 Days of Initial Training (COMPLETED)
• Ongoing Teacher collaboration (PLC's)
• Ongoing Trainer support
 Observations (informal)
 One–to-One support
• Leadership Support
 Observations
WALDEN UNIVERSITY
References
WALDEN UNIVERSITY

Appendix B: Letter of Cooperation

Christina Devito

Walden University Doctoral Student Christina.devito@waldenu.edu

March 1, 2021

Dear Christina Devito,

Based on my review of your research proposal, I give permission for you to conduct the study entitled Secondary Teachers Perception of Training Needed to Apply Personalized Instruction within the Intermountain Academy school. As part of the study, I authorize you to invite secondary academic teachers and teaching assistants to participate in the study and collect data through interviews. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include providing: an opportunity to invite staff to participate in the study. We reserve the right to withdraw from the study at any time if our circumstances change.

I understand that the student will not name the organization in the doctoral project findings and report to be published in ProQuest.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organizations policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the students supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

Julie Shivanonda

Principal

Appendix C: Four Core Continuum Pre-evaluation

	Emerging	Developing	Advancing	Sustaining
Reflection and Goal Setting	The teacher sets classroom-level goals. Teacher provides students with foundational knowledge on the process of reflection.	Teacher supports students in setting their own learning goals. Teacher sets-up structured opportunities for students to reflect.	Students set and track their own learning goals. Students reflect on their learning progress through the method of their choice.	Students set, track, and reflect on their own learning goals and make connections between the choices they make in class and their goal.
Targeted Instruction	Teacher creates structured opportunities for students to work in small groups, meeting with students individually or in small groups	Teacher reviews data sources to create heterogeneous or homogeneous groups and modifies instruction to better meet the needs of those groups for a small percentage of class time.	Teacher uses real-time data to make in-the moment adjustments to instruction, so that students spend a larger percentage of class time having instruction tailored to their strengths, needs, or learning preferences.	Students can articulate what instruction they are receiving and why and have some choice over the instruction they receive.
Collaboration and Creativity	Students spend most of their time working independently. Students are exposed to novel ideas and solutions by the teacher or in teacher-selected resources.	Students have small, structured opportunities to work in pairs or small groups. Students make connections to generate new ideas and solutions.	Students work in groups to accomplish a task with individual roles that are assigned by the teacher. Students can articulate how their novel ideas and solutions are meaningful to them and/or their community.	Students work in groups to accomplish a task and are given autonomy to establish roles and norms. Students generate novel ideas and solutions to complex problems or prompts independently of the teacher and without prompting.
Flexible Path and Pace	Teacher provides one opportunity for flexibility in path or pace.	Teacher provides more than one opportunity for flexibility in path or pace.	Teacher supports students in choosing the path and pace that best meets their learning needs.	Students can choose their path and pace as they work through material.