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Applying the Appropriate Training for Secondary School Teachers to Promote Personalized Instruction

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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. Semi structured 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.

Keywords: Personalized Instruction, Teacher Training, Fidelity, Bruner, Special Needs Students

1. 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) ^[7] 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) ^[2]. 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) ^[7]. 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) ^[5].

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) ^[18]. Many districts and schools are turning to PI to meet the needs of diverse students (Bingham *et al.*, 2018) ^[3]. In a 2017 annual symposium, data collected from Southwestern states reflected that roughly 62 schools have adopted the PI approach (Paz-Albo, 2017) ^[17]. The United States Department of Education (2019) ^[18] 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) ^[11]. The encouragement to use PI to increase academic achievement for all students is present, but challenges are still faced.

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) ^[15]. According to the principal of the study site, the school includes students who require personalized approaches on various levels, resulting in exploration of varied approaches across all grade levels. The problem at the 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 study site (NCLD, 2017) ^[13]. Although PI approaches can be successful, personalization, in practice, may prove to be challenging for teachers (Netcoh & Bishop, 2017) ^[14]. According to the principal of the study site, the results of administrative surveys from the study 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) ^[15]. 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, the study site has faced challenges.

2. Purpose and Research Question

The purpose of this basic qualitative study was to explore 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 the study site, teachers have expressed having challenges with applying PI, along with a desire for additional training. Interviews conducted 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.

The following research questions for this basic qualitative study:

RQ1: What training do secondary teachers need to apply PI with fidelity?

RQ 2: How do secondary teachers perceive training about the application of academic interventions?

3. Materials and Methods

Data was collected using open-ended, semistructured interviews. The data collected was used to form themes or categories used to make broad patterns. 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) ^[8].

3.1 Participant Sampling

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) ^[8]. 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.

3.2 Data Collection

Data were collected using open-ended, semistructured, one-on-one interviews with each participant. 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.

3.3 Data Analysis

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

1. Audio and/or dictated responses of each interview were recorded.
2. Notes during each interview were taken to record possible sub questions asked during the interview that were not included in the interview protocol.
3. Audio recordings were transcribed after each interview was completed.
4. During the first cycle of coding, transcriptions were manually coded in the margins using process coding to label action words participants have relayed during interview to show routines in the training process.

5. Interview transcription codes were reviewed 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. Each participant's data was compared 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. 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.

4. Results

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) ^[5] 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) ^[5] 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) ^[5] 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) ^[5] 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.

5. Conclusion

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)^[10]. 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)^[9]. 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)^[12] may pose more limitations.

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)^[3]. 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)^[19].

The challenge in providing effective training is training teachers in becoming self-aware of areas that need to be revised (Bogdanova, 2019)^[4]. 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)^[6]. Corbin, *et al.* (2019)^[6] 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)^[1]. 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.

The study was focused on teachers' perceptions so that a specialized and specific training that meets their needs was produced. Results from the study 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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