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Differentiated Instruction for Students With Significant Disabilities in Inclusive Secondary Classrooms

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Walden University

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Oghenevwaire Malomo

has been found to be complete and satisfactory in all respects,
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the review committee have been made.

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Walden University
2021

Abstract

Differentiated Instruction for Students With Significant Disabilities in Inclusive
Secondary Classrooms

by

Oghenevwaire Malomo

MA, National University, 2012

BS, University of Benin, 1996

Project Study Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

Walden University

November 2021

Abstract

Secondary general education teachers often face many challenges when differentiating instruction to meet the learning needs of students with significant disabilities (SD) in an inclusive secondary general education classroom. A qualitative case study that included eight general education teachers from different content areas in southwest state in the US was used to investigate the general education teachers' perception of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. Tomlinson's differentiated instruction (DI) model serve as the conceptual framework for this study, which emphasizes maximizing learning for all students by modifying the curricula, instructional materials, and learning activities. Data collected through one-to-one telephone interviews were analyzed using thematic coding and analysis. When asked about their experiences and perceptions of implementing DI, the teachers agreed that DI was beneficial to students with SD and stated that they implemented DI in their classrooms. However, the teachers revealed that they had insufficient knowledge of the abilities and strengths of students with SD, insufficient knowledge of DI strategies, lack of time to adapt teaching methods and materials, and lack of professional development (PD) trainings to implement DI. The teachers reflected that PD training was needed to enhance their abilities to effectively implement DI. Based on the findings of the study, a 3 full-day program was developed to provide teachers with the supports they need. The program may support positive social change by providing secondary general education teachers with skills to effectively implement DI to increase the achievement levels of students with SD.

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Dedication

I dedicate this study to God Almighty, who has been my rock, strength and inspiration to strive towards accomplishing all that He has ordained for me. The journey through this study was rocky to say the least, but God was and is faithful!

I also dedicate this study to my husband Olajide Malomo, honey you are the best! I thank God for bringing you into my life, I am most grateful for your consistent love, support and patience throughout this journey. You had to make a lot of sacrifices so that I could focus and finish well, I hope I made you proud. We make an unbeatable team my love, wishing us more greater adventures together!

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Lastly, I would like to thank my beautiful, amazing and loving daughters, Oluwatosin, Oluwatoyin, Oluwatomi and Oluwatobi, you girls rock! You have been so patient with me, knowing that this study is a big deal to me. I truly appreciate your understanding throughout this study, love you to the moon, back and over again!

Table of Contents

List of Tables	v
List of Figures	vi
Section 1: The Problem.....	1
Introduction.....	1
Definition of The Problem	2
Rationale	5
Evidence of the Problem.....	5
Evidence of the Problem From Professional Literature.....	7
Definition of Terms.....	9
Significance of the Study	10
Differentiated Instruction and Student Achievement Levels	10
Positive Social Change	11
Guiding/Research Questions.....	12
Review of Literature/Conceptual Framework.....	13
Differentiated Instruction.....	15
Differentiated Instruction Process, Content, and Product.....	17
Differentiated Instruction and Students With Significant Disabilities.....	19
Role of the General Education Teacher in a Differentiated Classroom.....	21
Inclusion.....	22
Inclusion for Students With Significant Disabilities.....	23
Role of the General Education Teacher in the Inclusion of Students With Significant Disabilities	25

Instructional Strategies to Address Students With Significant Disabilities and General Education Students in a Diverse Classroom.....	26
General Education Teachers’ Experiences and Implementation of Differentiated Instruction Practices in an Inclusive Classroom.....	28
Supports General Education Teachers’ Perceptions to Enhance Successful Differentiated Instruction Practices in an Inclusive Classroom.....	31
Successful Professional Development Programs That Enhance Teachers’ Implementation of Differentiated Instruction Practices.....	32
Implications.....	33
Summary.....	35
Section 2: The Methodology.....	37
Introduction.....	37
Qualitative Research Design.....	38
Justification of the Choice of Research Design	39
Research Setting.....	40
Criteria for Selecting Participants	41
Justification for the Number of Participants	42
Access to Participants	42
Establishing a Researcher-Participant Working Relationship	44
Methods for Ethical Protection of Participants.....	44
Data Collection	45
Data Collection Procedures.....	45
Interviews.....	45

Presentation of the purpose of the study	46
Member Checking.....	46
Procedures for Gaining Access to Participants	47
Role of the Researcher	48
Data Analysis	49
How and When Data Were Analyzed	49
Trustworthiness.....	50
Procedures for Dealing With Discrepant Cases.....	52
Data Analysis Results	53
Data Collection Process	53
Transcription Method.....	55
Data Analysis	55
Findings.....	56
Conclusion	65
Section 3: The Project.....	67
Introduction.....	67
Rationale	68
Review of the Literature	69
Professional Development	70
Collaboration.....	73
Professional Learning Communities.....	74
Project Description.....	75
Resources and Supports	76

Potential Barriers and Solutions.....	77
Proposal for Implementation and Project Timetable	78
Roles and Responsibilities	79
Project Evaluation.....	79
Implications for Social Change.....	80
Local Community	80
Far-Reaching Implications.....	81
Conclusion	81
Section 4: Reflections and Conclusions.....	83
Project Strengths	83
Recommendations for Remediation of Limitations	84
Scholarship.....	85
Project Development and Evaluation.....	85
Leadership and Change.....	86
Self-Analysis of Scholarship.....	87
Self-Analysis of Project Development.....	87
Self-Analysis Leadership and Change	88
The Project’s Potential Impact for Social Change	89
Implications, Applications, and Directions for Future Research	89
Conclusion	90
References	92
Appendix A: The Project	110
Appendix B: Interview Protocol Questions	162

List of Tables

Table 1. Interview Protocol.....	46
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List of Figures

Figure 1. Model on Differentiated Instruction).....	17
Figure 2. Differentiated Model).....	19

Section 1: The Problem

Introduction

Education for students with significant disabilities (SD) has evolved in the past decades from the self-contained classroom to more inclusive educational settings. Students with SD are students with moderate to severe/SD who display significant cognitive disabilities and are unable to achieve grade-level standards even with best instructional practices and accommodations (U.S. Department of Education, 2002) and are now being served in the general education classroom. The least restrictive environment (LRE) statute under the Individuals with Disabilities Education Act (IDEA, 2004) makes provisions for students with SD to receive appropriate education alongside their nondisabled peers to the maximum extent possible, with appropriate supports provided, thus encouraging inclusion. Inclusion, therefore, creates a classroom setting with an array of learners with diverse abilities and strengths (Fewster, 2006; Forest & Pearpoint, 2004). Due to the shift towards inclusion at all levels of learning, high school general education teachers now have the responsibility of meeting the learning needs of students with SD in their general education classrooms. For inclusion to be successful, general education teachers need to provide all students, including students with SD, with the supports needed to access the general education curriculum (Patterson et al., 2009). Differentiating instruction validates the unique abilities of each student in the classroom, allowing the general education teacher to provide high-quality learning opportunities for all students while engaging each student at their cognitive level (Tomlinson, 2001). Several studies have indicated that differentiated instruction is an effective strategy for

meeting the learning needs of all learners of different abilities in an inclusive classroom (Cusumano & Mueller, 2007; Hawkins, 2007); however, research has shown that secondary general education teachers often face challenges such as the inability to “expand and differentiate certain fields of typical curricular content in order to approach all learners” (Ismajli & Imami-Morina, 2018, p. 209), including students with SD. Other studies have revealed that general education struggles with extending and modifying curriculum materials in core content areas (Gaitas & Alves Martins, 2017; Strogolis, 2018). At the local school district under investigation, this problem was also echoed by several teachers and the assistant principal. The findings from this study may contribute to addressing a significant problem identified at the local school district as well as add to the body of knowledge relating to the implementation of differentiated instruction practices by high school general education teachers and the challenges they often encounter. This study may also provide more insight into supports needed to enable secondary general education teachers to adapt curricular, instructional materials and teaching methods relating to differentiated instruction practices for students with SD. In Chapter 1, I present a definition of the problem, a description of the local problem, the rationale for the study, and a definition of key terms relating to the study. The significance of the study is also addressed, and the research questions guiding the study, a review of literature, implications, and a summary are also included.

Definition of The Problem

Secondary general education teachers often face challenges when implementing differentiated instruction to meet the learning needs of students with SD in an inclusive

general education classroom (Strogilos, 2018). Gaines and Alves Martins (2017) found that general education teachers are challenged with adapting the curricular and learning activities based on the individual learning needs of students with SD. Even though most teachers, including general education teachers, recognize the student differences and the importance of teaching and learning, translating these perceptions into practice can be challenging (Tomlinson & Imbeau, 2012) because providing differentiated instruction is a complex teaching skill that many teachers have yet to master (van Geel et al., 2019). Most undergraduate programs require general educators to take basic course training on differentiating instruction for students with disabilities; however, the concept of differentiation is not addressed in detail (Dack, 2019), and the course work appears only to highlight essential information on characteristics or nature of the disabilities rather than focusing on effective strategies for implementing differentiated instruction in an inclusive classroom (Everett, 2017). Most general education teachers struggle with differentiating instruction because they are mainly trained as a generalist (Dack, 2019). Therefore, they face challenges when implementing elements of differentiating instruction, such as adapting the curriculum and modifying learning and teaching methods to meet the diverse needs of all learners in the classroom, including students with SD (Ismajli & Imami-Morina, 2018). Successful implementation of differentiated instructional practices requires general education teachers to be knowledgeable and skilled in a range of instructional strategies. Hence, school districts with insufficient training and professional development to support their general education teachers in

implementing DI practices to overcome the challenges they encounter face a significant hurdle (Hedrick, 2012; Maeng & Bell, 2015).

In the district under investigation, the California Alternate Assessment records for students assessed in Grades 3 through 8 and Grade 11 report the performance of students with significant cognitive disabilities. Though there is no record for 2016, the 2017 California Schools' Dashboard (California Department of Education, 2017) for 62 students assessed reports that 54.8% of students with SD showed limited understanding of core content in the English language in the California Alternate Assessment, 29% showed foundational understanding, and 16.1% showing understanding of core content. In Mathematics, data from 60 students assessed indicated that 58.3% showed limited understanding of core content in Mathematics, 38.3% showed foundational understanding, and 3.3% showed understanding. In 2018, the California Report Assessment in the English language for 74 students assessed reported that 47.3% of students with significant cognitive disabilities showed limited understanding, 41.9% showed foundational understanding, and 10.8% showed understanding. In Mathematics, 66.2% showed limited understanding of core content, 25.7% showed foundational understanding, and 8.1% showed understanding. In the state summary for 2018, the California Alternate Assessment reports for the English language indicated that 17.4% of students showed understanding of core content, which is higher than the district's 1.8%; and in Mathematics, 7.9% of students showed understanding of core content, which is slightly lower than the district's 8.1%. Other factors may be responsible for the high percentages of students performing at the limited understanding level in both English

language and Mathematics in the district's California alternate assessment reports and in the difference in the percentages between the district and state summary for students who showed understanding of core content in the English language; there is a slight difference in Mathematics, with studies revealing that by adapting the core curriculum and implementing differentiated instructional practices, students are able to access the general education curriculum (Rogers & Johnson, 2018), thereby enhancing learning for students with SD. For general education teachers at two of the district's high schools to effectively implement DI in an inclusive high school classroom with students with SD, there is a need to examine the challenges these teachers face when implementing DI as well as the supports needed to overcome these challenges. In the district under investigation, there was a need to examine the high school general education teachers' perceptions about the challenges they face when adapting the curricular and teaching methods to meet the learning needs of students with SD in their classrooms.

Rationale

Evidence of the Problem

In a local school district situated in southern California, all education services for students with SD have been provided by the district after the take-back of students with disabilities from the Los Angeles county office special education programs in 2014 (Cross & Joftus, 2015). The district's mission to "Ensure High Achievement for All Learners" encourages the inclusion of students with SD in the general education classes as appropriate, in alignment with LRE, as stipulated under IDEA. Although information on the implementation of differentiated instruction practices to enhance the inclusion of

students with SD at the high school level appears to be nonexistent, there are differences in the academic performance levels between students with and without disabilities, as shown in the California school dashboard (California Department of Education, 2017). The 2018 student performance results on the Smarter Balanced Summative Assessment taken annually for students in Grades 3 through 8 and Grade 11 report that all students performed 20.5 points below grade-level standards, while students with disabilities performed 100 points below grade-level standards in English language (California Department of Education, 2017). In Mathematics, all students performed 56.3 points below grade-level standards, while students with disabilities performed 127.1 points below grade-level standards. There exists a considerable discrepancy between the levels of performance of students with disabilities and all other students (California Department of Education, 2017). The 2018 data reports also showed that 37% of all students were placed on the “prepared” level on the college/career indicator, while 4% of students with disabilities were classified as prepared (California Department of Education, 2017). Research has indicated that there is a significant difference in the achievement levels of students in a diverse abilities classroom who have been exposed to differentiated instruction compared to students who have not (Valiandes, 2015). Although other possible explanations for discrepancies in the academic performance levels for students with disabilities and all other students may exist, an investigation into the general education teachers’ experiences and their ability to effectively implement differentiated instruction strategies in the general education classroom may provide useful information because differentiated instructional practices enhance the achievement levels of students

with SD (Valiandes, 2015) and ensure all students have access to the best learning opportunities (Tomlinson, 2005).

Discussions with several general education teachers at the two high school sites in this study have also communicated their reservations about teaching students with SD in an inclusive setting. According to the teachers, they would like to work with the students with SD, but they believe that the challenges they encounter when differentiating instruction to meet the needs of students with SD can be daunting. The problem was also echoed by an assistant principal at one of the district's high school sites who has acknowledged this problem and supports enabling the general education teachers at the high schools to overcome the challenges they face when differentiating instruction for students with disabilities in the high school general education classroom. This study may help address the apparent gap in practice between the district's mission to ensure high achievement for all learners and the implementation of inclusive practices at the school site.

Evidence of the Problem From Professional Literature

Professional literature has revealed challenges faced by general education teachers when implementing DI to meet the learning needs of students with SD in an inclusive general education classroom. Valiandes and Neophytou (2018) identified some of these challenges to include time constraints, lack of teacher skills to translate theory into practice, lack of resources, large class sizes, and heavy workloads. Gaines and Alves Martins (2017) found that some teachers believed that adapting curriculum and modifying teaching methods was the most challenging. In addition, Deunk et al. (2015)

posited that implementing DI is not an easy task. Other challenges faced by general education teachers when implementing DI include lack of administrative support, inadequate professional development, and lack of professional support from peers (Maeng & Bell, 2015). Furthermore, inclusion is a global trend in the field of education (Strogilos, 2018). In response to this push for more inclusive classroom settings, state and local education agencies have integrated students with SD into the general education classroom; however, teachers across the United States have consistently reported they are struggling to meet the diverse learning needs of all students in an inclusive setting (Gilmour, 2018). The DI model is a proactive teaching strategy that requires the general education teacher to adopt specific teaching strategies, invoke a variety of learning activities, monitor individual learning needs, and pursue optimal learning outcomes (Suprayogi & Valcke, 2016) for all students in an inclusive setting. DI enables students to access the academic content and to process as well as understand the concepts and skills taught (Tomlinson, 2001). In as much as general educators are in support of the benefits of DI for all students, including students with SD, there is, however, a consensus for the need for training and professional development to effectively implement differentiated instructional practices in their classrooms (Harkins & Fletcher, 2015). According to Acosta-Tello and Shepherd (2014), “teachers understand the need for differentiating their instruction but are unclear as to how to accomplish differentiation on a daily basis” (p. 51). General educators often also struggle with adapting the curriculum, learning materials, and the flow of activities to suit the diverse learning needs of students with SD in an inclusive classroom (Tobin & Tippett, 2014). To support high school general

education teachers to overcome the daunting task of adapting the curriculum and learning activities to meet the learning needs of students with SD in an inclusive general education classroom (Tobin & Tippett, 2014), there is a need to examine the challenges they face implementing DI and their perceptions of the supports needed to overcome challenges identified.

Definition of Terms

Differentiated instruction: A proactive strategy used by the teacher to reach out to an individual or small group of students by modifying their teaching to create the best learning experience (Tomlinson, 2001).

General education teacher: A licensed educator who is certified to teach specific grades or subjects, referred to as a content specialist (Scheeler et al., 2010).

Inclusive classroom: A service delivery model where students with disabilities learn alongside their peers and are taught the same content, in the same setting, with accommodations and modifications provided as necessary (Dev & Haynes, 2015).

Least restrictive environment (LRE): An educational setting that places students with disabilities in general education classes where they receive instruction alongside their nondisabled peers, but with the necessary support services to academically succeed in a general education class (Gokdere, 2012).

Professional development: A continuous process of teacher training that is aimed at supporting teachers' efforts to understand and form their teaching practices (Valiandes & Neophytou, 2018).

Self-contained classroom: A place where students with disabilities spend all or most of their day at school and work with special education teachers and other service providers, such as therapists and other professionals (Dev & Haynes, 2015).

Students with significant disabilities (SD): Students with SD is a category of students with cognitive disabilities who are unable to achieve grade-level standards even when best instructional practices and accommodations are provided, such as Down syndrome, intellectual disabilities, autism, traumatic brain injuries, and multiple disabilities (U.S. Department of Education, 2002).

Significance of the Study

The findings from this study may provide an insight into the secondary general education teacher's implementation of DI strategies such as adapting the high school general education course content and teaching methods to meet the learning needs of students with SD in the high school general education classroom. This study may also reveal challenges to adapting the course content and teaching methods as well as training and professional development needs that may help general education teachers overcome the challenges they face, thereby enabling them to effectively differentiate instruction to meet the learning needs of students with SD in a high school inclusive classroom.

Differentiated Instruction and Student Achievement Levels

DI benefits all students because it is a teaching approach that transforms teaching into a meaningful and effective process based on students' needs and characteristics (Tomlinson, 2001). In other words, "differentiation of instruction is a call for teachers to adjust curriculum, materials, and student support to ensure that students have equal

opportunities in accessing high-quality instruction and consequently advance academically, socially, and emotionally” (Valiandes & Neophytou, 2018, p. 124). Even though DI holds promises for students with SD, many secondary general education teachers struggle with its implementation due to its complexity, as well as sustaining it over a long period (Westwood, 2001). There has been much research conducted on DI in different educational settings. Findings from studies conducted have indicated that the implementation of DI has positive effects on students’ achievement levels in mathematics (Muthoni & Mbugua, 2014) and in a middle school inclusive science classroom (Simpkins et al., 2009). According to Nicolae (2014), “Results of all consulted studies indicate the positive impact of the differentiated approach to teaching and learning in the diverse classroom, and, nevertheless, requires an emergent need for the improvement of teachers’ knowledge and skills” (p. 430). The findings from this study may provide valuable data on the needs of the high school general education teachers as it relates to practical strategies for implementing DI that allows students access to core content materials by providing high-quality instruction that enhances student learning and achievement levels.

Positive Social Change

The results of this study may promote positive social change in several areas. Relevant data can be obtained regarding educational effectiveness achieved at the high school sites as it relates to services provided to students with SD. According to Valiandes and Neophytou (2018), “Differentiation is inextricably linked with educational effectiveness” (p. 124). Hence, examining the high school general education teachers’

perceptions about the challenges they face in adapting the curriculum, teaching methods, and learning activities to meet the learning needs of students with SD may provide the school district and school site leadership with a better understanding of the training needed and serve as a guide for adapting professional development programs to enhance the effective implementation of differentiation.

Guiding/Research Questions

Secondary general education teachers often face challenges when implementing DI to meet the learning needs of students with SD in an inclusive general education classroom (Gaines & Alves Martins, 2017; Smith & Tyler, 2011; Tobin & Tippett, 2014; Valiandes & Neophytou, 2018; van Geel et al., 2019). High school general education teachers in the two high school sites in the local district under investigation have also communicated the challenges they face when implementing differentiating instruction to meet the learning needs of students, and this has been supported by an assistant principal at one of the high school sites as well. In addition, according to a department head, at a staff meeting held recently at one of the high school sites, the challenges encountered by general education teachers when implementing differentiated instruction have been communicated by the department head to school site administrators. The purpose of this investigation was, therefore, to examine the high school general education teacher participants' perceptions about the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive general education classroom.

The research questions guiding this study were as follows:

1. What are the perceptions of teachers on adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcome/product in implementing differentiated instruction in their classrooms?
2. From the teachers' viewpoints, what challenges do they face when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcomes/products to meet the learning needs of students with SD in their inclusive general education classroom?
3. From the teachers' viewpoints, what supports do they need to overcome the challenges encountered when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcomes/products in the implementation of DI practices to meet the learning needs of students with SD in their inclusive general education classrooms?

Review of Literature/Conceptual Framework

The conceptual foundation for this study was based on the differentiation instructional model (Tomlinson, 2004). DI is based on a social constructivist learning theory (Tomlinson & Allan, 2000). The social constructivist-informed instruction focuses on classroom activities that emphasize main ideas and concepts that engage and challenge students. The emphasis in social-constructivist instruction is the process of learning and not the product. Classroom lessons and activities provide opportunities for students to discuss ideas, interpret the meaning, and acknowledge individual learner differences (Gordon, 2008). The student is the central focus, and “teachers who differentiate instruction engage in social constructivist-aligned teaching practices, acknowledging the

importance of students' prior knowledge in the learning process and creating meaningful learning experiences that allow for interactions with other people and the physical environment" (Tomlinson & Allen, 2000, p. 4). A focused high-quality curriculum is a foundation for DI in the classroom (Tomlinson et al., 2008), which ensures that all instruction is focused, engaging, and demanding. DI also allows for flexible learning arrangements that provide access to the key concepts and ideas while accommodating differences in student learning styles and interests (Tomlinson et al., 2003). DI is a proactive teaching strategy that emphasizes modification of the curricula, teaching methods, instructional materials, learning activities, and student products to address the individual learning needs of students to maximize learning for all students in the classroom (Tomlinson, 2005). One way to maximize learning and achievement levels for students with SD is to implement differentiation instructional practices. DI enables the teacher to adapt the course content and learning methods to meet the learning needs of students with SD (Gaines & Alves Martins 2017). While there is evidence from research to suggest that DI is effective for increasing student achievement (Brighton et al., 2015; Muthoni & Mbugua, 2014; Nicolae, 2014), high school general education teachers often face challenges when implementing DI to meet the learning needs of students with SD, such as adapting the curricular and teaching methods (Tobin & Tippett, 2014). Dixon et al. (2014) suggested that teachers who overcome the challenges to implementing DI could have a significant impact on the academic achievement of their students. Conducting a qualitative case study approach in examining the general education high school teacher participants' perceptions of the challenges they face when implementing

DI can provide more insight into their implementation of differentiated instruction strategies such as adapting the course content and teaching methods when differentiating instruction for students with SD in their general education classrooms, as well as challenges they face when implementing differentiated instruction in their inclusive classroom.

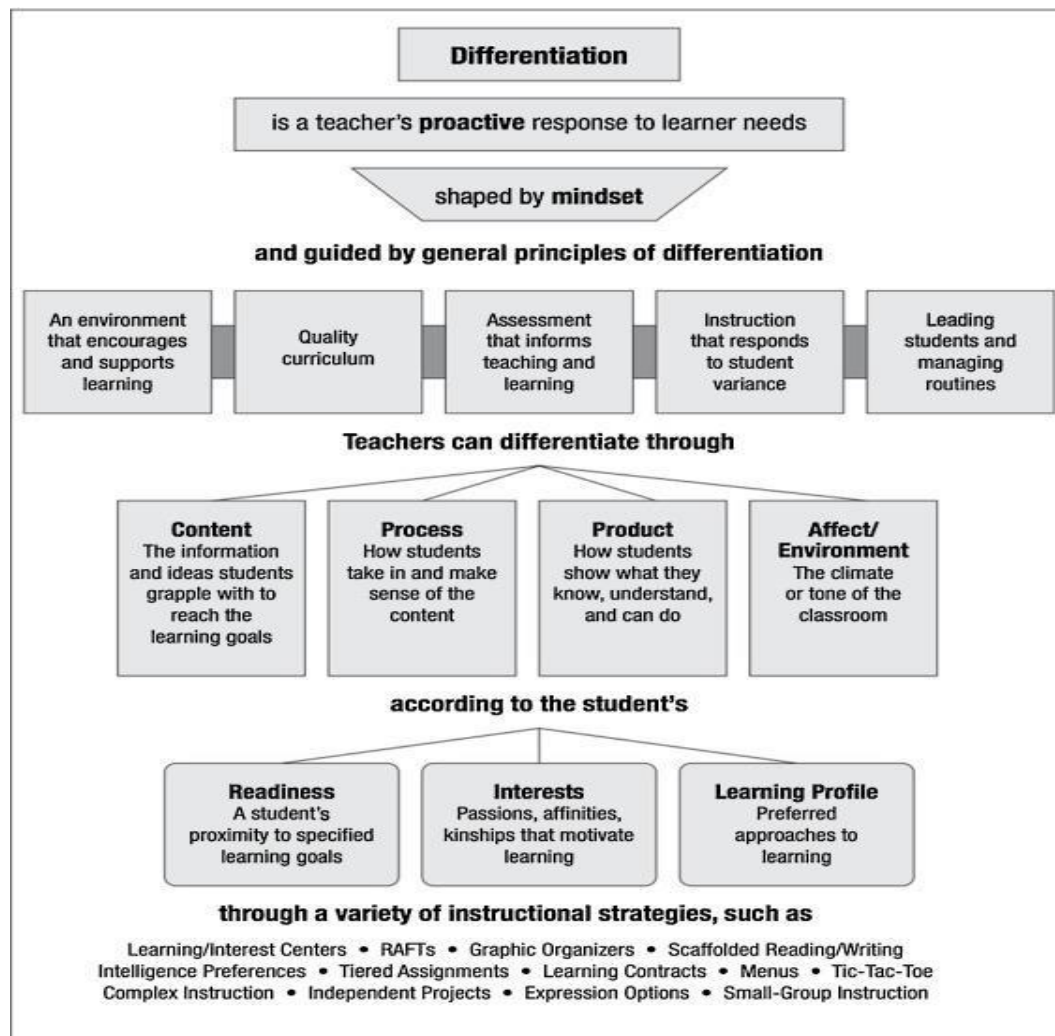
Saturation for this literature review was achieved by researching a variety of terms, including *inclusion, inclusive practices, inclusive education differentiated instruction model, content, process, product, least restrictive environment (LRE), general education teacher, barriers to differentiation, professional development, and secondary general education teachers*. I also reviewed a massive collection of articles and studies through the Walden University library database, including ERIC (Education Resource Information Center), peer-reviewed journals, Academic Search Complete, and Education Source. In addition, I researched training and professional development online resources from the Bureau of Educational Research. Research articles and journal entries from databases, in addition to books relating to the study, were investigated.

Differentiated Instruction

The concept of differentiation originated from recognizing the unique abilities of each student in a diverse classroom (Tomlinson, 2001). Given the current trend of educational reforms making a shift from segregation to inclusion practices, differentiation offers educators with a framework for providing students with SD access to the general education classroom and curriculum (Darrow & Adamek, 2018; Draper, 2019) and is a research-based strategy for addressing learner diversity (Wan, 2017). According to

Gaines and Alves Martins (2017), “Differentiated instruction has been defined as an instructional approach characterized as a student-centered teaching strategy that allows for the accommodation of a wide range of students with different learning and scaffolding needs” (p. 544). All students benefit from differentiation, including students with SD. Tomlinson (2014) further described DI as an instructional design where the educator uses assessment data as a guide for modifying the content, learning process, or the learning environment, and it is based on students’ learning readiness, interest, and learning profile. Content refers to knowledge students are supposed to understand or skills to be acquired. Process refers to instructional activities to make sense of the content, the environment refers to the class setting or tone, and the product relates to the way or mode students display an understanding of the material. Figure 1 presents a model of differentiated instruction.

Figure 1

Model of Differentiated Instruction

Note. From “The Differentiated Classroom: Responding to the Needs of all Learners” by C.A Tomlinson, 2014, (2nd ed.), p. 20 Alexandria: ASCD

Differentiated Instruction Process, Content, and Product

Identifying the students’ needs, interests, and learning styles forms the basis for differentiating instruction to meet the diverse learning needs of students in an inclusive

classroom. Generally, differentiation is done in “three ways: *content*—the “what” of instruction; *process*—the “how” of instruction; and *product*—the “evidence” of instruction” (Kline, 2015, p. 14).

The “what” (content) refers to the knowledge students are supposed to acquire, skills to be mastered, and what is to be taught. It can also refer to what the educators adjust or adapt based on how the students learn, what they understand, and what skills they have (Simpson & Bogan, 2015). Differentiation by content does not imply teaching watered-down content; instead in a differentiated classroom, all students learn the same content, but at varying complex levels, according to student's needs and learning styles. According to Kline (2015), by changing the complex levels and by providing reading materials at different reading levels, the content is made available to students according to their abilities and skills.

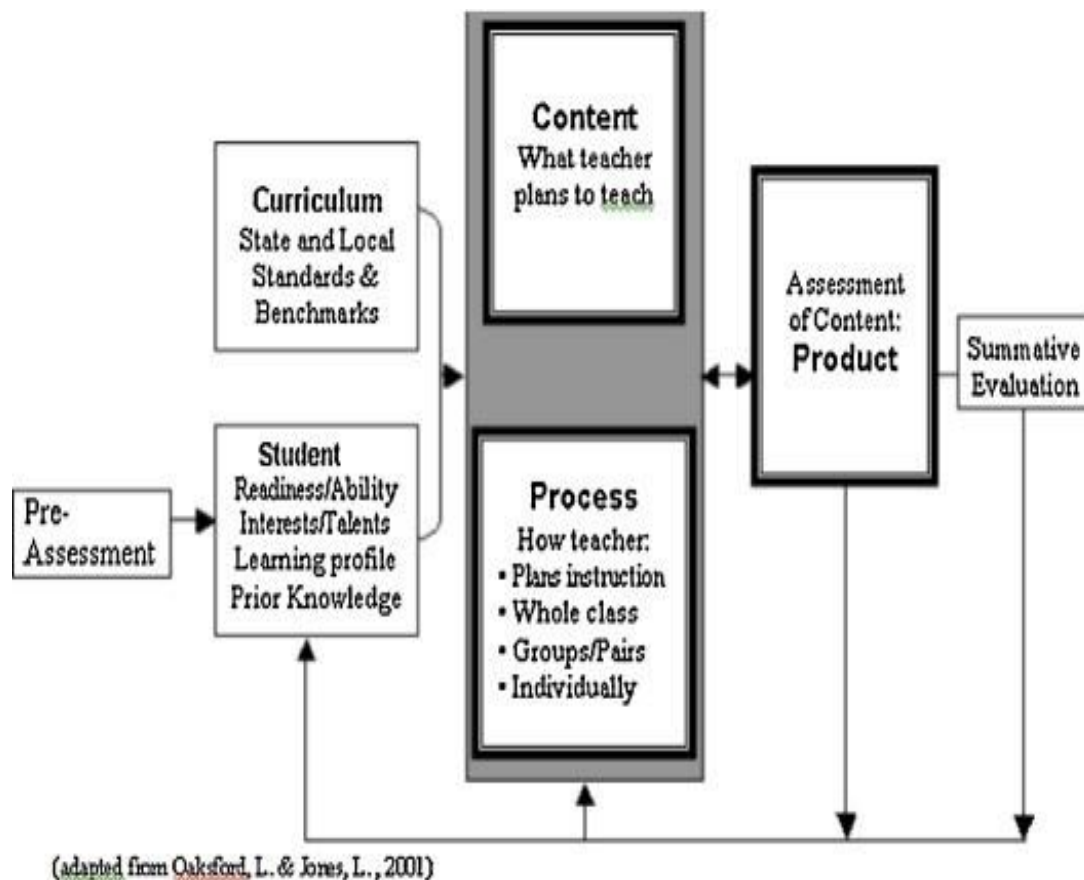
The “how” (process) refers to teaching and learning activities that enable students to understand the knowledge to be mastered based on students’ learning styles. Differentiation can be implemented by allowing students a choice to collect data on a given topic by conducting research on the internet, conducting interviews, or working in groups. When differentiating instruction by the process, even though “all students have similar content to cover, they may choose from an array of activities or processes that are of interest to them or that address their various learning styles” (Kline, 2015, p. 14).

When differentiating instruction by product, the educator allows students a variety of means to demonstrate skills learned and mastered. Students can show expertise

through methods like hands-on demonstration, drawings, creating a PowerPoint, typed document, and oral presentation. Figure 2 presents a differential model.

Figure 2

Differential Model



Note From Oakford & Jones, 2001, p.1)

Differentiated Instruction and Students With Significant Disabilities

Differentiated instruction is considered an essential means of effective education for all students, including students with SD (Strogilos, 2018). According to Tomlinson (2003), differentiation is achieved when teachers “proactively plan varied approaches to what students need to learn, how they will learn it, and/or how they will show what they

have learned to increase the likelihood that each student will learn as much as he or she can, as effectively as possible” (p. 151). The implementation of differentiated instructional practices promotes the inclusion of students with SD in the general education classroom (Strogilos, 2018). Although attempts towards the inclusion of students with SD began in the late 1980s (Thompson et al., 2018), reports from the U.S. Department of Education. (2017), 39th Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act (2017) indicated that for students with SD, opportunities for inclusion have progressed at a snail’s pace. DI supports a learning environment that recognizes the individual characteristics of all students (Strogilos et al., 2017), and as such, is at the heart of inclusion (Strogilos, 2018). Research findings on DI have indicated that even though there has been an increase in the number of students with disabilities in the general education classroom, the quality of education they receive is debatable (Morningstar et al., 2015). Thus, Kurth and Keegan (2014) argued for better quality education for students with SD by making the necessary modifications through DI practices. In similar studies, reports have shown deficits in the curriculum modifications for students with SD in the general education classroom (Strogilos, Tragoulia, & Kaila, 2015; Strogilos & Stefanidis, 2015). There is limited research evidencing the impact of DI on students with SD. However, Darrow (2015) reported that by varying the level of complexity of the curriculum in a high school orchestra music class, students with SD could access the core content. Similarly, Spooner et al. (2017) found that students with SD showed higher order of thinking that was

needed to progress in mathematics by adapting the course content using a conceptual model.

Role of the General Education Teacher in a Differentiated Classroom

The general education teacher is the determining factor in the effective implementation of DI in an inclusive general education classroom (Valiandes & Neophytou, 2018). General education teachers who embrace DI practices in their classrooms adjust the curriculum, teaching methods, learning materials, and student support to ensure that students with SD have opportunities for high-quality instruction (Valiandes & Neophytou, 2018). General education teachers who differentiate make specific alternatives available for individual students to learn as deeply and as quickly as possible and do not make assumptions that all students in the classroom have similar learning road maps (Tomlinson, 2014).

In summary, the general education teacher believes in the capacity of every student to succeed, works from curriculum that requires every student to grapple with the essential understandings or a principle of a discipline and to be a thinker and problem solver in the context of that curriculum, scaffolds the next steps for every learner in a progression toward and beyond critical learning goals, and creates a classroom that supports the growth of its members. (Tomlinson, 2014, p. 27)

Despite the promises evident in the implementation of DI in the general education classroom, general education teachers have reported several challenges to differentiate instruction daily effectively. Bondie et al. (2019) identified barriers and facilitators to

implementing differentiated instruction in the classroom. According to Bondie et al., obstacles to implementing differentiated instruction include lack of ongoing professional development, resources, practice, and managing movement of students; on the other hand, facilitators can be categorized into four main groups: control, dispositions, time, and resources.

Inclusion

The move towards the inclusion of students with disabilities in the public-school system in the United States dates back to 1975, after the passage of the Education for All Handicapped Children Act (U.S. Bureau of Education), which was later reauthorized to IDEA (1990). IDEA established a federal mandate that all students with disabilities would receive a free and appropriate public education in the LRE. According to the Code of Federal Regulations (2006), LRE is focused on including students with disabilities in a general education setting “to the maximum extent appropriate and to ensure that children with disabilities...are educated with children who are nondisabled” (34 CFR 300.114). According to the U.S. Department of Education, IDEA presumes that the regular classroom is considered as the first placement option for each child with a disability with appropriate supplementary aids and services to facilitate such placement (Code of Federal Regulations, 2006). Therefore, before a child with a disability is placed outside the regular education environment, considerations of the full range of supplementary aids and services that could be provided to facilitate the child’s placement in the regular classroom setting must first be considered by the individualized education program team. Subsequently, IDEA (2004) and No Child Left Behind (2002) emphasized providing

students with disabilities access to the general education curriculum in an LRE. As stipulated in the LRE, students with disabilities are to be educated with nondisabled peers, and placements outside the general education classroom should only be considered as an option when supplemental aids and related services provided in a general education classroom are considered inappropriate (Rogers & Johnson, 2018). However, the Data Accountability Center and State Performance Plans investigating placement trends for 2004 to 2012 for the inclusion of students with SD in the general education classroom indicated that students with low-incidence disabilities (significant disabilities) had the most likelihood of being placed in the most restrictive environment (as cited in Kurth et al., 2014).

Inclusion for Students With Significant Disabilities

As defined by the IDEA, students with significant disabilities make up approximately 1% of the student population who require alternate assessments to determine adequate annual progress in school (Thompson et al., 2018). Students with SD are a subset of students from the four IDEA disabilities category: multiple disabilities, deafness, autism, and intellectual disabilities (Wehmeyer & Shogren, 2017).

Students with SD require

extensive repeated individualized instruction and support that is not of a temporary or transient nature and needing substantially adapted materials and individualized methods of accessing information in alternative ways to acquire, maintain, generalize, demonstrate and transfer skills across multiple settings.

(National Center and State Collaborative, 2012, p. 1)

Even though LRE as stipulated by IDEA still hold for students with SD, however, according to Kingston et al. (2017), section 300.115 of IDEA requires that to comply with the LRE requirements, public “agencies must ensure a continuum of alternative placements to meet the needs of students (IDEA, 2012)” (p. 111), as a result, for students with SD education placement in a segregated setting outside of the general education classroom remains a legal option for students with SD. Because of the conflicting message in the LRE language and its interpretation, the most appropriate LRE for students with significant disabilities is debatable (Fuchs et al., 2015). Efforts to include students with SD in the general education classroom began earnestly in 1985; however, in practice, not much progress has been observed (Thompson et al., 2018). Data obtained from a comparison of the 1995 and 2015; 17th and 39th Annual Reports to Congress on the Implementation of the Individuals with Disabilities Education Act indicate that the percentages of students with significant disabilities from the four disability groups (autism, intellectual disabilities, deafness, and multiple disabilities) receiving educational services in the LRE (in a regular classroom 80% or more of the school day) was low in the 1990s, and is still low today (Thompson et al., 2018). Also, an investigation across 15 states of students with SD who took the alternate assessments in the 2010-2011 school year revealed that “93% were served primarily in self-contained classrooms, separate schools, or home, hospital, or residential settings whereas only 7% were served in regular education or resource room placements” (Klienert et al, 2015).

There is available research to indicate that students with SD are positively impacted when included in the general education classroom. Inclusion in a general

education classroom along with peers improves socially acceptable behavior for students with behavior challenges (Walker et al. 2017); students with SD have opportunities to develop positive relationships with same level peers without disabilities (Brown & Bambara, 2014); as well as make significant gains in academic content (Spooner et al., 2017; Kingston et al., 2017).

Role of the General Education Teacher in the Inclusion of Students With Significant Disabilities

General education teachers play an important role in the inclusion of students with disabilities in the general education classroom. As a result of the shift towards a more inclusive classroom for students with SD, general education teachers are now responsible for meeting the learning needs of these students in their general education classrooms. Research shows that students with SD can acquire the skills needed to function in the general education classroom as well as access the general education curriculum when they are provided with quality education with the necessary supports (Kingston et al., 2017). Studies show that though general education teachers support inclusion for students with SD in the general education classroom, they face challenges that deter them from effectively implementing inclusive practices in their general education classroom (Zagona et al., 2017). Hence, for general education teachers to effectively implement practices that support students with SD, in the general education classroom, there is the need for supports to overcome the challenges they face, such as training and professional development (Zagona et al., 2017).

Instructional Strategies to Address Students With Significant Disabilities and General Education Students in a Diverse Classroom

Differentiated instruction can help all students in a diverse classroom (Tomlinson & Javrus, 2012) In a DI classroom, teaching and learning activities are centered around the students learning needs styles, and interests, therefore accommodating individual student differences (Tomlinson, 2005) Therefore students with advanced learning skills can receive instructions that stimulate creativity and higher-order thinking skills (VanTassel-Baska, 2015). DI strategies can support students who are struggling to enhance their knowledge of the concepts taught. Several instructional strategies can be used in implementing DI for all students in a diverse classroom. Tichá, Aberly, Johnstone, Poghosyan & Hunt (2018) suggest three strategies for teaching in a diverse classroom, these include Peer-assisted learning strategies (PALS), cooperative learning, and direct instruction. According to Tichá et al (2018), these strategies can be implemented across all grade levels and in multiple subjects, such as mathematics, reading, and science. The peer-assisted learning strategies (PALS). The purpose of PALS is to support learning for all students through classmate (peer) support. In a diverse classroom of students with diverse learning needs and strengths, flexible groups of students can be achieved by peering students with advanced skills and struggling students or students with SD. “Because students work with peer partners during PALS, the teacher can differentiate instructional materials, pacing and feedback to target individual students’ learning needs” (Tichá et al, 2018, p.109). When implementing PALS, the teacher can implement reciprocal peer-tutoring in which partners take turns being coach and reader, which

allows the weaker reader to observe the more fluent reader model critical reading skills. PALS also enables the teacher to differentiate reading materials that are appropriate for the readers and allows for students' choice of reading materials. Cooperative learning targets all learners in a diverse classroom. Johnson and Johnson (1994) designed cooperative learning to promote the inclusion of students with and without disabilities in diverse classrooms. When implementing cooperative learning, the teacher organizes students of different abilities into small groups to their learning as well as the learning of others. "Cooperative learning is based on the premise that students benefit from each other's skills and knowledge, and they are working toward the same goal — to accomplish learning tasks" (Tichá et al, 2018, p.111).

To successfully include students with different disabilities,

multimodal instruction within the cooperative learning framework should be implemented. Students with more significant disabilities typically require a more concrete presentation of content using visual, manipulative and experiential opportunities. When creating heterogeneous groups, all aspects of diversity should be considered. Students can be provided with input when forming the groups, but teachers need to utilize their expertise about students' strengths and challenges to best facilitate inclusion that goes beyond physical presence in the classroom or in a group. (Tichá et al., 2018, pp. 111-112)

Direct instruction is based on the premise that all students can learn with the implementation of well-designed instruction (Stockard et al., 2018). According to Blik et al. (2016), when implementing direct instruction "the teacher directs the learning process.

The teacher teaches by demonstrating the learning task in small steps, guiding students through the steps during initial practice and making sure students can successfully carry out the task on their own” (p. 21). Direct instruction “represents a highly structured approach to learning based upon behavioral principles, with an emphasis on high levels of academically engaged time, corrective feedback and learning to mastery through the use of small-group instruction” (Tichá et al, 2018, p. 113). Research shows that direct instruction is an effective teaching strategy for students with and without disabilities in a diverse classroom (Head et al., 2018).

General Education Teachers’ Experiences and Implementation of Differentiated Instruction Practices in an Inclusive Classroom

While research on general education teacher experiences in the implementation of DI practices to meet the learning needs of all students in an inclusive classroom is still emerging, several studies indicate that general education teachers experience challenges such as adapting the curriculum materials and teaching methods (Tobin & Tippett, 2014; Bondie et al., 2019). In other words, when implementing DI for students with SD in the general education classroom, general education teachers struggle with “what” to teach (content), “how” to teach (process) and the product (evidence of skills learned). In sharing their experiences implementing DI, other teachers have expressed challenges with “finding the balance between supporting the student to be a part of the class activity and modifying the way the activity was taught or completed so that the student was able to complete it independently” (Zagona et al., 2017. p. 172).

In a similar study, general education teachers have expressed uncertainty as to how to adapt the content and teaching methods in such a way that enhances learning for students with SD daily in their classrooms (Acosta-Tello & Shepherd, 2014). In an investigation to examine secondary science teachers' implementation of the core components of DI practices (such as content, process, product), Maeng and Bell (2015) found that the general education teachers implemented DI strategies at different levels. According to Maeng and Bell (2015), the teachers observed established learning goals, objectives, and lesson plans based on a high-quality curriculum. Also, the teachers had prior knowledge of students' strengths and weaknesses and were evident like the instructional materials used during the lesson as well as the tasks assigned to the different groups of students.

In their study, Maeng and Bell (2015) observed the implementation of DI strategies such as tiered learning, flexible grouping, and alternative assessments to enhance learning for all students in the classroom. Tiered learning is one of the most common forms of differentiated instruction (Lunsford, 2017). Tiered learning enables students to achieve the same learning goals at their level of readiness and student profiles. Tiered learning according to student readiness, enables the teacher to assign tasks based on the abilities and the supports or scaffolding needed by students (e.g assigning one group of students to complete six tasks and another group of students three, who require more support). Tiered learning according to student profile is evidenced when the teacher provides students with opportunities to select from preplanned options that enable students to access the content of the lesson. The options made available to students may

include “read it” reading text or articles using a reading guide for the more independent learners. For the less independent learners, the teacher may use “read aloud” using text to speech devices to support students with modeling reading fluency, word recognition, and decoding. Other options may include “see it/hear it/touch it” using computers, audio tapes, and tangible objects, for the visual, audio, and tactile learners. Students with limited skills can access the content of the curriculum by listening to audio recordings, watching videos, and doing hands-on practice with manipulatives. The use of manipulatives may be useful to teach science concepts such as magnetism, weight, force, five senses, food groups, and nutrition, as well as in mathematics lessons such as fractions, time, money, geometry, etc. Also, visual/charts (Venn diagrams), and graphic organizers may also benefit the visual learners. The “research it” option may allow the more advanced students to conduct independent research on the computer (Maeng & Bell, 2015). Flexible grouping allows the teacher to assign students into groups according to their learning styles, interests, and readiness to meet their learning needs (Lunsford, 2017). The flexible grouping may include grouping low-achieving students with high-achieving students to promote corporate learning or allowing students to choose the small group to work with. Alternate assessment is also a DI strategy. The use of alternate assessments as a DI strategy for evaluating students’ mastery of skills taught, allows students a variety of ways to create products to express their understanding (e.g., drawings, demonstrations, crafts, etc.).

This project study seeks to understand the experiences of the local school district’s general education teachers in the implementation of DI practices in their

classrooms as well as examine their DI practices when meeting the learning needs of students with SD, and the challenges they face.

Supports General Education Teachers' Perceptions to Enhance Successful Differentiated Instruction Practices in an Inclusive Classroom

General education teachers believe that certain supports enhance their implementation of DI practices in their classrooms. Harkins and Fletcher, 2015, in their study found that the teachers believed that “training on differentiation of instruction would help with the implementation process” (p.76). In a study of successful inclusive school sites, Maciver et al., (2018), believe that school organization commitment to inclusion enhances the success of inclusive practices at a secondary school level. According to Maciver et al., (2018), structures and routines regarding daily/weekly routines and lesson delivery, as well as seating routines for students with SD were consistent. In addition, whole school policies that made provisions for adjustments of curriculum materials for the diverse learner, the distribution of printed materials, and other accommodations for students were identified at school sites with successful inclusive practices (Maciver et al., 2018). Also, the development and successful implementation of inclusive practices is seen as the responsibility of the school leadership, as it is believed that adherence to policies and the principles of leadership should come from the top (Maciver et al., 2018). Furthermore, according to Maeng and Bell (2015) “In schools where the administration provides a high level of support for teachers by ensuring adequate planning time, fostering collegial relationships among teachers, and supporting on-going and focused professional development, teachers appear

to be successful in teaching differentiated science classes” (p. 2068). On the contrary, where the reverse is the case i.e., where teachers are not supported by administration or have access to ongoing professional development, the teachers do not appear to be successful (Maeng & Bell, 2015; Harkins & Fletcher, 2015).

Successful Professional Development Programs That Enhance Teachers’

Implementation of Differentiated Instruction Practices

It is evident that the effective implementation of DI practices significantly impacts student achievement (Dixon et al., 2014, Muthoni & Mbugua, 2014) and that the teacher is a major contributing factor to its effective implementation in the classroom (Suprayogi, Valcke & Godwin, 2017; Valiandes & Neophytou, 2018). Maciver et al. (2018) emphasize the need for support such as professional development training for general education teachers to enhance the skills needed to adapt the curriculum, instructional materials, and teaching methods when differentiating instruction to meet the learning needs of students with SD. Nevertheless, the “traditional top-down, one-shot, lecture-approach seminars are unable to convince their participants to embrace and sustain the proposed instructional changes” (Valiandes & Neophytou, 2018, p. 125). High-quality professional development programs should be evidenced by active learning, collective participation, a focus on content knowledge and instructional methods, closely related to the curriculum as well as the existing teaching realities (Valiandes & Neophytou, 2018). Teachers’ Professional Development for Differentiated Instruction (PDD) is considered an effective professional development program for helping teachers overcome the challenges they encounter when implementing DI strategies in the

classroom (Valiandes, 2015; Valiandes & Neophytou, 2018). PDD comprises workshops and training sessions spread over two semesters, including during the intervention phase. In addition to the seven three-hour days training and workshops, teachers had access to constant resources (such as on-site visits, online discussion forum, special website, and online resources, telephone and email communications), to support and facilitated communication and collaboration between the teachers and the researcher (Valiandes & Neophytou, 2018). Onsite support was also provided to the teachers by the researchers visiting the teacher to observe the lesson and provide the teacher with feedback in the form of discussions and meetings. In the evaluation of the PDD, the teachers reported that initial training sessions and the ongoing support gave them opportunities to gain new knowledge, and at the same time gave them opportunities to implement the new knowledge acquired in their classroom instruction. According to the teachers, the “training provided opportunities to develop the necessary skills for the design of differentiated lessons along with the abilities needed to collaborate with their colleagues in the development of differentiated lesson guides” (Valiandes & Neophytou, 2018, p. 133).

Implications

In the district under investigation, high school general education teachers had expressed their concerns about the challenges they face when differentiating instruction to meet the needs of students with SD in the general education classroom. The challenges faced by these general education teachers are corroborated by research (Gaitas & Alves Martins, 2017; Strogilos, 2018). Also, the 2017 and 2018 California Alternate

Assessment reports in English language and Mathematics for students with SD in Grades 3 through 8 and Grade 11, showed high percentages of students performing in the Limited Understanding category (California Department of Education, 2017).

The purpose of this project study is to investigate the general education teachers' perception of the challenges they face when DI to meet the learning needs of students with SD in an inclusive secondary general education classroom. The findings from this study may provide more insight into the secondary general education teachers' beliefs of their DI practice, challenges they face, and support needs relating to DI. Also, it is hoped that this project study will uncover best practices for implementing DI by content, process and product and other elements such as flexible group, tiered instruction (Kline, 2015), as well as making available resources for teacher participants to enhance their DI practices, thereby, improving the quality of education for students with SD.

This project study includes professional development training that consists of informational workshops that provides secondary general education teachers with an opportunity to acquire an in-depth understanding of the components of DI practices, as well as opportunities to collaborate with other teachers to develop model lessons that include the components of DI within their curriculum intending to support students with SD. In addition, tiered activities could be created to enable teachers to have opportunities for hands-on practice in providing effective instruction for the varied learning needs of all students in the classroom.

Summary

Secondary general education teachers often face many challenges when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. (Tobin & Tippett, 2014; van Geel et al., 2019). This is also true for high school teachers in the district under investigation. DI practices address the needs of diverse learners thereby enhances learning for all students including students with SD (Strogilos et al., 2017); and support the inclusion of students with SD in the general education classroom. As mandated by LRE, students with SD are to be afforded opportunities to access the grade-level curriculum in the general education classroom “to the maximum extent appropriate” (Code of Federal Regulations, 2006). The effective implementation of DI practices by general education teachers in an inclusive general education classroom provides students with SD access to the general education curriculum alongside peers without disabilities. Therefore, providing supports that may include professional development opportunities may be crucial to helping general education teachers to overcome perceived challenges to differentiating instruction to increase the achievement levels of students with SD.

In the next section, the methodology for this qualitative case study is through one-to-one interviews with study participants, classroom observations of DI lessons, and the review of artifacts (teacher documents and student products). The research design is also described, in addition to the justification for its implementation in this study. Finally, a detailed explanation of the findings of this study is presented.

In Section 3 and 4, I present the proposed project and a reflection of the study. In the presentation of the research project, I describe the project in detail, its relevance to the quality of education for students with SD at the school site and to the local school district. Section 4 concludes with a reflection of the study and the proposed project, including implications for future research from results obtained in the study.

Section 2: The Methodology

Introduction

In this project study, I examined high school general education teachers' perceptions of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. Through this project study inquiry, I attempted to gain a better understanding of the high school general education teachers' practice of DI and challenges faced when implementing DI practices in their classroom as well as the supports that they may need to overcome these challenges.

The following research questions guided this study:

1. What are the perceptions of teachers on adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcome/product in implementing differentiated instruction in their classrooms?
2. From the teachers' viewpoints, what challenges do they face when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcomes/products to meet the learning needs of students with SD in their inclusive general education classroom.
3. From the teachers' viewpoints, what support do they need to overcome the challenges encountered when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcomes/products in the implementation of differentiated instruction practices to meet the learning needs of students with SD in their inclusive general education classrooms.

Because I sought to understand the high school teachers' perception of the challenges they face when implementing DI practices within their environment (classroom), a qualitative research approach was used to study the research participants within their natural environment (see Holloway & Galvin, 2016).

Qualitative Research Design

A qualitative research methodology is considered a naturalistic approach to understanding a phenomenon. According to Levitt et al. (2018), "The term qualitative research is used to describe a set of approaches that analyze data in the form of natural language (i.e., words) and expressions of experiences (e.g., social interactions and artistic presentations)" (p. 27). A qualitative study approach focuses on interpreting, understanding, and explaining the phenomenon within the context of its natural setting or environment (Ravitch & Carl, 2016) and interpreting the phenomenon based on the meanings people draw from their experiences relating to the phenomenon (Alvesson & Sköldbberg, 2017). Furthermore, qualitative research holds a special significance in social sciences where researchers seek to address problems that investigate human perspectives and experiences (Trainor & Leko, 2014), especially in the field of special education where qualitative methods can be used to collect and analyze data to gain insight and describe and critique current practices or challenges to their practical implementation in the classroom (Thorius et al., 2014). There are several approaches to qualitative research, including narrative inquiry, phenomenology, ethnography, grounded theory, case study, and critical (Levitt et al., 2018).

For this study, a case study approach was implemented to understand the high school general education teachers' perceptions of the challenges they face when implementing DI practices in their inclusive general education classrooms. In a case study inquiry, the researcher gathers information about the phenomenon under investigation from a variety of sources, such as interviews, observations, artifacts, and documents to collect information about the phenomenon (Ravitch & Carl, 2016). According to Yin (2017), case studies can be used to address complex social phenomena. A case study is also often bounded by time and place (Creswell, 2013) and is used to study a specific person or groups of persons (Ravitch & Carl, 2016). In this case, the high school general education teachers at two of the district's high school sites who have had experience working with Grade 11 students with SD in their classrooms made up the bounded system that was studied.

Justification of the Choice of Research Design

I selected a qualitative case study design for this study because my purpose was to gain an in-depth understanding of the high school teachers' perceptions of the challenges they face when differentiating instruction to meet the learning needs of students with SD in their inclusive general education classroom. When determining the most appropriate research method to implement for this study, other research methods were considered. The grounded theory approach did not seem appropriate as I did not seek to create a new theory or nor was the ethnography design appropriate because I did not study a culture-sharing group (see Creswell, 2012). Also, a phenomenological approach was not deemed appropriate because the purpose of this study was not to capture the essence of the

teachers' living experiences (see Ravitch & Carl, 2016) or to describe the teachers' lived stories or experiences as in the case of narrative research (see Schwandt, 2015). The case study approach was the research method of choice because it allowed for an in-depth focus on a group while maintaining a holistic and real-life perspective (see Ye, 2017). A qualitative case study method is an appropriate approach when the purpose of the study is to investigate one specific situation (Creswell, 2012), such as the high school general education teachers' perceptions of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive general education classroom. As these teachers shared their beliefs about differentiated instruction practices and the challenges they faced, it provided an insight into the complexities involved in DI practices in the general education classroom, especially for students with SD.

Research Setting

The settings for this study were two suburban high schools in southern California, hereafter referred to as AB and CD high schools. According to the Data Reporting Office (Data Quest) of the California Department of Education, in the 2017/2018 school year, 1,868 students in Grades 9 to 12 were enrolled in AB high school; 24.8% of the students were in the Grade 11 and approximately 12% were classified as students with disabilities (students with SD included). In the same year, 1,941 were enrolled at CD high school, with 22.9% in Grade 11, and approximately 13% classified as students with disabilities (including students with SD). In the 2018/2019 school year, of the 1,796 students enrolled at AB high school, 24.4% of the student population was in Grade 11, of which

approximately 12% were categorized as students with disabilities (students with SD included). Similarly, in CD high school of the 1,898 students enrolled, 24.6% were in Grade 11, with approximately 13% categorized as students with disabilities (students with SD included). According to the district, Local Control Accountability Plan, the district's ethnicity breakdown is 91% Hispanic, 3% Asian, 1% Filipino, 1% African American, and 1% White. Students with SD in this school district's two high schools receive educational services in a variety of settings, including special day classes and inclusion in elective general education classrooms.

Criteria for Selecting Participants

Any general education teacher at the two high school sites who had provided education services to students with SD in their general education classroom was eligible for the study. More precisely, I met with each subject area department head and obtained a list of teachers who have taught –Grade 11 students with SD in their general education classroom at the two school sites in the past 3 years. Based on brief discussions with general and special education teachers at the two school sites, about 20 Grade 11 teachers who are still employed at the local school district have worked with general education teachers and have worked with SD in the past 5 years. For this project study, potential participants were identified based on the teachers having taught –Grade 11 students with SD in their general education classroom, irrespective of the content area or subject taught. Also, these general education teachers may have taught one or more students with SD for 1 school year or more. The potential participants were invited to participate in the study; hence, participants' selection was based on teachers' experience with working with

students with SD in a classroom setting. A total of eight general education teachers accepted to participate in the study.

Justification for the Number of Participants

Deciding on the number of participants is one of the key considerations in a qualitative study. Qualitative studies are often characterized by their small sample size because the researcher seeks to provide an in-depth understanding of the different perspectives of the phenomenon under investigation (Creswell, 2012). When the sample size is too large, it is difficult for the researcher to uncover the different perspectives of the situation; hence, 10 was a manageable number of participants. However, eight teachers accepted to participate in the study. I also planned to collect data from the participants through classroom observations, interviews, and artifacts of student work and teacher documents; this would have helped me gather more in-depth information about the issue under investigation (see Yin, 2017). However, due to the restrictions from the COVID 19 pandemic, data were collected only from one-to-one interviews with study participants. As a researcher, I gathered enough data on the topic until saturation was reached; this was when no other additional information added any new knowledge to the topic being examined (see Creswell, 2012).

Access to Participants

I followed the protocol for conducting a study at my local school district. The request forms were sent to the district office as well as the high school site where I am employed because I wanted to interview general education teachers at that school site. Although I am employed as a special education teacher at one of the high school sites for

this study, I do not hold any supervisory role. I also followed the Institutional Review Board (IRB) protocol at Walden to obtain the IRB approval to conduct the study. After the IRB and district approval to conduct the research, I worked with the principals and the department heads at the two school sites to obtain a list of potential teacher participants who have served students with SD in their general education classroom in the past 3 years. I sent out an electronic letter of invitation and consent form to participate in the study to the teachers eligible for the study, which contained a detailed description of the study, via the district email system to all the Grade 11 general education at the two school sites. The decision to seek Grade 11 teacher participants for this study was because only students in Grade 11 participate in the Smarter Balanced Summative Assessment and the California Alternate Assessment (see California Department of Education, 2017). Data obtained from this assessment in the past couple of years revealed that students with SD show limited understanding of the core content areas and indicated a significant difference in the achievement levels between students with SD and the general education students. It was hoped that this study would provide more insight into the challenges faced by Grade 11 general education teachers when differentiating instruction to enable Grade 11 students with SD to access core content in the general education classroom. In the email, I invited teachers to reply if they wanted to participate in the study, by replying "I consent." Upon receipt of replies consenting to participate in the study, I contacted interested participants individually to set up appointments for the one-to-one telephone interviews.

Establishing a Researcher-Participant Working Relationship

Because I have worked at one of the high school sites for the study for the past 5 years, I already had a professional working relationship with most of the teachers at the school site and with some teachers at the other school site. After the IRB and district approval, I talked about the study to the general education teachers during staff meetings and as we interacted daily. General education teachers who volunteered to be a part of the study could indicate by responding to the emailed invitation “I Consent” and were selected to be a part of the study until the maximum number of participants was reached. A total of eight teachers consented to participate in the study.

Methods for Ethical Protection of Participants

Ethical considerations are continuous throughout the process of a qualitative study (Reid et al., 2018). In a qualitative study, additional care must be taken to protect the privacy rights of study participants, respect their shared experiences, and minimize any harm, if any, that may occur as a result of their participation in the study. Participants were reassured of their right to withdraw from the study even after consent to participate had been given. In addition, to protect the privacy rights and confidentiality of the participants, no personal information or identity was revealed in the final study, and during the data collection process, participants were identified using alphanumeric system identification. For example, data from the telephone interview with Participant 1 was identified as an interview-- I1. The alphanumeric system was explained to the study participants, and this was to address possible concerns of breach of privacy rights (see Rea & Parker, 2012). Moreover, I had sole access to participants' information and data

collected during the data collection process, which I safeguarded in my laptop in password-protected files.

Data Collection

Data Collection Procedures

Upon the receipt of approval from the Walden University IRB, my local school district, and school site, invitations to participate in the study were sent out to potential participants at the two district's high schools via the district's email. Participants who consented to participate in the study were contacted to set up a convenient time for the one-to-one interviews. Before the actual commencement of the data collection process, participants were emailed the protocol for the interview and the research questions and were invited to contact me with any concerns they may have had. For this study, the telephone interviews were scheduled at the participants' convenience and comfort. In a qualitative study, the researcher is the primary instrument for data collection (Ravitch & Carl, 2016); hence, data collection and analysis were done in a systematic order. Data for this study were collected through one-to-one telephone interviews with study participants (which were also audio recorded with permission obtained).

Interviews

In a qualitative study, in-depth interviewing enables “researchers to explore in detail the experiences, motives, and opinions of others and learn to see the world from perspectives other than their own” (Rubin & Rubin, 2012, p. 3). Telephone interviews were scheduled at the participants' convenience. Before the interviews, participants were informed and permission was received to audio record the entire interview sessions. An

interview protocol (shown in Table 1) was used to maintain a structure for the interview process. The study participants were asked the interview questions (Appendix B, and each interview session lasted approximately 30 to 40 minutes, during which participants were asked open-ended questions, which were followed by probes and follow-up questions to get more depth and details on the teachers' perceptions of challenges they face when differentiating instruction to meet the learning needs of students with SD. The audio recording was then transcribed, and the transcripts analyzed. Table 1 shows the interview protocol.

Table 1

Interview Protocol

Steps	Procedures and protocol
1	Declaration of the intention to audio record the entire meeting, receipt of approval, and begin recording
2	Greetings and Introduction
3	Presentation of the purpose of the study
4	Review participants rights and confidentiality, address other concerns
5	Ask interview questions
6	Clarifications as needed, and show of gratitude
7	Partings

Member Checking

Member checking also known as participants validation (Ravitch & Carl, 2016), was used in this study to enhance the credibility of the data obtained during the interview sessions (Ravitch & Carl, 2016). According to Ravitch and Carl (2016), member checking allows the “researchers "check-in" with participants about different aspects of

the research to see how they think and feel about various aspects of the research process and the parts of the data set that pertain to them” (p. 199).

After the interviews with the teacher participants, the audio recordings for each of the sessions were transcribed and the transcripts were sent to the interviewees to review for accuracy. Member checking also allowed the participants to clarify or add to initial responses given during the one-to-one interview sessions. The teacher participants were also provided with a summary of the overall findings of the study upon request.

Procedures for Gaining Access to Participants

Because I am employed as a special education teacher at one of the high school sites and have access to the district email, I commenced with the necessary steps to identifying and selecting potential participants as soon as approval from IRB and the district is obtained. I do not have any supervisory role at this school site, neither do I lead any department and the school or district. My relationship with teacher participants is that of a colleague. To identify and select the study participants, first I worked with the principals and department heads at the two school sites to identify 20 11-grade general education teachers who have served students with SD in their general education classrooms in the past three years. Then, I sent out an electronic letter of invitation to potential participants. The Letter of Invitation and Consent Form contains details about the study as well as an invitation to teachers to reply to the email with “I consent” if interested in participating in the study, teachers were selected from the interested potential participants. Following responses from interested potential participants, I made personal contact to set up telephone interviews at participants’ convenience.

Role of the Researcher

While it is almost impossible to conduct a study void of any bias, it is essential to note that a carefully developed study can be free of biases (Malone et al., 2014). It is common for researchers to bring biases into the study unintentionally; hence, it is important to address biases in research openly (Althubaiti, 2016). Because of my position as a special education teacher at the school site, there was the possibility that I might have personal biases that may have an impact on the study. To avoid this, I applied a variety of strategies to avoid any potential biases. Though I do not hold any supervisory position at my school site, as a special education teacher of students with SD, I shared my job responsibilities with the study participants. I also followed the interview protocol as well as avoid interrupting or sharing my own opinions, beliefs, or preferences while the participants are responding to the questions asked. I assured the study participants of their rights to freely share their beliefs and opinions without any fear of being judged, as well as a promise that all responses will be kept confidential. In addition, participants' names and other personal information on artifacts obtained were redacted to enhance anonymity. I kept a journal during the interview sessions to jot down my reactions to participants' responses, as well as allow for participants' validation of the interview transcripts for accuracy. Also, I made efforts to transcribe the audio recording of the interview sessions were accurate as possible so that the transcripts generated are a true representation of participant responses.

Data Analysis

How and When Data Were Analyzed

Data analysis is described as assembling and reconstructing data into a meaningful form (Noble & Smith, 2014). In this study, data were collected during the interview sessions and were analyzed. Before I commence the data analysis process, I transcribed the audio recording of the interview sessions into transcripts, at the same time making sure that it is “accurate word-for-word written rendition of the questions and answers” (Rubin & Rubin, 2012, p. 212). Data analysis began with making preliminary jottings in my journal of words or phrases for codes, as I transcribe the recorded interviews.

According to Saldana (2016),

Start coding as you collect and format your data, not after all fieldwork has been completed. When you write up field notes, transcribe recorded interviews, or file documents you gathered from the site, jot down any preliminary words or phrases for codes on the notes, transcripts, or documents themselves, or as an analytic memo or entry in a research journal for future reference. (p. 21)

The data obtained from the one-to-one telephone interviews were reviewed again to establish codes, then similar codes were organized into themes and categories. Codes are words or short phrases that symbolize the meaning of a passage or visual data (Saldana, 2016). Thematic analysis was used to identify overarching or common themes relating to differentiated instruction, which was then developed and grouped to identify participants' key ideas that address the research questions.

Trustworthiness

Trustworthiness refers to the quality and rigor in a qualitative study (Korstjens & Moser, 2018). To ensure trustworthiness, the qualitative researcher should adhere to various standards such as credibility, dependability, transferability, and confirmability (Korstjens & Moser, 2018). Credibility refers to issues relating to internal validity that address the research design, data collection tools, and the quality of the data in the study (Ravitch & Carl, 2016). For this study, I implemented a case study design in which, I used data collection tools (interviews) to get an in-depth understanding of the issue under investigation. Dependability relates to having a reasonable argument for the choice of research design and its ability to answer the research questions in the study (Ravitch & Carl, 2016). Dependability was addressed in this study, by collecting data through one-to-one interviews with the study participants, that allowed participants to express their perceptions about the challenges they face when differentiating instruction to meet the needs of students with SD in their inclusive general education classroom. Transferability refers to the way the study can be transferable or applicable to a broader setting while maintaining its context-specific richness (Ravitch & Carl, 2016). It also refers to the thickness of the descriptions of the setting, participants, and data in the study. In this study, I provided a detailed description of the setting, participants, and findings for this study. Confirmability relates to the biases of the researcher on the conclusion and outcomes of the study (Korstjens & Moser, 2018). To minimize biases in this study, I declared my position as a special education teacher to the study participants and reassure

them of my commitment to listen and audio-record their responses to avoid any misrepresentations.

Also, member checks were used to check the accuracy of the transcripts generated from the interview sessions. The interviewees had opportunities to verify their responses for accurate representation. To further ensure the trustworthiness of this study, the initial plan was to implement triangulation by collecting data from multiple sources (such as interviews, classroom observations, and reviewing artifacts/students' work samples). However, this could not be implemented because of the impact of the COVID-19 pandemic on the operations of schools nationwide. Triangulation refers to the use of multiple data sources to examining an issue from more perspectives (Schwandt, 2015). In this study, I collected data from the teacher participants through interviews, to examine the high school general education teachers' practice of differentiated instruction strategies as highlighted by Tomlinson (2014), such as adapting the curriculum to enable students with SD access to the core content of the curriculum, modifying the instruction methods to meet the learning needs of the student (process), and their use of alternate assessment that allows students to present skills learned in a variety of mediums (student outcome/product). Also, the interview questions sought to solicit responses from the general education teachers about the challenges they encounter when implementing differentiated instruction practices in their classrooms, the data obtained may provide insight into the teachers' perception of the challenges they face when differentiating instruction to meet the learning needs of students with SD in their inclusive general education classroom.

Procedures for Dealing With Discrepant Cases

To avoid discrepancies in the data collection and analysis process, the following procedures were followed. First, permission letters to conduct the study were sent out to the district and the two high school sites to obtain formal approval to conduct the study. Next, upon receipt of the documentation stating approval, invitation letters were sent out via the district email to solicit volunteers for the study. Though the target number of participants for the study was 10, however, after multiple attempts to only eight participants gave their consent. Therefore, after eight participants gave consent to participate in the study, an interview protocol with the interview questions was emailed to the teachers. The interview protocol was carefully created to ensure that all the interview questions align with the conceptual framework, since the interview questions are in the form of open-ended dialogues, all participant responses that contradict the underlying themes were provided because contradicting information can add to the credibility of the study (Creswell, 2014). During the interview, the audio recordings of the interview sessions were transcribed the same day of the interview to enhance the accuracy of the information on the transcripts. Also, the transcripts were reviewed multiple times, and member checks were made. The data collected were organized according to the alphanumeric system; this enabled me to compare codes generated from each of the participants. The codes, categories, and themes generated were reviewed multiple times for accuracy. The information obtained from the open-ended interview questions may provide valuable insight into the perceptions of general education teachers on the

challenges they face when implementing differentiated instruction strategies to meet the learning needs of students with SD in a secondary general education classroom.

Data Analysis Results

The data collection process for this study was conducted during the period of the worldwide impact of the unprecedented COVID-19 Epidemic. Schools here in the United States, as well as most parts of the world, were closed to in-person instruction due to precautionary measures to spread the disease, consequently, educational learning and activities were conducted virtually through various platforms. In observance of Walden's COVID 19 health protocols and IRB approval, data collection for this study consisted of 30-40 minutes of one-to-one telephone interviews with volunteer teacher participants. The method applied in the interview process is described below as well as the analysis of the data to identify overarching themes.

Data Collection Process

After I obtained written approval from the district where the teacher volunteers will be recruited and IRB approval (#03-01-21-0669391) to conduct my project study on implementing differentiated instruction practices for students with significant disabilities in an inclusive secondary classroom, I proceeded to locate and contact potential participants using a purposeful sample study. First, I sent out an email to the Principals at the two high schools within the district in focus. Emails approving the study were received from the Principal of one of the high schools and the secretary (on behalf of the Principal) of the other high school was received within a week.

Secondly, since I am currently employed at one of the high school sites potential teachers will be recruited, I sent out an email to department chairs soliciting names of general education teachers that may have worked with students with SD in their classroom in the past 3 years. Two department chairs responded with a total of four names of teachers that fit the criteria for participating in the study. The Letter of Invitation and Consent Form was immediately sent out to the teachers. Also, based on prior knowledge, I emailed the Letters of Invitation and Consent to teachers I believe may have worked with general education teachers that may have worked with students with SD in their general education classroom.

Then, I sent a follow-up email to the secretary at the other high school site, requesting names of general education teachers that fit the criteria for participating in the study. She responded with a total of six names of teachers that meet the criteria, and the Letter of Invitation and Consent Form was sent out to the teachers identified. Upon the initial request to inviting teacher volunteers to participate in the study, only one teacher responded after a couple of days. Several follow-up emails were sent out to teacher participants at the two high schools. A total of eight teachers gave their consent to participate in the study by responding with "I consent" to the emails, five teachers from one high school and three teachers from the other high school. The teacher participant recruitment process lasted about four weeks.

After I received the emails stating "I consent" signifying their consent to participate in my project study, I contacted the teacher participants to set up dates and times for the one-to-one telephone interviews. During the 30-40 minutes telephone

interviews, I started by repeating the confidentiality reported as stated in the Letter of Invitation and Consent Form, then I followed the interview protocol highlighted in Table 1. At the end of the teacher interviews, participants were reminded that a copy of the transcripts will be emailed for them to check for the accuracy of their statements, and to respond to the email if they agreed with the transcript. In addition, a copy of the conclusions and themes identified from the transcripts were emailed to the teacher participants to them to state their agreement or disagreement. This procedure is known as member checking, which enhances the credibility of the data obtained in the one-to-one interviews. A \$10 electronic Thank you gift card was emailed to teacher participants in appreciation for their time for participating in the study.

Transcription Method

I used an audio recorder on my tablet device to record the teacher interviews, and then, I purchased 30-day subscription access to the Sonix (sonix.ai) transcription software. The audio recordings of the interviews were uploaded to the Sonix software and transcripts were generated within 48 hours of each completed telephone interview. All audio recordings and transcripts generated were saved under password-protected files.

Data Analysis

After I finished generating transcripts for each of the one-to-one telephone interview sessions with the teacher participants, I commenced with the preliminary reading of the transcripts. In the preliminary reading of the transcripts, I carefully read through the transcripts and made notes on the margins of important details, thoughts, and statements that are related to the research questions. I also identified themes that stood

out from the transcripts. Next, I proceeded to read the transcripts several times, and in this process, I made a list of themes and assigned each theme a different highlight color. Creswell (2014), notes that hand-coding data obtained from an interview would involve reading, making hand markings, and color-coding the data based on themes identified. Then, I read through each of the transcripts generated and highlighted matching themes found in each transcript. I also checked for similarities and differences in each of the transcripts. The themes identified from the review of each of the transcripts were as follows: experiences with DI; the meaning of DI; implementing DI; challenges to DI; support/resources; professional development needs for DI.

Findings

The findings for this study are obtained from the analysis of data obtained from the teacher interviews, and the themes identified. These findings are presented to address the three research questions of this project study. To further protect the identity of the teacher participants in this study, I have stripped all gender identification as well as using an alphanumeric system for identifying the teacher participants interviewed. The teachers interviewed had similar perceptions and experiences about their implementation of DI when meeting the learning needs of students with SD in their classroom. While they mostly had positive experiences adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcome/product when implementing DI, some of the teachers interviewed admitted feelings of nervousness, uncertainty about their knowledge of the learning needs of students with SD in their general education classrooms. Also, the teachers interviewed admitted that there were challenges to

effectively implementing DI in their different content areas and that addressing these challenges will enhance their implementation of DI to meet the learning needs of students with SD in their classroom.

I analyzed the research findings to answer the research questions which are as follows:

Research Question 1: What are the perceptions of teachers on adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcome/product in implementing differentiated instruction in their classrooms?

Research Question 2: From the teachers' viewpoints, what challenges do they face when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcomes/products to meet the learning needs of students with SD in their inclusive general education classroom.

Research Question 3: From the teachers' viewpoints, what support do they need to overcome the challenges encountered when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcomes/products in the implementation of DI practices to meet the learning needs of students with SD in their inclusive general education classrooms.

During the interview process, the teachers interviewed all agreed that adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcome/products was important for meeting the needs of students in their different content areas. A total of eight general education teachers from different content areas across two different high school sites were interviewed in this study. These content areas

comprise Chinese, Health, Physical Education, Anatomy/Biology, Video Production, Ceramics, ASB leaderships, and Choir.

Through my questioning, I was able to gather more in-depth information on the strategies used by the teachers to adapt the curriculum in their different content areas to meet the needs of students with SD, the challenges they face as well as the supports and professional development needs that they believe will enhance their implementation of DI in the classroom. Recurring themes were prevalent in the data obtained from the interviews these are as follows: experiences with DI; the meaning of DI; implementing DI; challenges to DI; support/professional development needs for DI.

Experiences With DI

When asked about their experiences with implementing DI to meet the learning needs of students with SD in their general education classroom, all the teachers said they had positive experiences adapting the content of their lessons and the instructional delivery method to allow the students with SD to gain access to the curriculum.

According to the teacher in I1, “I simplified the activities we were doing in class after I observed their ability level.” The teacher in I1 further explained feelings of uncertainty when the students first enrolled in the classroom, because the teacher knew very little about the students with SD areas of strengths. After observing the students’ performance, the teacher was able to implement teaching programs more appropriate for the students with SD skills levels. Several other teachers said that having instructional aides come into the classroom was a big help with providing one-to-one instruction for the student with SD, which enabled the teacher to continue with instruction for the rest of the class. The

teacher in I8 described the assistance of instructional aides in the classroom as “invaluable because they are more familiar with the students’ abilities and areas of strength.” The teacher in I8 expressed that students (with and without SD) assigned to similar projects were seated around large tables in the classroom. According to this teacher, “This created an atmosphere that encouraged students to interact and work with one another.”

Meaning of DI

When responding to the question of what DI meant to them, they all had similar responses. The teacher in I2 stated that DI meant “presenting the course material to students in a variety of ways.” The teacher in I2 elaborated by saying that “DI means constantly thinking of ways to either explain by modeling, demonstrating or by describing the concepts in more details than normal.” The teacher in I3 stated that DI meant “meeting the needs of the students, while some students need extra time completing assigned work, others may need learning materials printed out, as visual supports for students.” The teacher in I5 stated that “DI means to use different modalities to get the key ideas across to students.” According to the teacher in I1, “DI for all students means meeting a student where they are not and trying to help them to learn to progress on the standard, whatever you are trying to teach them, to the best of their ability.” The teacher in I6 stated that DI means “making modifications for students with SD to ensure that they are successful.” Responding to the question, the teacher in I8 stated that “DI to me is means adapting instruction to meet the individual needs of a given student or students.”

Implementing DI

All the teachers responded that they implemented a variety of strategies when implementing DI to meet the learning needs of students with SD in their general education classrooms. Several of the teachers responded that they used a lot of visual aides such as drawings, illustrations, and picture cues and icons when delivering instructions to students with SD. The teacher in I1 further stated that “strategies and tools used when DI “should be appropriate for their specific disability.” The teacher in I3 elaborated on the strategies implemented by responding that incorporating visuals in the form of slides of the content material and printing them out for students to use as guides enhances learning for students with SD. Other teachers responded that they gave users a more hands-on approach to learning for students with implementing DI. According to the teacher in I5,

In my class when students read a text or chapter, when asked to respond to a text, students are given opportunities to be creative, by that I mean students can respond to the prompt in a variety of ways, such as a demonstration, illustration, oral presentation, work on group projects, etc.

Another teacher responded that strategies implemented include modifying the student workout sessions and exercise routines depending on the severity of the students’ disabilities. The teacher in I8 elaborated on several other strategies such as making instructional blocks shorter to focus on the main idea of the concept to be learned, a lot of repetition to check for understanding, providing students more time to complete assigned tasks, adjusting the level of difficulty, re-teaching when necessary, and providing

frequent demonstrations and examples. In addition, a couple of the teachers mentioned they placed the students with SD in groups with other general education students in a peer-tutoring arrangement. The general education students provided support for the students with SD in completing assigned tasks and projects. According to the teachers in I1, I2, I4, and I8, the students with SD and the general education students were observed to develop a good working relationship. The teachers' responses suggest that they adapt the curricular, teaching methods, instructional materials, and provide students varied opportunities for student output/product when differentiating instruction by implementing a variety of strategies.

Challenges to DI

All the teachers interviewed admitted that implementing DI in their classroom was beneficial for students with SD, however, they agreed that faced certain challenges when implementing DI. A couple of the teachers reported that they had personal experiences with a person with disabilities in their families, however, they mentioned that because students with SD had a wide variety of strengths and weaknesses, they were challenged with what works best for each student with SD in their classroom. The teacher in I8 stated that it is challenging “when students come to the classroom with various levels of prior knowledge and preparing lessons to meet the individual needs of the students.” In a similar response, the teacher in I5 stated that “the biggest challenge is just a lack of familiarity with the disabilities and strategies to adapt the learning materials to meet their needs”. Also, the teacher in I2 stated that “sometimes I feel like I could adapt the lesson materials more if I understood a little bit deeper on a deeper level of the

cognitive as well as the physical limitations of students with SD.” To elaborate more, the teacher in I1 stated that “I struggle with how I can be more beneficial to them.” Several other teachers stated that time was a major challenge when implementing DI. According to the teacher in I4,

I think that the challenges are the extra time needed to adapt the curriculum. And it does involve creating additional material and making sure that we have access to the electronic programs. I remember that there was a problem because one of the programs that I wanted to do with the student was not available, I had to contact the staff to make sure we had access to it, and this took time. Also, just splitting the time with me is difficult, because I would have a lesson for the general class, and still make time to work with the smaller group of students with SD. The most difficult for me is time to teach different lessons and using different materials.

When responding to the challenges to implementing DI, the teacher in I3 stated that “finding time to it all and not feeling frazzled or trying to make sure that it is done discreetly enough so that the other kids don’t kind of look like why are they getting special treatment.” In a similar response, the teacher in I2 stated that “it is difficult to have materials or things ready in a quick way, it might take me a day or three days before I could get some materials that would be applicable.” Several of the teachers stated that one of the challenges they face was finding the right kind of support when needed. According to the teacher in I5,

Implementing DI is not something we get a ton of training on, so I feel that I have to do a lot of research on my own on what works for students in my classroom.

Finding the right people that can support you and guide you will be very helpful.

Responses from the teachers suggested that challenges such as lack of knowledge of students' ability levels and how to adapt materials to meet the needs of the different ability levels; time to adapt lesson plans, adapt learning materials, and as well as time management when providing instructions for the different ability groups in the classroom; and lack of resources and supports for teachers to effectively implement DI.

Supports/Professional Development

During the interview, all the teachers were asked about the support available at the school sites and the supports and professional development needs. Responding the teachers agreed that the special education teachers were a big support in providing information on the strengths and abilities of the students with SD in their classroom. Some of the teachers also commended the assistance of instructional aides sent to the classroom with students. However, most of the teachers interviewed agreed that there was little or no training or professional development on adapting the curriculum, lesson plans, teaching methods, instructional materials, or providing varied opportunities for student products/output. The teacher interviewed in I1 stated that "professional development on specific strategies that work for students with different conditions, what strategies are best suited for the different ranges or different cases? how do you know if what you're doing is working right or bringing the student joy?" Responding, the teacher in I5 stated that

More hands-on training will be helpful, like a role-playing situation where a group of five teachers works together to figure out how to how to best design lessons and instructional materials to meet the needs of students. I am better with that kind of activity than at reading emails and things like that. I feel that a situational kind of work with peers, administrators, and experts in the field will be more helpful for me.

The teacher in I7 agreed with the need for professional development and training, and stated that “I think I would need evidence-based training, not only on how to teach academics to them but also life skills to meet the challenges of students with SD in my classroom.” Also, the teacher in I4 stated that

I will need training, maybe behavioral training as it pertains to students with SD, and also how to specifically assess them. For now, I’m just kind of using my best judgment, because I have not had any training on how to assess their work in my classroom.

In addition, the teacher in I3 stated that “training on how to prepare alternative materials and learn how to use them will be helpful because help saves me time trying to figure it out myself.”

All the teachers in their responses agreed that though the special education teacher and instructional aids were a helpful resource at the school sites, however, they admitted that training and professional development on how to adapt the curriculum, instructional materials modifying teaching methods, as well as assessing students will help them

overcome some of the challenges they face when differentiating instruction for students with SD in their classrooms.

Conclusion

A case study design was to investigate the general education teachers' perception of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. Individual telephone interviews were conducted and the data on teachers' experiences and perceptions about implementing DI in their general education classrooms and the challenges they face. The one-to-one telephone interview sessions were audio-recorded and transcripts generated. The transcripts were member-checked for accuracy and then hand-coded to identify common themes and patterns. The responses from the study participants provided the researcher with a better understanding of the participant's experiences and perception about implementing DI, strategies used to implement DI, challenged faced in the implementation of DI and the supports/professional development needs to overcome the challenges they face. Overall, the study participants all agreed that implementing DI was beneficial for students with SD. However, they admitted that they faced several challenges when implementing DI, such as insufficient knowledge of the abilities of SD, different learning styles and the strategies that best meet their needs; lack of time to adapt lesson plans and instructional materials; lack of time management skills in the class to attend to the needs of students with SD as well as the general education students; insufficient training and professional development to help them better meet the needs of students with SD in their classrooms. I also found that though the teachers had

different terms in their definitions of DI, their responses indicate an understanding that DI adjusting and adapting instruction to meet the needs of students with SD.

In section 3, I discuss the project derived from studying the literature. Section 4 will include a reflection of the project. This will include the limitations of the project study, strengths, and potential impact for social change, as well as self–analyses, project implications, applications, and directions for future research.

Section 3: The Project

Introduction

The purpose of this qualitative case study was to investigate the general education teachers' perception of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. The interviews with the teacher participants provided an insight into the teachers' experiences when adapting the curricular, instructional materials, teaching methods, and varied opportunities for student outcome/products. The information obtained from the teacher participants also revealed the challenges the teachers faced in the implementation of DI. These challenges include implementing DI strategies and best practices that best address students' learning needs, time constraints to prepare lesson plans and instructional materials, and the need for professional development that enhances their abilities to effectively implement DI in their general education classrooms. I developed this project study to address the challenges identified by these secondary general teachers and ways that they can overcome these challenges.

I created a 3-day professional development workshop that is focused on enhancing the high school general education teachers' understanding of the core elements of DI and their ability to implement the DI model to improve the achievement levels of students with SD in their inclusive general education classroom. First, the high school general education teachers need a concise understanding of the elements of DI such as the content (what to teach), the process (how to teach), and the product (the evidence of instruction). Next, the teachers need knowledge of DI instructional strategies that are

aligned to the standards and applicable to the different content areas or subjects in a practical and timely manner. Finally, teachers need more opportunities for hands-on practice with implementing the different DI strategies as well as time to collaborate to brainstorm ideas to develop lessons plans and to create instructional materials that effectively incorporate the elements of DI. The goal of this professional development training is to enhance the secondary general education teachers' understanding and knowledge of the elements of DI, effective DI strategies for meeting the needs of students across the different content areas/subjects, and opportunities for collaboration and hands-on practice with developing and creating lessons plans and instructional materials that align with standards in the different content areas/subjects.

Rationale

The purpose of this study was to explore the secondary general education teachers' perceptions of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. Five major themes were identified in the data obtained from interviews with the teacher participants: experiences with DI, the meaning of DI, implementing DI, challenges to DI, support/resources, and professional development needs for DI. Findings from the study indicated that though some teachers interviewed provided varied descriptions of their perceptions of the meanings of DI, their responses centered around some elements of DI, such as being student-focused, adapting teaching and learning materials, and providing supports for students with SD. However, their responses did not indicate a comprehensive understanding of all the elements of DI. In addition, the

responses from the teacher participants revealed several challenges to effectively implementing DI, including lack of knowledge of students' abilities and strategies to address students' needs, inadequate knowledge of effective DI strategies, time constraints, and need for professional development training to enhance the ability to practice DI strategies to support learning for students with SD.

The secondary general education teachers could benefit from a 3-day professional development workshop. This professional development workshop is based on current literature and findings from the study. Effective professional development is characterized by active participation, knowledge of content, teaching methods and collective participation, and having sufficient time and continuity (Valiandes & Neophytou, 2018). This study is designed for adult learners; hence, I explored the components of adult learning, such as the need for learning, preparedness to learn, real-life experiences, controlling individualized learning, exposure to learning, and intrinsic motivation (see Jordan, 2016). The professional development workshop sessions can increase teacher knowledge of DI, model effective DI strategies, and enhance teachers' perceived ability to implement DI by providing hands-on opportunities for teachers to practice skills such as DI knowledge and skills acquired.

Review of the Literature

In the review of the literature, I conducted an extensive search and analysis of peer-reviewed journals and articles from Google Scholar and Walden University Library Databases, such as ERIC, ProQuest, EBSCO, Education Research Complete, and

Dissertations and Thesis. Search terms included *DI*, *professional development*, *professional learning communities*, and *adult learning*.

Professional Development

According to Williford et al. (2017), professional development is crucial for equipping teachers with the skills needed to advance student learning. Researchers have indicated that professional development programs that focus on both knowledge and practice are highly effective at supporting the teacher's ability to enhance students' learning outcomes (Benedict et al., 2016). In addition, Benedict et al. (2016) suggested that the acquisition of knowledge should cover knowledge of the students with diverse needs as learners, knowledge of the content standards, as well as knowledge of evidence-based practices and teaching strategies. In their reviews of research on professional development, Darling-Hammond et al. (2017) identified some characteristics of professional development, including teachers' active learning; sustained duration; allowing time for feedback and reflection; supporting collaboration; focusing on content; providing multiple opportunities for teachers to learn, practicing, implementing, and reflecting on the new strategies; effectively modeling curricular and instructional practice; and providing expert and coaching support. Professional development plays a critical role in improving the quality of instruction delivered as well as increases students' achievement levels (Smith & Robinson, 2020). Lauterbach et al. (2020) suggested that effective professional development programs allow teachers sufficient time to incorporate professional development content and classroom instructional practices. In other words, an effective professional development program to support

teachers in acquiring the necessary knowledge, skills, and confidence to implement DI strategies will include an understanding of the elements of DI, knowledge of DI strategies, sufficient time to practice new skills with other teachers in the same content area, and time to practice knowledge and skills in their general education classrooms. Although researchers have supported implementing professional development as an effective strategy for teachers to acquire the necessary skills to enhance student achievement (Benedict et al., 2016; Darling-Hammond et al., 2017; Lauterbach et al., 2020; Williford et al., 2017). Martin et al. (2019) argued that mandated professional development programs are the least effective and went on to say that professional development programs that consider the school context are the most successful. Martin et al. suggested that professional development programs should be organized in a way that they align with the goals, mission, and needs at the school site(s). Furthermore, Matherson and Windle (2017) added that 1-day professional development programs are the least effective because they do not allow the participant multiple opportunities for interaction and do not adjust to the needs of the teachers. According to Lunsford (2017), teachers benefit from the use of visual models of training, support, and opportunities to acquire new knowledge to enhance their teaching practices over some time. Researchers have indicated that professional development training has a positive impact on general education teachers' ability to work with students with SD such as autism spectrum disorders in the general education classroom. Findings from a study conducted by Johnson et al. (2021) indicated that general education teachers who received professional development training on evidence-based practices for working with students with autism

spectrum disorders showed a large positive effect on their ability to work with students in their inclusive general education classrooms. According to Johnson et al. findings from their study tentatively indicated the need and relevance of professional development training for general education teachers to increase their abilities for working with students with SD, as well as providing effective inclusive learning experiences for all students.

Teachers are adult learners (Blanton et al., 2020). Thus, professional development can be viewed from the lens of adult learning theories. According to Zepeda et al. (2014), as professional development matures, it is important to identify effective practices for working with adult learners. Zepede (2011) described professional development as a type of adult learning that provides support for student learning, teachers, and administrators. In their work on adult learning theory, Knowles et al. (2005) theorized that adults and adolescents have different learning styles. Moreover, Knowles (1973) reported that adults learners have nine major characteristics, which are as follows: They focus on issues that concern them, they take control of their learning, they expect performance improvement, they immediate utility, they test their learning as they go, they require a mutual and informal climate, they are respectful, they maximize available resources, and they require collaborative methods and rely on information that is appropriate and developmentally placed. According to Illeris (2004), “Adults best learn what they find subjectively meaningful, either because it is something they want to learn or because it is something they experience as important or necessary for them to learn” (p. 227).

For professional development programs to be successful, they should incorporate the principles and characteristics of adult learning. Zepede et al. (2014) highlighted,

“First, adult learning principles must provide the foundation for learning for sitting and aspiring leaders. Second, professional development needs to be more fully aligned to the needs of the participants who engage in professional learning” (p. 312).

Professional development programs that provide teachers opportunities to observe DI strategies modeled in the real-life classroom are reported to be effective for enhancing teachers’ ability to implement DI in their respective classrooms (Smith & Robinson, 2020). Brown and Militello (2016) posited that it is unrealistic to expect teachers to implement strategies that are presented to them in a monologue. In addition, Kappler-Hewitt and Weckstein (2012) reported that the district recorded great gains in the implementation of DI strategies as a result of incorporating modeling of DI strategies in the professional development program. Similarly, Slater (2017) asserted that if teachers are expected to implement DI strategies in their classrooms, it should be modeled during professional development training. According to Valiandes (2015), an effective professional development program should provide opportunities for the teacher to observe lessons, take notes, and reflect and discuss future outcomes.

Collaboration

Collaboration involves professional colleagues working together to achieve the desired result or to meet individual needs (Loucks-Horsley et al., 2010). Through collaboration with peers and experts, teachers can develop needed skills and a new understanding of classroom instructional practices (Anderson, 2002). Bancroft and Nyirenda (2020) suggested that collaboration requires constructive decision making, effective communication, and the ability to solve problems within the community of

practice. Collaboration allows teachers to learn from each other and work together to develop teaching practices and instructional materials that benefit students. In addition, collaboration among teachers can be used to evaluate students' work against content standards (Loucks-Horsley et al., 2010). Hubbard et al. (2020) stated, "Collaborative PD models for educators are generally widespread and essential for taking teachers out of isolation to learn with and from colleagues" (p. 3). Additionally, Richman et al. (2019) posited that teachers are enhanced when they can collaborate with other teachers to learn new strategies and create lesson plans. According to Loucks-Horsley et al. (2010), strategies for implementing collaboration include lesson studies, professional learning communities, and action research. Thus, collaboration is a highly effective form of organization because it synthesizes expertise from everyone in the group to create a new product or output.

Professional Learning Communities

A professional learning community (PLC) is a professional development strategy that allows teachers to collaborate in small groups or cohorts. According to Feldman and Schechter (2017), "A professional learning community is defined by the networks of learning processes among its community members, where teachers continuously deliberate with one another on how to solve problems that relate to teaching and learning" (p. 2). Moreover, according to Huijboom et al. (2020), Brown et al. (2018), and Thornton and Cherrington (2019), PLCs provide an environment for teachers to work and learn in collaboration with other teachers and colleagues. Tan and Caleon (2016) described PLCs as groups of teachers engaged in ongoing collaborative activities to

identify and work towards achieving common goals, share and exchange knowledge, and reflect on individual practices and methods. Huijboom et al. further stated that “by participating in PLCs teachers are actively engaged in their own professional learning and that of their colleagues, presumably resulting in the enhancement of their teaching practice, which ultimately may lead to improved students’ achievements” (p. 752). Similarly, Kuehl (2018) showed that preservice teachers reported improvement in their abilities to teach writing skills to students after participating in a PLC group. Teachers who participate in PLCs strive to reach common goals together and are jointly accountable for outcomes achieved (Svanbjornsdottir et al., 2016). According to Huijboom et al., “Developing a PLC and participating in a PLC may lead to improving teaching practice and students’ achievements” (p. 752).

Project Description

The purpose of this professional development project was to provide high school general education teachers with the supports needed to effectively implement DI strategies in their classrooms. This project can provide the help they need to enhance learning for students with SD in their inclusive classrooms (see Valiandes & Neophytou, 2018). Based on the findings in the data collected, the goal for the professional development project is to increase the secondary general education teachers’ knowledge of the elements of DI and to provide DI strategies that they can use to overcome the challenges they face when implementing DI in their inclusive general education classroom. The project consists of a 3-day professional development training session (Appendix A), with each session lasting approximately 8 hours.

The first day of the training session will include opportunities for the teachers to share some of their experiences and challenges implementing DI in their classrooms. Teachers will be presented with information on the different learning styles and best strategies to support the different learning styles. In addition, the teachers will focus on understanding the core elements of DI and best practices for implementing DI. Teachers will also be provided with video modeling the implementation of DI strategies and will be given opportunities to collaborate and discuss reflections on the video clip.

On the second day, the teachers will be presented with strategies for DI based on the core elements of DI. The teachers will have opportunities to learn and observe implementing DI across different settings. Teachers will also have opportunities to collaborate in their different subject areas to study DI strategies relating to their content areas or subjects.

On the third day, the teachers will have more hands-on opportunities to implement DI strategies in a variety of subject areas. The teachers will also collaborate and create lesson plans and instructional material ideas implementing DI as well as make presentations to the whole group.

These professional development training sessions will take place at the beginning of the school year. However, this is subject to approval from district administrators. This will provide teachers with the knowledge and skills needed to support students with SD in their classrooms.

Resources and Supports

The district under investigation is well equipped with the resources needed for

implementing the project. The schools in the district have a reliable internet connection, smartboards, laptops, and a well-equipped computer lab. All teachers were provided with new laptops as well as access to google and Microsoft accounts in the last school year. In addition, all writing materials such as pencils, index cards, workshop printouts, pens, sharpeners, post-it notes, folders with workshop handouts are readily accessible at the district and will be made available to the workshop participants.

Potential Barriers and Solutions

This project is designed for all high school general education teachers at the two high schools in the district under investigation. Since the professional development program is to be implemented in the days allocated for professional development at the beginning of the school year, funding for substitutes will not be needed. However, the teachers may prefer to use the time for other purposes such as getting their classrooms ready for the school year. A possible solution to this barrier is to notify the teachers in advance of the upcoming professional development workshop so that they can make accommodations to attend. Another potential barrier is that the teachers may lack the motivation to attend the workshop. A possible solution to this problem is to present the teachers with the benefits of attending the professional development as an educator, and the impact of DI on students' achievement levels. In addition, since this professional development training addresses the challenges expressed by some of the teachers when implementing DI to meet the needs of students with SD, the teachers can be informed that the professional development training will support the implementation of DI in their classrooms.

Proposal for Implementation and Project Timetable

It is essential to share the findings of this study with school administrators and community stakeholders. The proposed project is a three-day training session (Appendix A). Each day the sessions will take place from 8:00 am – 3:00 pm. The project will take place during the district professional development days at the beginning of the school year, which typically takes place in the second week of August. Based on the findings of the data obtained from the teachers, the goal of the workshop is to address the challenges the teachers face when implementing DI. On the first day, the teachers will have opportunities to talk about their experiences implementing DI. Also, the teachers will be presented with information on the different learning styles and best practices for meeting the different learning styles. The teachers will be presented with the definitions and the DI models as well as the elements of DI. In addition, the teachers will have opportunities to collaborate and discuss the DI models and components.

On the second day, the teachers will be presented with effective strategies for implementing the different components of DI. The teachers will be presented with strategies for implementing DI in different subjects and content areas. The teachers will also watch video clips of teachers implementing DI strategies and have opportunities to collaborate in their different content areas or subjects. On the third day, the teachers will more practice modeling DI strategies. Also, the teachers will work in collaborative groups for opportunities for hands-on practice implementing DI strategies and present to the whole group.

Roles and Responsibilities

For this project to be successful, it will involve roles and responsibilities. First, this project cannot be implemented without the approval of the Assistant Superintendent for Student Achievement and other district personnel. Upon approval, the office of the Assistant Superintendent for Student Achievement will send out emails notifying teachers of the approved dates and times for the project. Secondly, my role as the facilitator of the project will be to make the presentations, ensure that the teachers have all the writing materials and handouts needed for the workshop. Thirdly, the role of the high school general education teachers is to attend and participate in all the workshop sessions. Finally, the role of the school site administrators is to encourage the high school general education teachers at their school site to attend the workshops and exempt the teachers from school site activities during the days of the training sessions.

Project Evaluation

To evaluate the effectiveness of the professional development training, several assessment tools will be implemented. The assessment tools will be used to get feedback from the training participants, and to determine the strengths and weaknesses of the sessions. This will enable the researcher to make necessary adjustments for the next workshop sessions or future workshops. At the end of each session, different evaluations will be given to each teacher. First, at the end of the Day 1 training session, the researcher will the teachers will be given the Day 1 Formative Assessment Form, which will include items such as the video clips, workshop materials, collaborative activities, quality of the presentations, and the overall experience of the teacher. The items listed on the scale will

be based on a scale of 1 to 5, 1 = Disagree, 5 = Agree. At the end of the Day 2 session, the teachers will be given the Exit Slip to complete. The teachers will write on the Exit Slip, 3 things they learned, 2 things they found helpful, and 1 question they still have. At the end of the Day 3 training session, teachers will complete Day 3 Formative Assessment Form. A Summative Assessment Form will be given to the teachers 8 weeks after the workshop. The summative assessment will be open-ended, which will allow the teachers to provide feedback to the researcher on what DI strategies they have implemented, and any areas of need.

Information obtained from the assessment tools will allow the researcher to make necessary changes for future workshops. Also, it will be beneficial for administrators and other key stakeholders to attend the workshop sessions. This will equip administrators with knowledge about implementing DI, which they can use to provide additional support for teachers at the school sites.

Implications for Social Change

Local Community

The purpose of this professional development project is to provide the secondary general education teachers with the supports they need to overcome the challenges they face when implementing DI to meet the needs of students with SD in their inclusive general education classroom. Students with SD in the district under investigation stand to benefit the most from the effective implementation of DI strategies in the general education inclusive classrooms, as they will be receiving instructions that better meet their learning styles and needs, thereby increasing their achievement levels and

confidence in the classroom. Also, the interaction between students with SD and students without disabilities, will promote tolerance and development of socio-emotional skills for all students. In addition, issues addressed in this project will enhance the teachers' perceived self-efficacy to implement DI strategies (Valiandes & Neophytou, 2018), as well as increase their success in meeting the needs of students with SD.

The mission statement for the district under investigation is to ensure high achievement levels for all students. This project will provide the teachers with the supports they need to achieve the mission.

Far-Reaching Implications

The results of this study could have far-reaching possibilities beyond the Southern California school district under investigation. The purpose of this professional development plan is to provide secondary general education teachers with the support they need to overcome the challenges they face with implementing DI strategies in their inclusive classrooms. The professional development plan created in this study could be used as a prototype for other districts in the state of California, as well as in other districts in the nation as a catalyst for social change. A social change could occur if the strategies to support teachers' implementation of DI are used by other districts to increase achievement levels for students with SD.

Conclusion

The purpose of this qualitative case study was to explore the general education teachers' perception of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education

classroom. The findings of this study indicated that the teachers lacked sufficient knowledge about the strengths, abilities, and learning styles of students with SD and best strategies to meet their learning needs; lack of time to prepare lessons and instructional materials, as well as needed support with implementing DI strategies. This professional development plan was created to provide the teachers with the support needed to overcome the challenges they have expressed. The three-day professional development workshop will help the teachers acquire the necessary knowledge and skills needed to effectively implement DI strategies in their classrooms. In section 4, I provide detailed information about the project study, along with my reflections, conclusions, and recommendations.

Section 4: Reflections and Conclusions

In this qualitative case study, I examined the secondary general education teachers' perception of the challenges they face when differentiating instruction to meet the learning needs of students with SD in an inclusive secondary general education classroom. Students with SD benefit from the effective implementation of DI (Kingston et al., 2017); however, teachers need support to overcome the challenges they face when implementing DI in their classrooms (Gaitas & Alves Martins, 2017; Strogilos, 2018). In Section 4, I reflect on my role as a scholar-practitioner. I conclude this section with the study's implication for social change and possible future research.

Project Strengths

The strength of this project is the professional development training sessions developed to provide the support needed to help the high school general education teachers overcome the challenges they face when implementing DI in their classrooms. This project provides professional development training sessions to help them develop DI strategies to overcome the challenges they face. Slater (2017) posited that modeling DI strategies in professional development workshops helps teachers implement DI strategies in their classrooms.

In addition, the effective implementation of DI to support students with SD can lead to an increase in the performance levels as well as enhance their academic achievement levels (Wiliford, 2017). Subsequently, this may lead to better student performance in standardized tests. Also, the effective implementation of DI strategies by

the teacher can increase their self-efficacy and confidence to meet the needs of students with SD in their classroom (Valiandes & Neophytou, 2018).

Recommendations for Remediation of Limitations

There are several limitations to this study. First, teacher interest and administrative buy-in could hinder the success of the project. The district under an investigation like other districts nationwide is just gradually reopening schools after the COVID-19 pandemic. The teachers and school administrators may consider issues relating to the health and wellbeing of teachers, and students are more pressed at this time. This limitation can be remedied by encouraging the teachers and administrators to see the relevance of the professional development project, especially at this time when many students have fallen behind on their academic performance.

The second limitation to this study is the allocation of funds and resources. Though the professional development workshop is scheduled to take place during the days allotted to professional development at the beginning of the school year, the district may need to make provisions for the resources, such as writing materials, and workshop handouts. Also, the workshop may require the use of technological tools that may need to be ordered; this may put a financial burden on the district. To remedy this limitation, the district may arrange to look within the different departments to source resources and technological devices.

A third possible limitation for this study is that data were only collected from one-to-one telephone interviews with the teachers. Due to the restrictions of in-person instruction due to the COVID 19 pandemic, data for this study were only collected

through telephone interviews. Although the one-to-one telephone interviews were thorough and insightful, classroom observations and a review of student work samples could have added another layer of insight on the phenomenon examined. To remedy this limitation, future research could be conducted at a time when normalcy returns to the district.

Scholarship

The data collected in this study can provide major stakeholders with insight into the secondary general education teachers' implementation of DI as well as the challenges they face when implementing DI in their inclusive general education classrooms. Improving the secondary general education teachers' ability to effectively implement DI strategies and helping them overcome the challenges they face when implementing DI in their classrooms is important because teachers are the major contributing factor to the effectiveness of DI (Suprayogi et al., 2017). In addition, the self-efficacy and confidence of the secondary general education teachers to implement DI can increase.

Project Development and Evaluation

This research project was developed to provide secondary general education teachers in the district under investigation with the help they need to overcome the challenges they face when implementing DI to meet the learning needs of students with SD in their inclusive general education classrooms. Although some teachers in the interviews mentioned they implemented DI to some extent, they expressed they faced challenges with implementing DI strategies in their classroom. The 3-day professional development workshop was developed in response to the expressed needs of the general

education teachers in an attempt to provide the supports needed to effectively implement DI strategies in their classrooms.

The professional development plan project is based on research from peer-reviewed journals on effective professional development training. Valiandes and Neophytou (2018) believed that professional development programs that provide teachers with opportunities to model and practice DI strategies are the most effective. This project is a 3-day training session that will allow for multiple opportunities for hands-on practice implementing DI strategies presented as well as making provisions for teachers to evaluate their learning and feedback to the project facilitator.

Leadership and Change

The knowledge and skills I have gained in completing this project study have made me a better leader and an advocate for change. The professional development project developed in this study is in response to the challenges the secondary general education teachers face when implementing DI in their classrooms. Through a review and analysis of peer-reviewed journals on effective DI strategies, the teachers are presented with DI strategies and given opportunities for hands-on practice to enhance their ability to effectively implement these strategies in their classrooms. Change can be brought about by implementing professional development training that enhances the teachers' ability to implement DI strategies (Maciver et al., 2018) and improving learning for students with SD (Dixon et al., 2014).

Self-Analysis of Scholarship

My progress through this study helped me to develop in my professional and personal life. As an educator and practitioner, I have gained more knowledge about the principles of DI and the various DI strategies that can be implemented in the classroom to meet the needs of students with DI. Also, as a special education teacher, the findings from this study helped me to better understand the needs of the general education teachers when implementing DI, the need for collaboration between the general and special education teachers, as well as my role and responsibility as a support system in the collaboration. In my personal life, I have learned to be determined and to never give up on my desire to ensure that students with SD receive a high-quality education that addresses their learning needs.

This study also helped me to develop as a research practitioner. I learned about the different data collecting tools, data collection processes, and analyzing data to determine findings. I now have a stronger desire to share the knowledge and skills acquired from this study with colleagues within and outside my district.

Self-Analysis of Project Development

Developing this study has been a learning experience for me, starting with the collection of data from the teachers during the one-to-one interviews. As I listened to their responses, I could relate to some of the challenges I had at the beginning of my career as a special education teacher. The teachers expressed their challenges with not knowing the different learning styles and best strategies to meet the learning of students with SD. The teachers also expressed their challenges with supports for implementing DI

and time constraints. Although most general education programs provide general education teachers with a basic course on students with disabilities, they do not provide adequate information on effective strategies for meeting their learning needs or on DI strategies (Dack, 2019). As I developed the 3-day professional development workshop, I was mindful to address all the issues raised by the teachers and to provide multiple opportunities for hands-on practice to enhance their confidence in implementing the strategies presented. Also, as a reflective practitioner, I ensured that the teachers were given opportunities to provide feedback on the supports presented during the professional development workshop. The feedback provided can help me evaluate the effectiveness of the workshop for future presentations.

Self-Analysis Leadership and Change

I started this doctoral study with a desire to gain more knowledge about the field of special education and to make a positive impact in the lives of students with SD and my local community. However, as I progressed through the study, I developed perseverance and an increased commitment to helping other educators achieve success and a sense of satisfaction as they help all students increase their achievement levels. Researchers have shown that students with SD can acquire the skills needed to function in the general education classrooms when they are provided with quality education with the necessary supports (Kingston et al., 2017). Developing this professional development program can equip the teachers with the skills needed to enhance learning for all students, thus bringing about positive change in the academic performance of all students, including students with SD.

The Project's Potential Impact for Social Change

The field of education is dynamic and therefore constantly changing. As a result, educational policies and programs are constantly being modified to meet the needs of all learners, including students with SD. Because students with SD participate in standardized state assessments, as is the case with the district under investigation, students' test scores indicated that students are not meeting state standards. The professional development program developed in this study can help teachers to implement DI strategies to better meet the needs of students with SD, thereby bringing about social change in the local community.

Beyond the local community, the professional development plan can be implemented in other districts to provide supports for other secondary general education teachers, as researchers have shown that secondary general education teachers are often faced with more challenges when implementing DI due to its complexity and to sustain it over a long period (see Westwood, 2001). The effective implementation of DI has the potential to transform the education system across the United States.

Implications, Applications, and Directions for Future Research

Educators are familiar with the concept of DI and its benefit to all students, including students with SD. The purpose of this study was to explore the secondary general education teachers' experiences implementing DI and the challenges they face when implementing DI in their inclusive general education classrooms. The teachers interviewed expressed a need for professional development training to learn more about effective DI strategies and to acquire skills to implement DI strategies in their

classrooms. The professional development workshop developed in this study can present the teachers with DI strategies and give the teachers opportunities to practice the strategies present in collaboration with their colleagues. The professional development program is organized in such a way that allows teachers opportunities to practice the DI strategies and to receive feedback.

In this study, professional development training was organized for secondary general education teachers. However, this professional development workshop can be implemented with teachers in different school settings to help them improve their ability to implement DI to enhance the academic performance of their students. The effective implementation of DI strategies in the classroom has the potential to create a positive learning environment for both the teachers and students, leading to fewer behavior problems in the classroom.

In this study, data were obtained by one-to-one interviews with teachers. Future researchers may collect data using other data collection tools, such as classroom observations and review of students' classwork. This may provide more information on the teachers' experiences and the challenges they face. Future research may also focus on general education teachers in a specific content area, instead of targeting all high school general education teachers.

Conclusion

In this study, I examined the experiences of secondary general education teachers' implementation of DI and the challenges they face as they implement DI strategies to meet the learning needs of students with SD in their classrooms. A 3-day professional

development training was developed in response to the teachers' expressed need for training and support to overcome the challenges they mentioned. Teachers were presented with effective DI strategies and were provided opportunities to collaborate with colleagues to practice the strategies presented to create lesson plans and instructional materials and to receive feedback. The professional development workshop designed in this study may be effective in addressing professional development needs for teachers in different school settings and specific content areas. Social change can occur as teachers receive the knowledge and skills needed to support diverse learners in an inclusive classroom.

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Appendix A: The Project

This project is intended to be a hands-on approach to learn to implement DI strategies in a secondary general education classroom. This professional development training is based on findings of a study at two high schools in a district in Southern California. The results of the study indicate the need for professional development training where the high school teachers can see and learn how to implement DI strategies in their classrooms.

Target Audience

The target audience will be general education and special education teachers from all content areas at the high schools in the district.

Professional Development Seminar Schedule

This project will include three full-day sessions of professional development training, that will occur consecutively. The adult learning theory by Knowles will be used as a guide to certify the effectiveness of the training sessions.

Program Goals

1. Provide teachers with a better understanding of the components of DI
2. Educate the high school general education teachers on the DI strategies to support students with SD.
3. Provide the high school teachers with opportunities to collaborate with colleagues on how to implement DI.
4. Provide teachers with multiple opportunities to see DI strategies implement through video clips and observing colleagues.

Program Outcomes

- A. The high school general education teachers will understand the importance of DI, and display an understanding of what DI is and is not.
- B. Teachers will display an understanding of how to implement DI in their general education classrooms.
- C. The high school teachers will use time with colleagues to create lesson plans that incorporate DI.
- D. Teachers will observe the implementation of DI to an understanding of how to implement DI in their classrooms.

Program Objectives

- I. As a result of the presentation of DI, the high school general education teachers will be able to identify DI by content, process, and product. They will also be able to display an understanding of the different learning styles.
- II. As a result of observing the implementation of DI strategies, the high school teachers will create differentiated lessons plans and activities.
- III. Teachers will be able to collaborate with colleagues with the time provided.
- IV. As a result of observing the implementation of DI, and practicing the strategies modeled, the high school teachers will be more confident in implementing DI in their classrooms.

Day 1 Resources

1. Table supplies: Pens, markers, post-it notes, chart paper, teachers' laptops, workshop folder (with templates and other resources)
2. Projector
3. Notebook
4. Smartboard
5. Evaluation

Day 1: What is DI

Time	Activity
8:00 – 8:30 AM	<p>Teacher Arrival/Sign in</p> <p>Welcome/House Rules (Light continental breakfast served at the back of the meeting room for the participant). The teachers will be assigned to color-coded tables.</p> <p>Blue Table – Math Teachers</p> <p>Green Table – English Teachers</p> <p>Red Tables – Science Teachers</p> <p>Purple Table – Art (Visual and Performing) Teachers</p> <p>Orange Table – Special Education and Physical Education Teachers</p> <p>Start Slide Show</p>
8:30 – 8:45 AM	<p>Ice Breaker: Mostly likely to ...</p> <p>This activity will enable to teachers introduce themselves, their subject area, and tell the group what they are most likely to do.</p>

8:45 – 9:00 AM	The Teachers will be asked to volunteer to discuss their experiences implementing DI in their classrooms. After the discussions, volunteers from each group will share some of the experiences discussed in their group with the whole group.
9:00 – 9:15 AM	<p>Definition of DI Activity. In this activity, the teachers will be given about one minute to write on the chart papers placed on the wall (colored coded to match the colors of the tables/groups).</p> <p>At the end of the activity, the facilitator will go over the definitions written on the chart papers with the group.</p>
9:15 – 10:15 AM	<p>Presentation of DI definitions. The presenter will present a detailed definition of DI and the components of DI.</p> <p>Video 1</p> <p>Teachers discuss the observation of Video 1 in their groups.</p>
10:15 – 10:30 AM	Snack/Restroom Break
10:30 – 11:30 AM	Slide Show. The facilitator will present the slide show. The slide show will start with the Learning Styles Activity/Quiz; Learning styles PowerPoint
11:30 – 12:30 PM	Slide show. The facilitator will continue with the slide show on DI connecting the different learning styles and DI.

12:30 – 1:30 PM	Lunch Break (on your own).
1:30 – 2:30 PM	Slide Show. The facilitator will continue with the presentation on implementing DI by Content, Process, and Product.
2:30 – 2:45 PM	The facilitator will summarize and plan for the next day's presentation. The teachers will be asked to take the information presented and asked to prepare a lesson plan using the template provided to show Tiered Instruction
2:45 – 3:00 PM	Complete Day 1 survey and dismissal.

Differentiated Instruction

A 3-Day Training Workshop

By: Dr. O. Malomo
Msc., EdD

Ice Breaker - I am most likely to...



2

Slide 1: The facilitator will welcome teachers to the professional development program.

Explain that the training is to help understand the components of DI, and to present them with DI strategies to support students with SD in their classrooms.

Slide 2: The facilitator will introduce the ice breaker activity. Teachers will share within their groups, what they are most likely to do. The facilitator will walk around the tables to share and interact with the teachers.

Let's hear from you

Tell us about your experiences implementing DI in your classrooms.



3

DI Professional Development Workshop

- **Day 1: What is DI? How is it implemented in the classroom?**
- **Day 2: Strategies for Implementing DI**
- **Day 3: Hands-on practice implementing DI strategies and group presentations.**

4

Slide 3: The facilitator will ask teachers to share their experiences implementing DI with their groups and volunteers from the group will be asked to share with the whole group.

Slide 4 -5: The facilitator will discuss with the teachers the schedule and objectives of the three days of training sessions.

Learner's Objective

Teachers will...

- **Recognize and identify the basic principles of differentiating content, process and product to meet the needs of all learners.**
- **Identify the different learning styles and strategies to address learning styles**
- **Be able to incorporate one or more strategies to meet the needs of students with SD in the classroom.**

5

Day 1

Understanding DI

6

Slide 6: Introducing Day 1 training session

What is DI?



What does it mean to you?

7

Definitions of DI

- **Differentiated instruction as an instructional design where the educator uses assessment data as a guide for modifying the content, learning process, or the learning environment, and based on students learning readiness, interest, and learning profile (Tomlinson, 2014)**
- **According to Gaines and Alves Martins (2017) “Differentiated instruction has been defined as an instructional approach characterized as a student-centered teaching strategy that allows for the accommodation of a wide range of students with different learning and scaffolding needs” (Gaines & Alves 2017, p.544).**

8

Slide 7: The facilitator will ask teachers to write on the colored chart paper (color-coded) what differentiation means to them in short phrases. The colored chart papers will be collected and the group will discuss the definitions written down by the teachers.

Slide 8: The facilitator will read items on the slide and discuss them in detail with teachers.

What does DI look in the classroom

DI in the classroom

[Video 1](#)

9

What does DI look in your classroom

Are we really doing this sometimes?



10

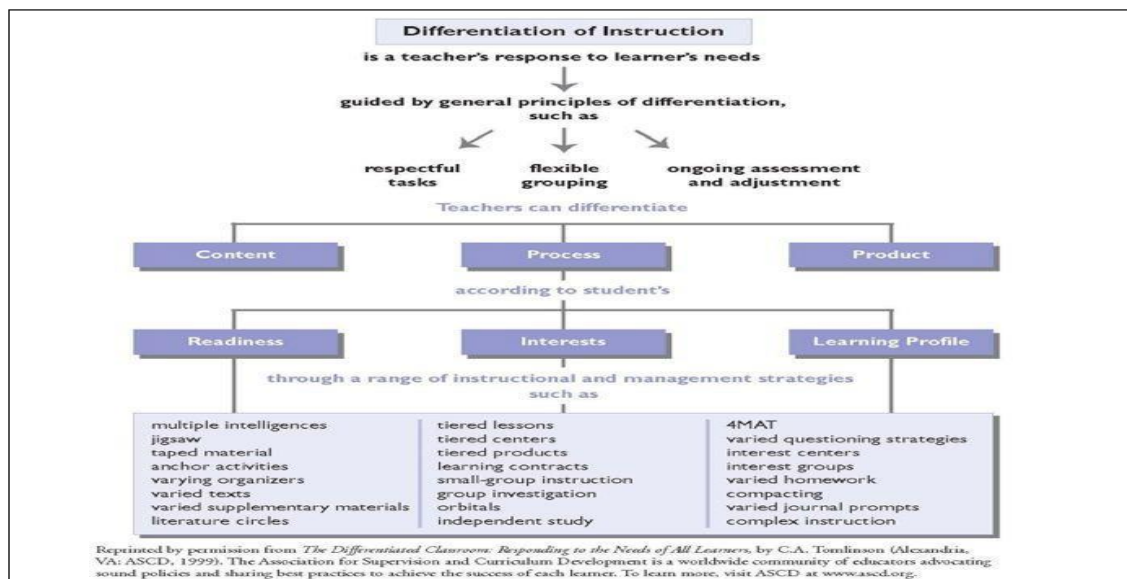
Slide 9: The facilitator and teachers will watch Video 1 and share observations.

Slide 10: The facilitator and teachers will discuss the picture and why one size does not fit all students.

Components of DI

- **Content:** The “What” of Instruction - This refers to the knowledge students are supposed to acquire, skills to be mastered and what is to be taught. It also refers to what the educators adjust or adapts based on how students learn and understand (Simpson & Bogan, 2015)
- **Process:** The “How” of Instruction- This refers to the teaching and learning activities that enable students understand the knowledge to be mastered based on students’ learning styles (Kline, 2015).
- **Product:** The “Evidence” of Instruction: The Evidence” of Instruction- This refers to allowing students to demonstrate skills learned and mastered in a variety of ways, such as hands-on demonstration, drawings, creating a PowerPoint, presentations and typed documents.

11



12

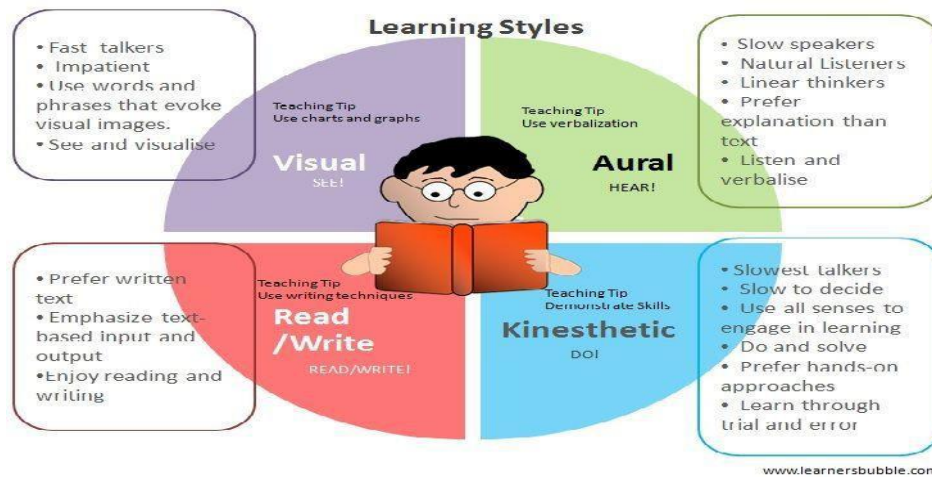
Slides 11 & 12: The facilitator will discuss in detail the components of DI welcoming input by teachers. Teachers share understanding and ask questions about the slides.

Break Time!



13

Getting to Know Your Students- Learning Styles



14

Slide 13: Teachers will take a 15-minute break.

Slide 14: The facilitator and teachers will discuss the characteristics of the 4 Learning styles shown on the slide.

Learning Style Activity



[The Learning Style Quiz](#)

15

Strategies to Use for Visual Learners

- Using visuals to teach lessons, including pictures, graphics, images, charts, outlines, story maps, and diagrams
- When giving verbal directions, write down key words or phrases and use visuals
- Demonstrate what you want your child to do.
- Use dry erase boards with colored markers.
- Use color cues, framing and symbols to highlight key information.
- Encourage your child to write down and highlight key information.
- Encourage the use of flashcards when memorizing (i.e., math facts).
- Provide visual activities, including maps, videos, models, puzzles, matching activities, computers, and word searches




Slide 16

Slide 15: Teachers will take [The Learning Style Quiz](#), for more hands-on experience with determining learning styles.

Slide 16: The facilitator and teachers will discuss the strategies to best meet the needs of the visual learner. Teachers are invited to comment and ask questions.

Strategies/Materials for Auditory Learners

- Answer questions orally.
- Give oral reports.
- Repeat facts aloud with their eyes closed.
- Use repetition to memorize.
- Recite information aloud when they're studying (i.e., facts, spelling words).
- Use tape recorders to record and play back lessons.
- Participate in small and large group discussions before working independently.
- Study in groups.
- Video tapes
- Audio tapes
- Books on tape
- Melodies, rhythms and beats to reinforce information



"For those of us who aren't visual learners...
AAAUUUGGGGGHHHHHH!!!!!"

17

Teaching Strategies for Kinesthetic Learners

- First: give them the instructions and then the material so they can do it.
- Second: let the students do everything with their hands and they will remember it.
- Third: let them use handout and color material.

18

Slides 17 & 18: The facilitator and teachers will discuss effective strategies for meeting the needs of the auditory and kinesthetic learners. Teachers are encouraged to share their experiences using any of these strategies, make comments and ask questions.

Strategies for Read/Write Learners

- Use a combination of handouts, textbooks, technology, and lecture notes
- Encourage them to make lists
- Show them how to convert visual materials into words and statements

19

Why the Need to Differentiate?

What is DIFFERENTIATED INSTRUCTION?

Differentiation means tailoring instruction to meet individual needs.

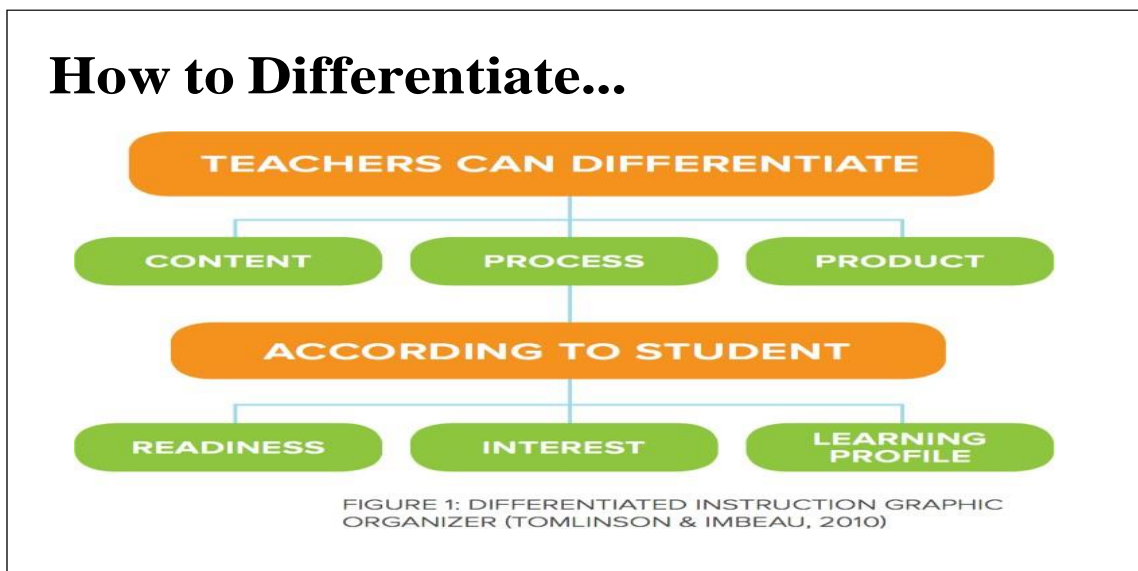
Differentiated instruction aims to:

- improve learning outcomes
- inspire a love of learning
- increase self-awareness
- increase engagement
- help students learn more efficiently and with deeper understanding

20

Slides 19: The facilitator will go over the best strategies for meeting the needs of the read/write learners.

Slides 20 & 21: The facilitator and teachers will discuss the slides and make the connection to the different learning styles.



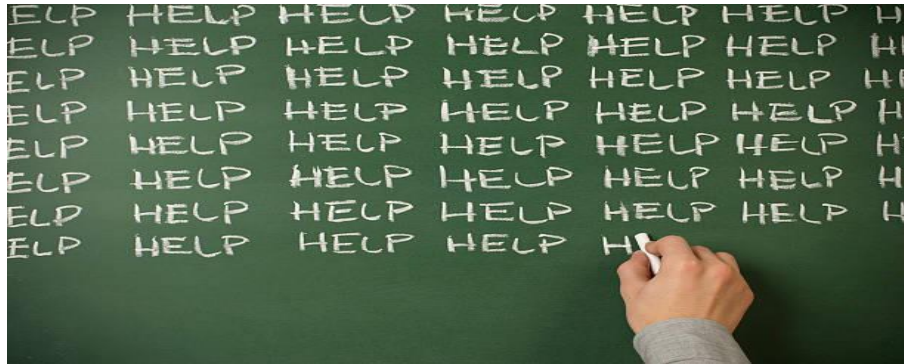
21



22

Slide 22: The facilitator and teachers will take a one-hour lunch break.

How am I supposed to Implement DI?



23

Differentiate Content

- **Varied Text and reading materials (e.g picture books, audio books, graphic organizers etc.)**
- **Peer/Adult Mentors (eg. reading buddies, teacher-student conferences etc.)**
- **Assistive devices and use of technology devices to support learning**
- **Interest Centers**
- **Choral Reading**
- **Reading Resources (e.g reading text at varying levels/complexity)**
- **Highlighted Vocabulary (eg. word wall)**

24

Slide 23 – 26: Facilitators and teachers will discuss how to differentiate by content, process, and product in detail.

Differentiate Product

- Giving students different options to express knowledge and skills acquired(eg. hands-on demonstrations, skits, presentations, drawings, speech etc.).
- Using rubrics that match and extend students' varied skills (eg. tic tac toe).
- Providing tiered product choices for the different skill levels.
- Allowing students to work alone or in groups.
- Allowing students to be creative in presenting knowledge and skills acquired.

25

Differentiate Process

Differentiating Process

Readiness Level	Interests	Learning Profile
Provide reading materials on different levels to provide access to content	Allow students to use learning materials they enjoy (computer, books, drawing materials, videos)	Students can work with a peer or a group of peers to learn the content/problem-based learning/project based learning
Enlarge text/read information aloud to students who cannot read	Group students based on similar interests for a topic of study to learn together	Provide visual material (graphic organizers, pictures, print, videos)
Use scaffolding to provide access to general education content (tap into what the students already know and help them "build bridges" to new content)	Set up learning centers based on student interests	Provide auditory material (talking, singing, rhyming, music)
Use a variety of resource materials at different cognitive levels (books, music, magazines, videos, websites, audio tapes)	If a student does better attending to instruction while fidgeting with an object or hold a special item, allow it	Provide opportunities for active engagement/hands-on learning experiences/allow movement/role play/literature circles
Eliminate or explain abstract material as necessary		

26

In Summary...

In a differentiated classroom...

- **Student assignments are based on skills level and interest, and are tailored to meet the their learning needs.**
- **Lessons are differentiated based by content, process and product.**
- **Is flexible and adapted to meet the needs of all students.**

27

Take Survey



28

Slide 27: The facilitator will summarize the key ideas for the day's training session.

Slide 28: The facilitator will pass out the formative assessment (survey) for teachers to complete and return before they leave for the day.

Day 2 Resources

1. Table supplies: Pens, markers, post-it notes, chart paper, teachers' laptops, workshop folder (with templates and other resources)
2. Projector
3. Notebook
4. Smartboard
5. Evaluation

Day 2: Strategies for implementing DI to support the needs of students all students in the classroom, including students with SD.

Time	Activity
8:00 – 8:30 AM	<p>Teacher Arrival/Sign in</p> <p>Welcome/Light continental breakfast served at the back of the meeting room for the participant). The teachers will be assigned to color-coded tables.</p> <p>Blue Table – Math Teachers</p> <p>Green Table – English Teachers</p> <p>Red Tables – Science Teachers</p> <p>Purple Table – Art (Visual and Performing) Teachers</p> <p>Orange Table – Special Education and Physical Education Teachers</p>

	Start Slide Show.
8:30 – 8:45 AM	Ice Breaker: Never Have I Ever... This activity will enable to teachers interact with one another and get them ready for the day's session.
8:45 – 9:00 AM	The facilitator will discuss Day 2 learning objectives. The different types of DI strategies that can be implemented in the classroom to meet the needs of all students including students with SD.
9: 00 – 10:15 AM	Strategies for Implementing DI. Tiered Instruction Strategy Video 2 – Tiered Instruction Teachers will share their observations of Video 2 Teachers discuss observations of Video 2
10:15 – 10: 30 AM	Snack/Restroom Break
10:30 – 11:00 AM	Teachers will work in their groups to collaborate and create a tiered instruction lesson plan on the given content standard with the lesson plan template provided. A volunteer from each group will share their ideas with the group
11:00 – 11:45 AM	Continue Slide Show. Flexible Grouping Strategy. Video 3 – Flexible Grouping Strategy Teachers will share their observations of video 3.

11:45 – 12:15 PM	Teachers will work in groups to discuss and share strategies for small group instructions. Volunteers from each group will share their ideas with the groups
12:30 – 1:30 PM	Lunch Break (on your own).
1:30 – 2:30 PM	Continue Slide Show. Peer- Assisted Learning Strategy Video 3. Peer-Assisted Learning The teacher will share their observations of video 3
2:30 – 2:45 PM	The facilitator will summarize and plan for the next day's presentation. Teachers will be asked to share comments or questions on the three strategies presented.
2:45 – 3:00 PM	Complete Day 2 Exit Slip and dismissal.

Day 2

Strategies for Implementing DI to meet the needs of all students including students with SD

1

Learner's Objective

Teachers will...

- **Learn different DI strategies for meeting the needs of all students including students with SD.**
- **Hands-on practice implementing the strategies presented.**

2

Slides 1 & 2: The facilitator will welcome teachers and introduce the learning objectives for Day 2

Ice Breaker - Never Have I ever...



3

DI Strategies - Tiered Instruction/Lesson

Tiered Instruction Strategy can be implemented to bridge the gap between students with varied skills levels in the classroom.

4

Slide 3: The facilitator will introduce the Ice Breaker Activity. The teachers will complete the sentence “Never Have I Ever... and share it in their groups. The facilitator will walk around the groups sharing with the teachers.

Slides 4 - 13: The facilitator will discuss implementing Tiered Instruction/Lessons to meet the needs of students in the general education classrooms. Teachers will make contributions and be encouraged to ask questions.

What is Tiered Instruction/Lesson?

Definition: “Tiered lesson is a differentiation strategy that addresses a particular standard, key concept, and generalization, but allows several pathways for students to arrive at an understanding of these components based on their interests, readiness, or learning profiles” (Piers & Adams, 2006, p. 19).

5

WHAT CAN BE TIERED?



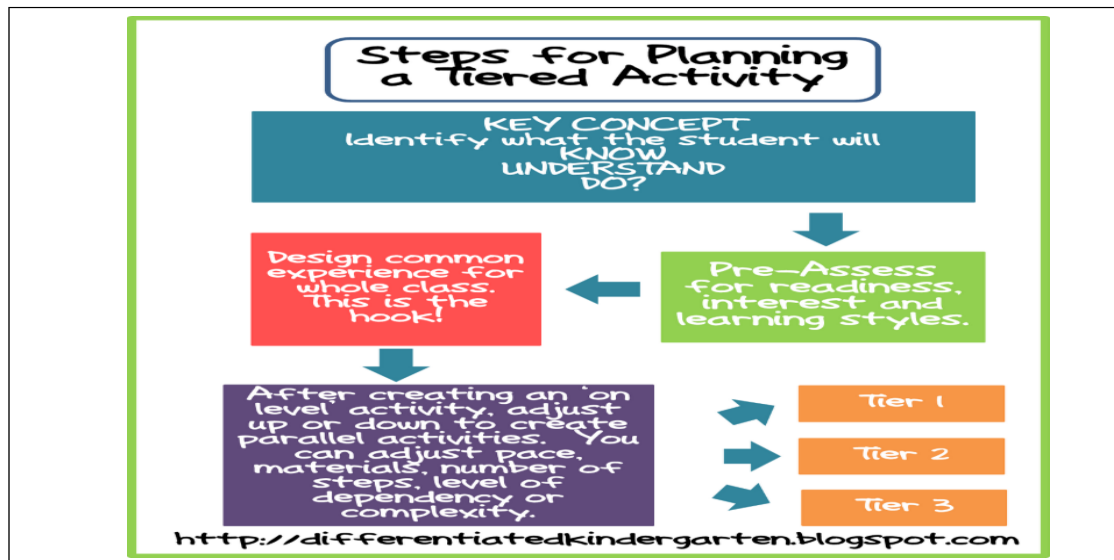
- ASSIGNMENTS
- ACTIVITIES
- CENTERS & STATIONS
- LEARNING CONTRACTS
- ASSESSMENTS
- MATERIALS
- EXPERIMENTS
- WRITING PROMPTS
- HOMEWORK

6

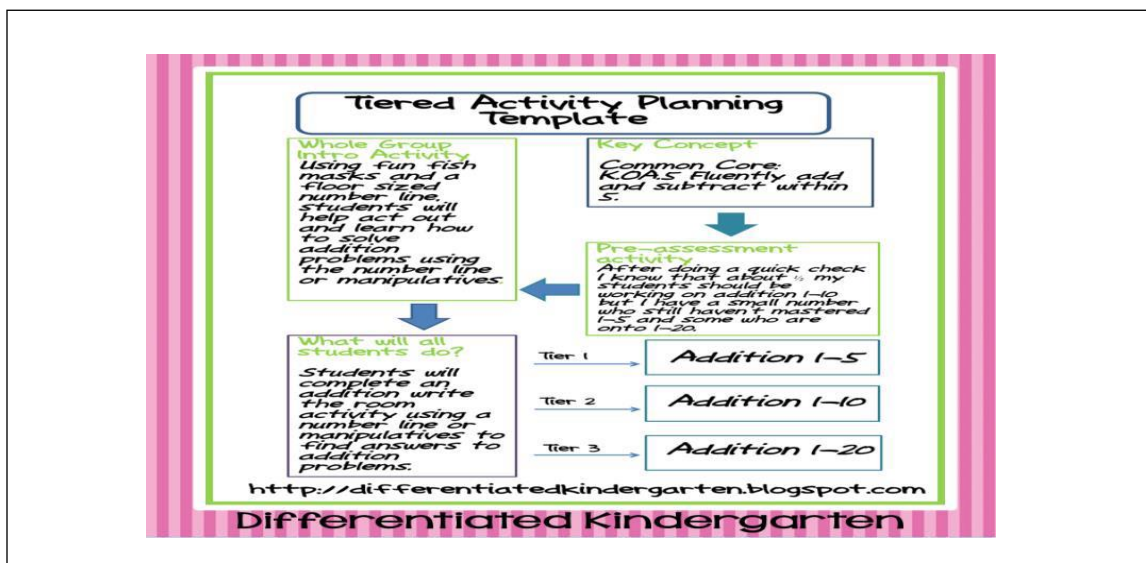
Tiered Content, Process and Product

According to Tomlinson (2001), three elements of the lesson can be tiered; Content, Process and Product. The content can be tiered in terms of the levels of difficulty/complexity of the task, the process in terms of the levels of independence and pace of learning, and the product in terms of the task structure, leap in learning, foundation of information, abstractness, and number of facets.

7

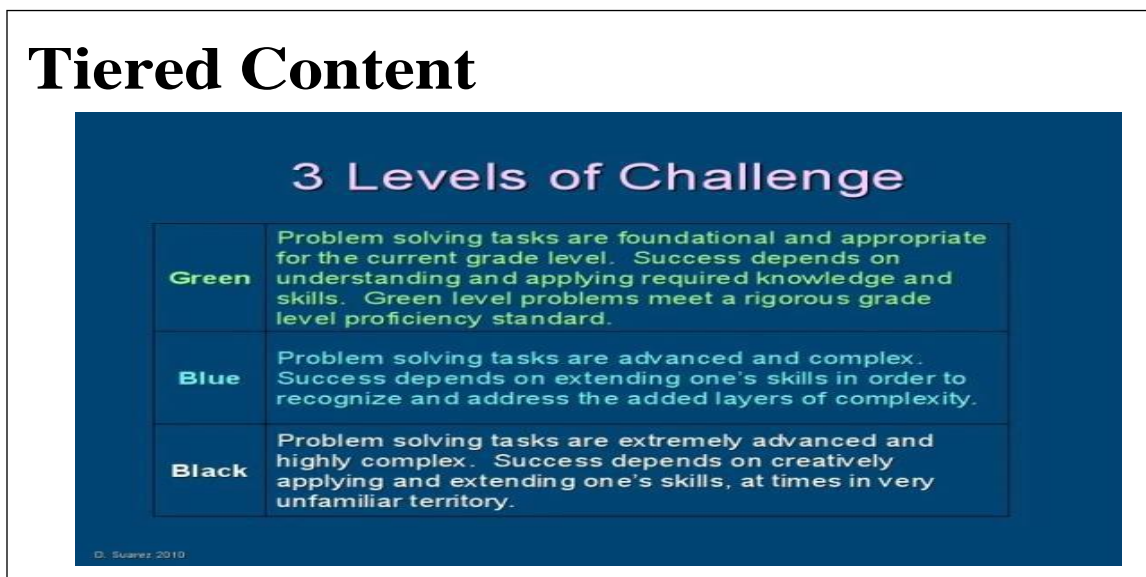


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9

Tiered Content



10

Tiered Process

Lesson Plan

- **Background:** This is one piece in a unit on environments and will introduce the concept of reactions to environmental change. Each story focuses on a particular environment or series of environments. For each tier, the students will read the assigned book—or listen if the story is taped (for struggling readers who comprehend at a level higher than they can read).
- **Tier I:** Students read *Bringing the Rain to Kapiti Plain* (Aardema 1981).
- **Tier II:** Students read *The Desert Is Theirs* (Baylor 1975).
- **Tier III:** Students read *The Story of Jumping Mouse* (Steptoe 1972).
- **Whole-Group Process:** Students will choose three characters in the story and describe in writing or pictures how the change(s) in the environment(s) affected each character with respect to their basic needs. The teacher will then initiate a discussion using shared inquiry. Students sit in a circle so that they can make eye contact with each other and the teacher. The teacher has prepared a seating chart for the circle so that she can keep track of student responses and interactions.
- **Whole-Group Long-Term Product:** Students design and paint a mural depicting the various environments they studied.
- **Assessment:** The teacher notes the students' responses during sharing and checks their writings/drawings for accuracy.
Before beginning the lesson, students should have studied basic vocabulary and worked through an introductory chapter from a textbook on the basic needs of living things.

48

11

Tiered Product

Tiered Activities / Assignments: A Framework for Design

When designing a tiered activity / assignment use these ideas as a guide:

Tiers	Questioning Cues	Possible Products
Tier 1 Activities / Assignments	Describe, name, define, label, select, identify, write, describe, memorize, recite, list, draw, match, illustrate, explain, compare, paraphrase, defend, predict, restate, summarize	Dictionary, skit, diagram, collage, television show, newspaper, speech, graph, story, radio program, outline
Tier 2 Activities / Assignments	Classify, collect, produce, solve, model, apply, examine, survey, distinguish between, categorize, select, interpret, infer, separate, investigate	Survey, questionnaire, report, model, an idea broken into parts, mobile, painting, puzzle, diagram, map, illustration, forecast, project, sculpture, solution
Tier 3 Activities / Assignments	Invent, judge, evaluate, give opinion, hypothesize, imagine, prioritize, critique, what if, recommend, plan, weigh, assess, compose, develop, role-play, create, summarize	Set of rules, an alternate course of action, invention, detailed report, poem, experiment, cartoon, game, trial, self-evaluation, debate or group discussion, a hypothesis formulated and tested

12

When Tiering:



Adjust---

- Level of Complexity
- Amount of Structure
- Materials
- Time/Pace
- Number of Steps
- Form of Expression
- Level of Dependence

13

Tiered Instruction in the Classroom

Video 2 - Tiered Instruction

14

Slide 14: Teachers will watch [Video 2](#) showing modeling of Tiered instruction in the classroom. Teachers will write down observations in their observation log and share them with colleagues.

Break Time!



15

Let's Practice

Design a Tiered Lesson Plan: 4th Grade

Standard: #3 The Physical Environment

Key Concept: Waves, wind, water, and ice shapes and re-shape the earth's land surfaces by eroding rock and soil in some areas depositing them in other areas

- Tier 1: Yellow Level
- Tier 2: Green Level
- Tier 3: Blue Level

16

Slide 15: The facilitator and teachers will take a 15-minute break.

Slides 16 & 17: Teachers will work in groups to prepare a lesson plan to show differentiate instruction using the Tiered Instruction strategy. They will use any of the two prompts provided (Grade 4 standard or Grade 6 Standards).

More Practice

Design a Tiered Lesson Poetry: 6th Grade

Standard: RL#7 What the text means to me?

Key Concept: Explain how specific aspects of the text contribute to create mood, emphasize aspects of a character or setting.

Essential Questions:

1. How do poetic elements aid in the orga the poetry?
2. How do poets use descriptive elements to express their ideas and thoughts.
 - Tier 1: Yellow Level
 - Tier 2: Green Level
 - Tier 3: Blue Level

17

DI Strategies: Flexible Grouping

Flexible grouping allows the teacher assign students into groups according to their learning styles, interests and readiness to meet their learning needs (Lunsford, 2017).

Flexible grouping may include grouping low-achieving students with high-achieving students to promote corporate learning.

18

What is Flexible Grouping?





Definition: Is a systematic assessment and continuous to divide students into groups based on specific goals, learning activities and individual student needs (Mckeen, 2019).

These groups can be homogenous or heterogenous; teacher-selected or student-selected.

19

Flexible Grouping

- According to Carol Ann Tomlinson, "Flexible grouping is the cornerstone of successful differentiated instruction.
- Flexible grouping is when students are given a chance to work with a variety of students. This can happen through various small groups or even in a whole group setting. The most important thing is that they are flexible.
- When you first use grouping, use whole group for instruction
- Split the group for enrichment or practice of new skills
- Never use grouping as a permanent change/arrangement
- Use groups for one activity

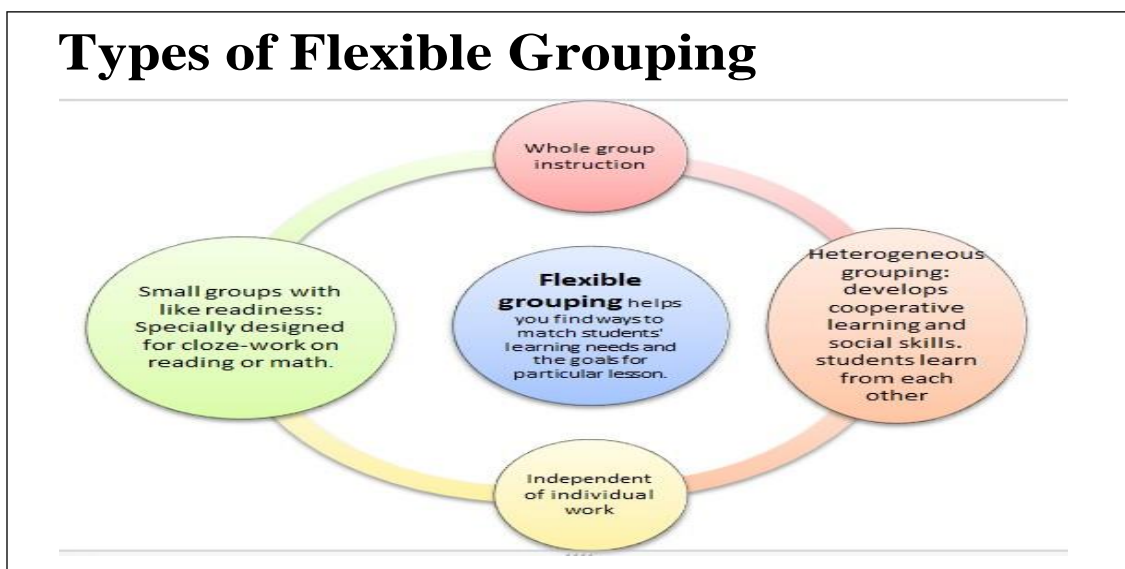
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Slides 18 – 23: The facilitator will introduce the Flexible grouping strategy in detail.

Teachers who already implement this will be encouraged to share with the whole group.

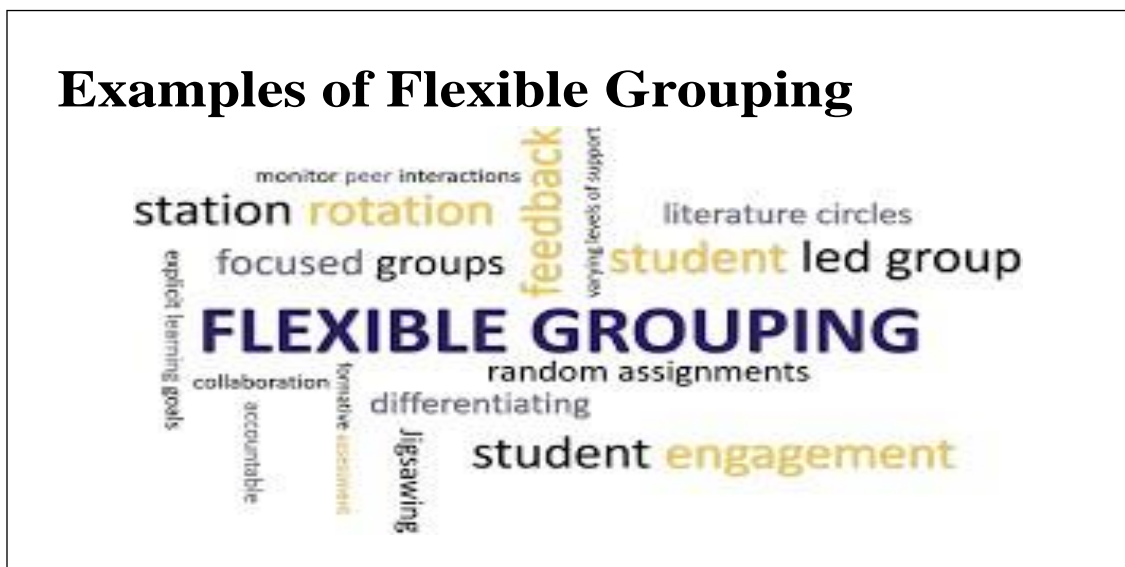
Teachers will be encouraged to ask questions.

Types of Flexible Grouping



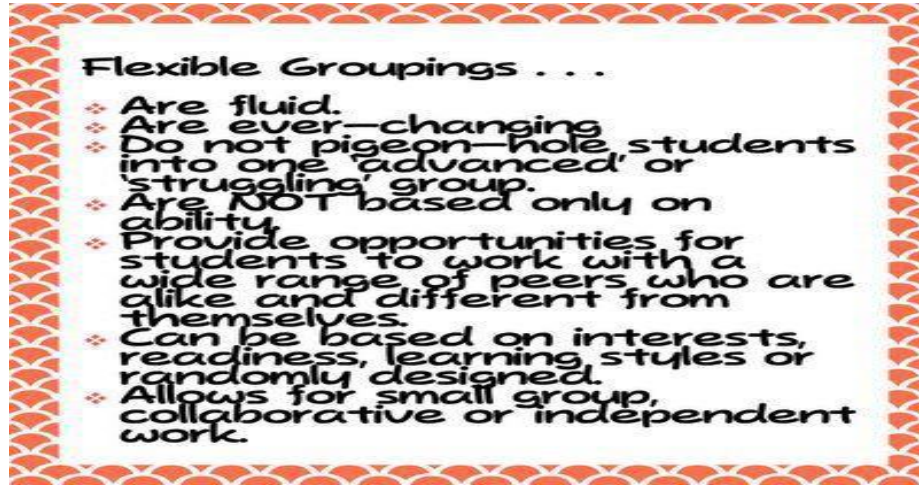
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Examples of Flexible Grouping



22

Benefits of Flexible Grouping



23

Flexible Grouping in the classroom

[Video 3](#) - Flexible Grouping

Teachers collaborate, discuss observations from the video and share ideas for grouping students.

Slide 24: Teachers will watch [Video 3](#) modeling flexible grouping in the classrooms.

Teachers will write down observations in the observation log and share them with colleagues.



25

DI Strategies - Peer-Assisted Learning Strategies (PALS)

PALS can be implemented across all grade levels and in multiple subjects, such as mathematics, reading, and science (Tichá, Aberly, Johnstone, Poghosyan & Hunt, 2018)

26

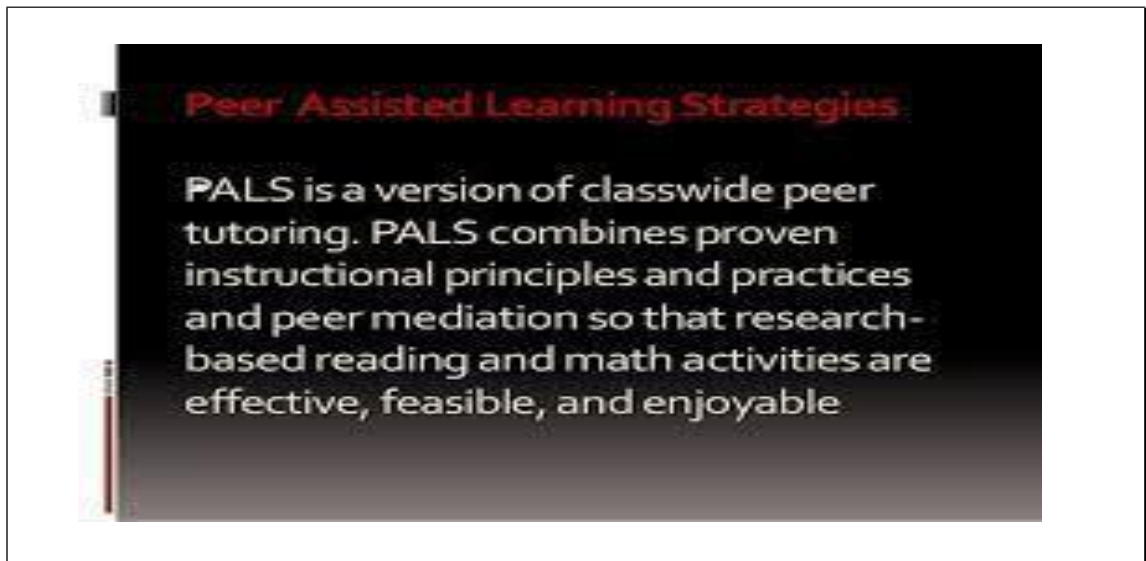
Slide 25: Facilitators and teachers take an hour's lunch.

Slides 26 – 31: The facilitator will introduce the Peer-Assisted Learning Strategy (PALS) and discuss in detail the information on the slides. Teachers will be invited to share their experiences with PALS if already implementing it in the classroom.

What is PALS?

Definition: PALS is a cooperative instructional practice with the goal to increase and improve students' reading and comprehension skills (Thorius, Santamaria Graff, 2008).

27



28

Important Features of PALS

- Reciprocal roles (Coaches and Readers)
- Structured Activities
- Individualized
- More time engaged on task
- Includes ALL students
- Opportunities for success for all students
- Encourages positive peer interactions
- Practical AND effective
- Opportunities to monitor student progress



29

How to Implement PALS?

1. Partner reading

- Designed to improve reading fluency and accuracy
- Each student within a dyad reads aloud for 5 minutes, with the higher-performing student reading first and the lower-reading student rereading the passage.
- 'Coach' points out errors.

2. Retell

- Designed to improve reading comprehension and to aid students in discerning what is important and what is not.
- Lower-performing reader retells the passage at the end of the activity.

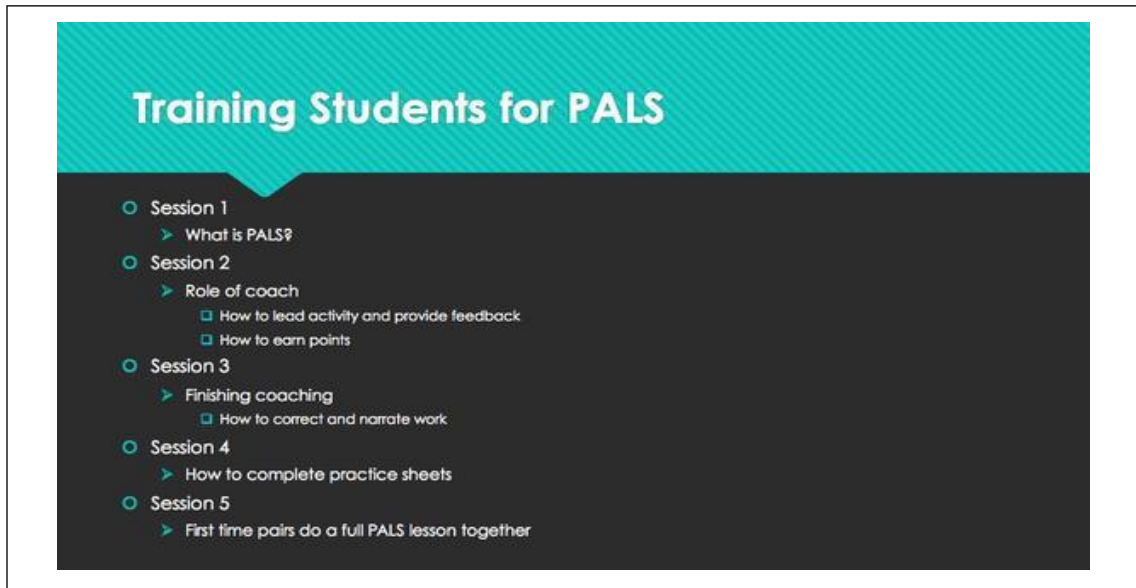
3. Paragraph shrinking

- Designed to develop comprehension through summarization and main idea identification.
- Reader identifies main idea of each paragraph.
- Coach guides idea identification through established questions.
- Reader then summarizes main idea in 10 words or less.

4. Prediction relay

- Designed to develop and automate students' abilities to formulate and (dis)confirm predictions.
- Reader predicts story content, reads aloud, and confirms or disconfirms hypothesis.
- Coach judges whether prediction was reasonable and if not, asks for another prediction.

30

A presentation slide titled "Training Students for PALS". The title is in white text on a teal background with a diagonal line pattern. Below the title, on a dark grey background, is a list of sessions with sub-points. The sessions are: Session 1 (What is PALS?), Session 2 (Role of coach, including how to lead activity and provide feedback, and how to earn points), Session 3 (Finishing coaching, including how to correct and narrate work), Session 4 (How to complete practice sheets), and Session 5 (First time pairs do a full PALS lesson together).

Training Students for PALS

- Session 1
 - What is PALS?
- Session 2
 - Role of coach
 - How to lead activity and provide feedback
 - How to earn points
- Session 3
 - Finishing coaching
 - How to correct and narrate work
- Session 4
 - How to complete practice sheets
- Session 5
 - First time pairs do a full PALS lesson together

31

PALS in the Classroom

Video 4 - PALS

Teachers will collaborate, discuss observations of the video, and ideas to implement PALS in the classroom.

32

Slide 32: Teachers will watch [Video 4](#) modeling PALS, write their observations on the observation log and share with colleagues.

In Summary...

DI strategies support and enhance learning for all students in the classroom including students with SD.

- Tiered instruction/lessons strategies support learning for students by tailoring instruction in terms of the content, process, and the product to meet the skill level, interest and individual needs of students.
- Flexible groupings allows the teacher to arrange students in groups according to their skills levels and interests.
- Peer-Assisted Learning Strategy (PALS) is a cooperative strategy that allows students to work together with other students for support.

33

Exit Slip

Exit Slip	
3	Things I Learned Today...
2	Things I found Interesting...
1	Question I Still Have...

34

Slides 33: The facilitator will summarize the three DI strategies presented.

Slide 34: The facilitator will end the meeting for Day 2, and pass out Exit slips for teachers to complete. Teachers will write 3 things they learned, 2 things they found interesting, and 1 question they still have on the Exit slip.

Day 3 Resources

1. Table supplies: Pens, markers, post-it notes, chart paper, teachers' laptops, workshop folder (with templates and other resources)
2. Projector
3. Notebook
4. Smartboard
5. Evaluation

Day 3: Hands-On Collaborative Work. The teachers will design lesson plans and activities using the DI strategies presented. Teachers will work in groups (in their content areas) and present to the whole group.

Time	Activity
8:00 – 8:30 AM	<p>Teacher Arrival/Sign in</p> <p>Welcome/Light continental breakfast served at the back of the meeting room for the participant). The teachers will be assigned to color-coded tables.</p> <p>Blue Table – Math Teachers</p> <p>Green Table – English Teachers</p> <p>Red Tables – Science Teachers</p> <p>Purple Table – Art (Visual and Performing) Teachers</p> <p>Orange Table – Special Education and Physical Education Teachers</p> <p>Start Slide Show.</p>

8:30 – 8:45 AM	Ice Breaker: Achievement Under 18... This activity will enable to teachers interact with one another and get them ready for the day's session.
8:45 – 9:00 AM	The facilitator will discuss Day 3 learning objectives. Teachers will be implementing Tiered Instruction/Lessons in their content area/subject.
9: 00 – 10:15 AM	Teachers will work collaboratively to accomplish a task (Suggestion – teachers can assign the different tasks to team members)
10:15 – 10: 40 AM	Snack/Restroom Break
10:40 – 12:00 PM	Teachers will continue to work collaboratively to accomplish the task (Suggestion – teachers can assign the different tasks to team members)
12:00 – 1:00 PM	Lunch Break
1:00 – 2:40 PM	Teachers will make their presentations to the whole group. Each group will have 15 minutes to present and 5 minutes to receive feedback and answer questions from the whole group.
2:40 – 3:00 PM	Concluding Comments. The teacher complete the survey.

Day 3

Implementing DI Strategies practice and presentations

1

Slides 1 & 2: The facilitator will welcome teachers to Day 3 of the training and present the objectives of the training session. Teachers will collaborate with colleagues to create lesson plans and instructional materials incorporating DI strategies.

Learner's Objective

Teachers will...

- **Collaborate with colleagues to design Tiered lessons and instructional materials.**
- **Each group will make a presentation to the whole group, and receive feedback from colleagues.**

2

Ice Breaker - Achievement Under 18...



3

Slide 3: The facilitator will introduce the Ice Breaker activity. Teachers will share with colleagues their achievements before they turned 18 years old. The facilitator will walk around the groups interacting with teachers.

Let's Collaborate!

Task for today...

- **Create a lesson plan for your content area showing tiered content, process and product. Lesson plan should also incorporate flexible grouping.**
- **Develop instructional materials for the lesson plan.**

4



5

Slide 4: The facilitator will introduce the task for the day. Teachers will work collaboratively in their content area/subjects to design a lesson plan based on their content Standard, incorporating DI strategies. The groups will then present to the class, receive feedback and answer questions from other groups.

Slide 5: Teachers will begin collaborative work.



6



7

Slide 6: The facilitator and teachers will take a 15-minute break

Slide 7: Teachers will continue with collaborative work.



8

Presentations



9

Slide 8: Facilitator and teachers take an hour lunch.

Slide 9: The five groups make their presentation. Each group has 15 minutes to present and 5 minutes to receive feedback and answer questions from colleagues.

Concluding Comments...



10

Slide 10: The facilitator thanks the teachers for attending, and presents closing remarks.

Teachers take the Survey for Day 3.

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11

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Video 1 - Differentiation in the Classroom

<https://youtu.be/AqepSNNiowU>

Video 2 - Tiered Instruction

<https://www.youtube.com/watch?v=1ob4eGz04G4>

Video 3 - Flexible Grouping

<http://community.nwea.org/videos/1092>

Video 4 - PALS

<https://youtu.be/lvxSr3D2n48>

12

Formative Assessment Day 1

On a scale of 1–5, where 1 = Disagree and 5 = Agree, please respond to the following statements by circling the appropriate number.

I feel this professional development is relevant to my needs.	1	2	3	4	5
I feel this professional development is high quality	1	2	3	4	5
I feel that with the information provided in this professional development, I have a better understanding of Differentiated Instruction.	1	2	3	4	5
I feel I have a better understanding of the components of Differentiated Instruction (Content, Process, and Product).	1	2	3	4	5
I feel I have a better understanding of the different learning styles and their relevance when differentiating instruction.	1	2	3	4	5
I feel the resources and video used in this training are relevant to gaining more insight into differentiated instruction practices.	1	2	3	4	5

Exit Slip Day 2

	Exit Slip
3	Things I Learned Today...
2	Things I found Interesting...
1	Question I Still Have...

Teacher Video Observation Log

Teacher Video Observation Log: Teachers will complete this after watching each video and discuss with colleagues.

Videos	Comments		
Video 1 DI in the classroom	What can you observe?	How could you use this in your classroom?	What questions do you have?
Video 2 Tiered Instruction			
Video 3 Flexible Grouping			
Video 4 PALS			

Formative Assessment Day 3

On a scale of 1–5, where 1 = Disagree and 5 = Agree, please respond to the following statements by circling the appropriate number.

I feel this professional development is relevant to my needs.	1	2	3	4	5
I feel this professional development is high quality	1	2	3	4	5
I feel that with the information provided in this professional development, I have a better understanding of DI strategies, Tiered Instruction, Flexible Grouping, and Peer-Assisted Learning (PALS).	1	2	3	4	5
I feel that the time for collaboration with colleagues was adequate and helpful.	1	2	3	4	5
I feel that I am better able to implement the DI strategies presented in my classroom.	1	2	3	4	5
I feel the resources and videos used in this training are relevant to gaining more insight into differentiated instruction practices.	1	2	3	4	5

Summative Evaluation

This Summative Evaluation Form will be completed by the teacher eight weeks after the completion of the professional development training. Teachers will complete this form after they have implemented DI in their classrooms.

Please provide answers to each question:

1. Were you able to incorporate DI in your lesson plans?
2. Which DI strategies did you use and how successful was the implementation?
3. Were you able to incorporate DI in adjusting teaching methods and instructional materials?
4. Which DI strategies did you use, and what challenges did you face?
5. Do you see yourself implementing DI strategies for a long time?
6. What has been the impact of your implementing DI on students; performance levels?
7. Do you have any other needs regarding implementing DI?

Appendix B: Interview Protocol Questions

The participants in this study will be asked the following interview questions to gain a better insight into their perceptions of the challenges they face when differentiating instruction to meet the learning needs of students with SD in a general education classroom.

1. Can you share some of your experience meeting the learning needs of students with SD in your general education classroom?
2. Can you describe what differentiated instruction means to you as it relates to serving students with SD in your classroom?
3. What strategies do you implement when meeting the needs of students with SD in your classroom?
 - Can you describe how you adapt the curriculum and learning materials to meet the learning needs of students with SD in your classroom?
 - Can you describe how you modify instructions to meet the learnings of students with SD in your classroom?
 - Can you describe how you use alternate assessments by providing students with different ways to present skills mastered?
4. From your perspectives, what challenges do you face when adapting the curriculum/instructional materials, modifying the teaching methods, and providing students with multiple ways to present skills mastered, to meet the learning needs of students with SD in your classroom?
 - In your opinion, what is most challenging?

- Based on your experience, what is the least challenging aspect of meeting the learning needs of students with SD in your classroom?
- 5. What supports do you consider would be most helpful when meeting the learning needs of students with SD in your classroom?
- 6. What resources or supports are available at your school site to enable you to better meet the learning needs of students with SD in your classroom?
- 7. From your perspective, could you describe what training/professional development may help address some of the challenges you face when meeting the learning needs of students with SD in your classroom?