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Differentiated Instruction in Middle School Inclusion Classrooms to Support Special Education Students

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Walden University

College of Education

This is to certify that the doctoral study by

LaToya Keyona Benjamin

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University

2019

Abstract

Differentiated Instruction in Middle School Inclusion Classrooms to Support
Special Education Students

by

LaToya Keyona Benjamin

M.Ed., Walden University, 2014

BS, Virginia State University, 2002

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

Walden University

December 2019

Abstract

Differentiated instruction (DI) research has shown many benefits of implementing instructional practices within an inclusive classroom. However, many teachers do not utilize this instructional practice regularly. An instrumental qualitative case study design that included teachers from one middle school in a rural school district in a southeastern state was used in this study to explore rural middle school teachers' experiences with incorporating the components of DI to support special education students in an inclusion classroom. The challenges faced when incorporating DI were also examined. Tomlinson's model of differentiated instruction framed this study, as it explores the need for teachers to provide responsive instruction to meet the needs of each of their students, regardless of a student's ability. A purposeful sample of 10 middle school teachers' Grades 6–8 from various content areas participated in an interview, an instructional observation, and submitted documents for review.

Inductive analysis was used to analyze data of teacher use of DI components, and hand-coding was used to identify emerging thematic relationships and patterns. When asked about incorporating the components of DI to support special education students within an inclusion-based classroom, participants revealed concerns with class size, lack of resources, knowledge/preparation, and professional development. Based on the results, a 3 full day program was created as a project to incorporate DI into improve middle school inclusion-based classrooms for all content teachers. The program may contribute to positive social change by helping middle school teachers use the components of DI in their inclusion-based classes providing support to increase academic success for special education students.

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Dedication

I dedicate this study to my parents, Paulette Potts and Vernon Benjamin, Sr. Both have been super supportive and encouraging me to push through even when I felt like giving up. I appreciate you wanting to babysit my girls providing me some personal time to write or picking my girls for school. For that, I love you.

I also would like to dedicate this study to my stepfather, Marcus Potts, Sr. who battled lung cancer for several years. It was my goal to complete this program while he was here to see my greatest educational accomplishment. Unfortunately, he lost his fight. However, his presence will always be with me inspiring me to do great work. He will always be my angel watching over me!

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Table of Contents

List of Tables.....	v
List of Figures	vi
Section 1: The Problem.....	1
Introduction	1
The Local Problem	4
Rationale	5
Local Evidence	5
Evidence from Literature.....	7
Purpose Statement	8
Definition of Terms	9
Significance of the Study	11
Research Questions.....	12
Review of the Literature	13
Conceptual Framework.....	14
Differentiated Instruction Model	14
Current Literature	16
Implementing Differentiated Instruction.....	16
Strategies for Implementing Differentiated Instruction	18
Differentiated Instruction and Student Achievement	22
Lack of Training in Differentiated Instruction	24
Teacher Self-Efficacy and Differentiated Instruction	27
Implications.....	28

Summary	30
Section 2: The Methodology.....	31
Case Study Research Design and Approach	32
Setting and Sample	34
Data Collection Strategies.....	38
Data Collection Instruments.....	39
Interview Protocol	41
Conducting the Interviews	43
Observation Protocol	44
Conducting the Observations.....	45
Review of Documents Protocol.....	45
Conducting the Review of Documents	46
Researcher’s Role and Bias.....	46
Data Analysis	47
Validity of Data	51
Coding of Data	52
Accuracy and Credibility.....	52
Discrepant Cases.....	53
Limitations	54
Data Analysis Results	55
Interview Data	55
Data Collection Process	55
Interviews	56

How and When Data Was Analyzed.....	57
Patterns and Themes	58
Observation Data	73
Data Collection Process	73
Observations	74
Findings Connected to the Problem Statement and Research Questions.....	74
Review of Documents Data.....	77
Data Collection Process	77
Review of Documents.....	77
Findings Connected to the Problem Statement and Research Questions.....	78
Thematic Patterns Between Data Sources.....	88
Conclusion.....	90
Section 3: The Project.....	92
Introduction	92
Rationale	93
Review of the Literature	95
Project Description	100
Project Evaluation Plan.....	104
Key Stakeholders.....	105
Project Implications Including Social Change	106
Conclusion.....	107
Section 4: Reflections and Conclusions	109
Project Strengths.....	109

Limitations	110
Recommendations for Alternative Approaches.....	111
Scholarship	112
Reflection on Importance of the Work	114
Implications, Applications, and Directions for Future Research	114
Conclusion.....	116
References.....	117
Appendix A: The Project	135
Appendix B: Interview Protocol	177
Appendix C: Observation Checklist Protocol.....	179
Appendix D: Review of Artifacts Protocol.....	180

List of Tables

Table 1 Teacher Demographic Information, Experience, Class Size, Number of SPED
students, and Course (s) Taught60

List of Figures

Figure 1. Teacher H Review of Documents (Lesson Plans).....79

Figure 2. Teacher H Review of Documents (Lesson Plans).....79

Figure 3. Teacher F Review of Documents (Lesson Plans).....80

Figure 4. Teacher B Review of Documents (Classwork/Worksheet)82

Figure 5. Teacher G Review of Documents (Classwork/Worksheet)82

Figure 6. Teacher G Review of Documents (Classwork/Worksheet)83

Figure 7. Teacher Review of Documents (Assessment).....85

Figure 8. Review of Documents (Assessment)86

Figure 9. Teacher C Review of Document (Assessment).....86

Figure 10. Teacher J Review of Documents (Assessment)87

Section 1: The Problem

Introduction

In the United States (U.S.), schools continue to experience rapid and regular changes in their curriculum (McShane & Eden, 2015; National Center for Education Statistics [NCES], 2017). According to Wiles and Bondi (2015), the changes within the curriculum require teachers to possess the skill set and knowledge to implement instruction with fidelity and to ensure that all students receive a quality education. This may improve teacher efficacy which may impact their delivery and purpose of the material they are using for effective implementation (American Institute for Research [AIR], 2016; Early, Rogge & Deci, 2014). Whether curriculum is delivered consistently, effectively, and with the efficacy necessary for supporting student achievement is contingent on the centralization of teachers, or the teacher's ability to make decisions about the content being delivered, the process by which the content is delivered, and the product by which student mastery is assessed (Lochner, Conrad, & Graham, 2015).

The introduction of new laws, mandates, and standardized assessments create an ever-changing pedagogical environment in education (Avery 2017; Pham, 2012). A new initiative, Every Student Succeeds Act (Every Student Succeeds Act [ESSA], 2015) was signed into legislation to support academic success. ESSA replaced the highly controversial No Child Left Behind (NCLB) Act (2002), a federal mandate which required all states to administer standardized assessments to students in grades three through 10 to determine grade-level proficiency. Under NCLB, all students were required to achieve grade-level proficiency by the 2013–14 school year; however, the

standardization of education, providing a one size fits all education for students, did not offer students within population subgroups, such as English for Speakers of Other Languages (ESOL) and students with learning disabilities, the opportunity to be successful. ESSA embodies the nation's commitment that every child in grades K–12 is afforded an equal and quality education despite their gender, ethnicity, or disability (Darrow, 2016). According to Darrow (2016), students' progress and mastery were measured only by way of standardized testing under NCLB. There is more accountability on the district and state levels rather than from the federal government regarding testing under ESSA. Like NCLB, ESSA follows the accommodations and guidelines put in place by the Individual with Disabilities Act (Individual with Disabilities Act [IDEA], 2004) passed in 2004 (Darrow, 2016).

The implementation of this act mandated that students with special needs be placed in the least restricted environment (LRE) for learning (Bichehouse & Faieta, 2016; IDEA, 2004). According to IDEA, the LRE for many students is a general education classroom setting, where students with special needs are included with nondisabled students within the same classroom environment. This is also known as inclusion. According to Forrester (2016), inclusion is an environment that allows students with disabilities to be placed in an educational setting with their nondisabled counterparts. However, the problem with this model of inclusion is that regular classroom teachers lack the training and knowledge to teach effectively in an inclusion setting (SPED lead teacher, personal communication, August 22, 2016). An increase in teacher responsibility, inadequate teacher preparation, a lack of pedagogical skills, and teacher

attitudes and dispositions have an impact on the success of the implementation of inclusive practices within a classroom setting (Florian & Beaton, 2017).

The National Center for Educational Statistics reported 95% of students with disabilities (as defined by the IDEA) are placed in an inclusive classroom, and approximately 40% are placed in general education classrooms (U.S. Department of Education, n.d.). Steinmeyer (2011) stated an inclusion setting provides best practices for students with disabilities to become successful. During the 2015–2016 school year, the South Carolina (SC) Department of Education Office of Special Education reported that approximately 55% of students with individualized educational plans (IEPs) included in general education classrooms at the South Carolina school district were not achieving at high levels academically (SC Department of Education, 2015). Hall, Strangman, and Meyer (2003) suggested that one effective way educators could provide support to SPED students in an inclusion class is through the implementation of differentiated instruction (DI).

DI has been the bridge in meeting the diverse needs of students to increase student learning, as well as influencing teacher effectiveness as measured by student achievement (Prince, 2016). According to Tomlinson and Imbeau (2010), teachers should use a plethora of instructional strategies to address the influx of children from various backgrounds and cultures. DI is one approach toward accomplishing the task of educating all students. However, the problem lies in teacher preparedness and the understanding of DI strategies regarding content, process and product of learning, as well as the effects of DI on student achievement. The challenges of implementing DI was the foundation of

this study. Unless the affective domain of DI is addressed in inclusive classrooms, there may be a gap in teachers' instructional practices that could hinder the achievement of students with special needs (Special education teacher, personal communication, August 18, 2018; Dixon et al., 2014).

The Local Problem

At a rural middle school in South Carolina, within the school district where I conducted this study, there is a problem with middle school teachers using the components of DI within inclusive classrooms. At local rural middle schools within the district, general education teachers are asked to incorporate DI within their classrooms to help close the instructional gap for mixed-leveled learners in inclusion classes. However, it is not known how the components of DI are used to support special education students in an inclusive class. According to Deason (2014), educators, general education, and special education teachers should be equipped with instructional strategies that address the learning needs of students with unique needs. According to the school administrators, an evaluation of the teachers' abilities to implement DI has not been a focal point (Principal, personal communication, August 22, 2016; SPED lead teacher, personal communication, February 18, 2017). General education teachers reported that special education students, just as general education students, are expected to learn and know the state standards by the end of the school year. According to the State of South Carolina, the special education students' achievement level in mastering the state standards has fallen behind when compared to general education students (SC Department of Education, 2017). The strategies that teachers use to implement DI in inclusion classes

and the effects of its implementation on student achievement have never been assessed (Principal, personal communication, August 22, 2016; SPED lead teacher, personal communication, February 18, 2017). As teachers' knowledge of best instructional practices evolves, they should focus on increasing student performance for all levels of learners. According to researchers, DI is one of the best practices that teachers can implement within their instruction to meet the needs of diverse learners, and consequently, increase student achievement (Avery, 2017; Levy, 2008; Prince, 2016). In addition, DI provides students with disabilities access to the same curriculum and standards as their nondisabled peers (Tobin & Triplett, 2014).

Rationale

Local Evidence

According to the South Carolina Department of Education (2016), approximately 100 students (or approximately 20% of the student population) at a South Carolina middle school are classified as SPED students. Out of the 100 students, 60 students, or 60%, were mainstreamed into an inclusive classroom (SPED lead teacher, personal communication, September 7, 2016; County Data System, 2016). The data from teacher assessments and term report cards indicated a decline in achievement amongst the SPED students within inclusive classrooms (SPED lead teacher, personal communication, Oct. 10, 2016; County Data System, 2016). In addition, IEP reports showed that approximately 30% of students who received SPED services earned below-average grades in one or more of their core classes each quarter (County Data System, 2016). The percentage of general education students who received below-average grades in core

subjects was less than 10% (County Data System, 2016). There is a discrepancy in the level of achievement between SPED students and general education students, which may be an indication that students with learning disabilities are not receiving instruction in the general education classes to meet their individualized learning needs.

The South Carolina Palmetto Assessment of State Standards (SCPASS) scores indicated minimal progress in the academic performance of special education students who participated in inclusion classes at the local school (District, 2016). According to SCPASS student reports, an estimated 25% of special education students (having an IEP) at the local school have consistently scored substantially below the average 25th national percentile score in core subject areas (District, 2016). However, the general education students' scores ranged between the 65th and 70th percentiles in the core subject areas (District, 2016).

According to staff meetings and professional development surveys, teachers concluded that student scores dropped due to teachers' lack of understanding of how to meet the needs of their SPED students within an inclusive setting (Principal, personal communication, January 16, 2017). The SPED lead teacher at the local school district recorded in the meeting minutes that SPED students who have been included in a general education classroom needed more instructional support, in addition to the accommodation requirements presented in their IEP. In addition, the meeting minutes stated many teachers struggled with reaching their SPED students who have been included in general education classrooms. In faculty meeting minutes and grade level meeting minutes, many of the general education teachers noted that they were not

equipped with the instructional strategies needed to increase the academic success of their SPED students (Special education lead teacher, personal communication, April 25, 2016).

Evidence from Literature

There is a plethora of research on DI. The research reveals an achievement gap between general education and special needs students which can be reduced with effectively implementing DI within an inclusive classroom (Royster et al., 2014; Santangelo & Tomlinson, 2009). Avery (2017) cited that DI is one of the most common instructional strategies used to bridge the achievement gap and meet the individual learning needs of each student based on where they are academically. Nicolae (2014) conveyed that the implementation of DI is meant to bridge the gap between teaching and learning, allowing all students to learn. Dixon et al. (2014) suggest that DI is a philosophy that focuses on what each student needs to be successful academically. In addition, DI forces teachers to think more critically about pedagogy (Dixon et al., 2014). Rachmawati, Widiastara, and Wibisono (2016) stated that DI is an appropriate practice to increase learning outcomes for special education students because it allows teachers to respond to diverse learning, creating a positive influence on students.

The results of two studies suggested that the implementation of DI increased student achievement and motivation for learning among students (Billingsley, 2016; DeJesus, 2012; Perilli, 2011; Pham, 2012). However, research shows that approximately 84% of students were not being exposed to DI within their inclusion classrooms (Lunsford, 2017; Latz, Speir Neumeister, Adams, & Pierce, 2009). According to Dixon et al. (2014), teachers who do not adapt to changes in instructional practices within their

classrooms, or who are incapable of doing so, will struggle with implementing DI. In the local setting, teachers report struggling with the implementation of DI due to the lack of training needed to effectively incorporate DI to meet the needs of the SPED students in inclusive classes.

With the increase in SPED students in general education classrooms, it is crucial that general education teachers are equipped with tools and strategies to provide effective instruction in an inclusive classroom (Blanton et al., 2014). Therefore, it is required that general education teachers become proactive, seeking training, to serve students with learning disabilities (McCray & McHatton, 2011). It was reported that teachers who were more knowledgeable and received training were more accepting of SPED students in a general education classroom (Ejiken, 2015).

Research suggests that DI improves the possibility of academic success for diverse students (Alexander, 2014). According to current literature, the use of DI creates independent, responsible, and confident learners. Moreover, it moves students toward academic achievement by meeting their individual needs (Avery, 2017; Logan, 2011; Tomlinson, 2014).

Purpose Statement

The purpose of this qualitative instrumental case study was to explore rural middle school teachers' experiences with incorporating the components of DI with special education students in an inclusion classroom. To address the problem, I conducted an instrumental case study to explore the knowledge and implementation of DI by middle school teachers and its effect on student achievement. Case studies, in general, provide an

in-depth understanding of a real-life phenomenon (Kaur, Norman, & Awang-Hashim, 2016; Merriam, 2009). However, an instrumental case study individualizes an issue, providing an understanding of strategies and practices that are used within a classroom setting (Kaur et al., 2015). To investigate the problem, I used interviews, observations, and an analysis of documents (i.e., lesson plans, assessments, etc.) to determine teachers' knowledge of the implementation of DI, how it was implemented in inclusion classrooms, and its effect on student achievement at the school of study. An increased understanding of this issue would be valuable for Green County (pseudonym) to reinforce the importance of middle school teachers' implementation of DI to teach students who have been placed in an inclusive classroom setting. This research may potentially fill a gap in professional practice; specifically, it may illuminate the difference between what appears in the literature about what should be happening in inclusive general education classes and what may not be happening.

Definition of Terms

Curriculum: A blueprint for facilitating student learning to achieve specific goals and objectives (Wiggins & McTighe, 2005).

Differentiated Instruction (DI): An instructional strategy that allows teachers to teach diverse learners based on their learning styles and talents (Morgan, 2014; Tomlinson, 2014).

Every Student Succeeds Act (ESSA): A federal act that reauthorized the No Child Left Behind Act (2002) which authorized federal spending to support grades K-12. The

ESSA of 2015 also promotes equal opportunity to quality education regardless of race, socioeconomic levels, or disabilities (US Department of Education, n.d.; Darrow, 2016).

General Education Classroom: An educational classroom where students are provided instruction and evaluated based on state standards (Friend & Bursuck, 2014)

Individualized Education Plan (IEP): A document required by IDEA and prepared by a multidisciplinary team that specifies a student's educational needs, goals, and objectives to be successful (Friend & Bursuck, 2014).

Inclusion: A heterogeneous practice that provides an instructional environment that involves both students with disabilities and nondisabled students in a regular classroom (Royster, Reglin, & Losike–Sedimo, 2014).

Inclusive Teaching: Teaching approaches that address the needs of students with a variety of backgrounds, learning styles, and abilities. These strategies contribute to an overall inclusive learning environment in which students feel equally valued (McGovern, 2015).

Least Restricted Environment (LRE): An environment where students with disabilities can be educated in a general education classroom (Friend & Bursuck, 2014; Bichehouse, & Faieta, 2017).

Special Education (SPED): Education techniques mandated by the Individuals with Disabilities Education Act (“IDEA”) which requires public schools across the United States to provide SPED support and services for all students with one of the enumerated disabilities who need such supports and services to benefit educationally (McGovern, 2015).

Teacher Assessments or Assessment: An assessment within a classroom setting to measure the impact of teaching and learning (Opre, 2015; Office of Standards in Education, 2014).

Teacher Self-Efficacy: A teacher's belief and confidence in his/her capabilities to perform specified teaching tasks and carry out duties that enhance student learning and achievement (Dixion et al., 2014).

Significance of the Study

The significance of this study includes determining how middle school teachers implement DI, what DI strategies they use, and the challenges with implementing DI in inclusion classes, and what effect DI has on student achievement. Dixon et al. (2014) recommends that teachers differentiate both curriculum and instruction to meet the needs of their students. The students who receive DI are taught at their level of readiness. In addition, the inclusive setting will increase their higher-order thinking skills and their exposure to advanced curriculum. The results of the study will benefit students, general education teachers, and scholar-practitioners at the local middle schools, as it will provide information about teachers' knowledge of the implementation of DI, what strategies teachers utilize to implement DI, and the effects of DI on student achievement. This information may help administrators plan training, increase support, or obtain resources for inclusion teachers who struggle with DI. In addition, the findings will also provide general education teachers with information about other teachers' experiences while implementing DI and reduce their feelings of frustration. Administrators may be able to use this information to combat challenges or resistance toward using DI and help

teachers incorporate resources that will increase student achievement amongst students in an inclusive classroom setting. Locally, the district could create professional development opportunities or professional learning communities to provide teachers with training and other resources for the effective use of DI strategies to increase student achievement within their inclusive classrooms.

This study may create social change within local middle schools by promoting DI to increase academic achievement. It may also amplify the awareness of the need for inclusive classes to equip SPED students with practical and critical thinking skills to combat the increased demands of diversity on local and national levels. The results from this study may further assist teachers with better instruction and creating positive social change by preparing students to be successful, productive citizens.

Research Questions

In this qualitative instrumental case study, I addressed the problem that despite placing students with disabilities in inclusive classrooms, it is not known how knowledgeable teachers are about DI, how teachers use DI strategies to support the inclusion of students with disabilities, and the effects of DI on student achievement. The purpose of this study was to explore rural middle school teacher's experiences with incorporating the components (content, process and product) of DI with special education students in an inclusion classroom to increase student achievement, as well as to explore strategies middle school teachers can use to incorporate differentiated instruction. There is a gap in the literature on how teachers in middle schools are implementing DI within inclusive classrooms (Edward et al., 2006).

The research questions for this qualitative instrumental case study were:

Research Question 1 (RQ1): What type of training, if any, have rural middle school teachers had with teaching the components (content, process and product) of DI within their inclusive classrooms to support SPED students?

Research Question 2 (RQ2): How do rural middle school teachers use the components of DI to support SPED students within an inclusion class?

Research Question 3 (RQ3): How do the components of DI used by the teachers at the school of study align with best practices in DI to support SPED students within an inclusion class?

Research Question 4 (RQ4): What challenges do middle school teachers at the school of study face with incorporating the components of DI to support SPED students in an inclusion class?

Review of the Literature

The U.S. government has implemented strict guidelines for providing equal educational opportunities for students with disabilities, one of which is the IDEA (2004). As a result, this led to the implementation of inclusive practices in general education classes as the LRE for SPED students (King–Sears et al., 2014). According to the National Center for Education Statistics (National Center for Education Statistics [NCES], 2017), approximately 47% of students with disabilities spend 80% or more of their day in an inclusive classroom; therefore, changes in educational practices, such as the implementation of DI, are critical to meet the needs of SPED students in inclusive classes.

The purpose of this qualitative instrumental case study was to explore rural middle school teachers' experiences with incorporating the components (content, process and product) of DI with SPED students in an inclusion classroom. The first part of this section includes an overview of Tomlinson's (1999) model of DI. Next, I present literature that focuses on strategies for implementing DI and barriers with implementing DI. Finally, I discuss the effects of DI on student achievement.

I compiled and analyzed research from books and journal articles in peer-reviewed publications to conduct the literature review. I conducted a search using the Walden University Library, Google Scholar, ProQuest, ERIC, EBSCOhost, and the South Carolina Department of Education Website. The keywords in my search included: *differentiated instruction, inclusion, special education, and student achievement, teacher training with differentiated instruction, teacher perception, and Individualized Disabilities Education Act (IDEA)*. In addition, I explored the reference section of current articles and studies to locate additional research on this topic.

Conceptual Framework

Differentiated Instruction Model

I used Tomlinson's (1999) model of Differentiated Instruction (DI). According to Tomlinson (1999), teachers can provide DI by altering the content being taught, the process by which the content is taught, or the product created by the student to show mastery of the content being taught. Some general principles of DI include: respectful tasks that provide challenge without frustration to a student based on his/her learning profile, quality curriculum intended to address state standards, flexible grouping to

maintain appropriate settings for students, continual assessment for understanding, and the establishment of a community where all are respected and feel comfortable to learn (Tomlinson, 1999). According to Tomlinson (1999), DI should be based on a student's readiness, interest, and his/her learning profile.

In the 21st century, students enter classrooms with varied educational backgrounds and knowledge. One of the challenges currently faced by teachers is how to meet the learning needs of each student in such a diverse population. DI was developed as a theory to address the needs of gifted students (Ward, 1961). Tomlinson's (1999) model of DI is an appropriate framework to guide the research because the implementation of DI within an inclusive classroom setting has the potential to meet the needs of students with varying abilities; therefore, teachers must implement the use of DI in inclusion classes to meet the needs of the SPED students and potentially increase student achievement.

DI can be achieved by using three differentiating components: content, process and product (Akos, Cockman, & Strickland, 2007; Brighton & Moon, 2015; Tomlinson, 1999). Content is the first component of DI. This component involves the use of varying levels of content to assess comprehension, such as, varied text levels or providing content in a different format such as audio or video (Avery, 2017; Lunsford, 2017). However, the use of the content component of DI will require teachers to know their students' learning profiles (Tricario & Yendol-Hoppey, 2012). According to research, teachers can use learning profiles to adjust content to help students access prior knowledge and build on

previously learned concepts to cultivate academic progression (Avery, 2017; Goddard, 2010).

The second component of DI is process. Differentiating the process involves varying the activities and instructional strategies teachers use to help their students better understand the content, such as tiered assignments and learning stations (Avery, 2017; Lunsford, 2017; Mardell, Rivard, & Krechevsky, 2012). The final component of DI is product. The product refers to an assessment of mastery. Subsequently, this component allows for students to express their knowledge and understanding through a variety of assessments adjusted to meet varied learning needs for students, such as oral presentations or diagrams (Hewitt & Weckstein, 2012; Lunsford, 2017).

Current Literature

Implementing Differentiated Instruction

The implementation of DI can effectively impact student achievement amongst diverse learners within an inclusive setting. According to Logan (2011), the foundation of DI is based on a teacher's focus on the essentials of learning, attentiveness to student differences, collaboration related to goals, and alignment of assessments and instruction. Levey (2008) noted that the overall goal of DI is to ensure that diverse learners can achieve their academic goals. Hidi and Renninger (2006) concluded that students' participation increases, leading to enhanced student engagement when the content and instructional methods are geared toward a student's level of readiness. According to Tobin and Tippett (2014), DI provides an opportunity for diverse learners to access the same curriculum as their peers. Royster, Reglin, and Losike–Sedimo (2014) concluded

that educators who implement DI found great success in changing the lives of struggling students toward becoming successful students. Sabb–Cordes (2016) stated that the implementation of DI in a diverse setting could also enhance the academic performance of struggling students, as well as, cater to a student’s specific learning needs. However, this instructional strategy is contingent on a teacher’s ability to use this approach effectively.

The use of DI is a preferred method to reach students with varied learning needs in a classroom with mixed skill levels. According to Vigdor (2013), DI is used to make learning meaningful for students who otherwise would have fallen further behind. Thus, the recommended approach for educators to prevent students from falling behind is providing a plethora of learning options for students to be able to learn and grasp varied concepts (Patterson, Conolly, & Ritters, 2009).

For teachers to effectively implement DI, they must know the learning profiles of their students to meet their individual needs in an inclusion–based classroom (Herrelko, 2013; Latz & Adams, 2011; Lunsford, 2017). Varying the content, process and product enables students to grasp the concepts by meeting them where they are (Bowgren & Sever, 2010).

DI is known for its flexibility; however, it can be a challenge to implement. Having the right training, knowledge, and resources can better equip teachers to implement DI more effectively (Lunsford, 2017). In addition, teachers will have to design activities for students to meet the necessary learning targets (Dixon et al., 2014). According to Lunsford (2017), standards are based on learning targets and what students

are expected to learn. The teacher can use these strategies to create lessons and activities that promote meaningful learning, and that will allow students to be successful by meeting their individual learning needs (Dobbertin, 2012). Dobbertin (2012) also stated that these learning targets could be used to assess a student's mastery level of varied content.

Strategies for Implementing Differentiated Instruction

Tiered learning. Differentiating lessons for a diverse group is one of the barriers middle school teachers face when implementing DI within in an inclusive classroom setting. One way of creating lessons tailored for students based on their learning ability, interest, and readiness is by using tiered learning which Tomlinson (1999) calls the “meat and potatoes” of differentiated instruction (p. 11). Tiered learning is defined as a DI strategy that creates multiple pathways for students to develop an understanding of standards and key concepts based on their learning profile (Pierce & Adams, 2004). According to Lunsford (2017), tiered learning is one of the most common instructional practices of DI. King (2016) conveyed that tiered learning can be an effective strategy for educators when they collaborate and plan lessons at which students can display a level of mastery. Tiering assignments also allows students to achieve the same goals (Tomlinson, 2003). Additionally, King (2016) cited that tiered learning can catapult students' achievement levels by challenging them to be successful at their level of readiness. DI is an instructional strategy that is meant to create a blended environment in a heterogeneous classroom by meeting the individual needs of every student; however, it is not meant to isolate or label students (Wu, 2013).

Flexible grouping. Another strategy used to implement DI, as presented by Tomlinson (1999), is flexible grouping. Flexible grouping is an instructional strategy that educators use to group and regroup students according to their learning needs (Castle, Deniz, & Tortora, 2005). Teachers can use small flexible groups to meet students' needs (Lunsford, 2017). However, the effectiveness of the strategy is dependent on the students' learning styles, as well as their levels of readiness and interest. According to Rogdriguez–Valls (2014), flexible grouping allows teachers to place low–achieving students with high achieving students, thus promoting cooperative learning using Vygotsky's zone of proximal development (ZPD). Rakow (2012) suggested that the grouping of students be based on data of student needs and be continually reevaluated to ensure the group setting is effective in meeting the needs of the students. Lunsford (2017) cited that teachers who implement flexible grouping within their classrooms can assess students' level of understanding more easily in small groups. Herrelko (2013) reported that grouping based on ability, or flexible grouping, enhanced student achievement.

Co-teaching. Co-teaching is an approach schools can implement to meet the diverse instructional needs for SPED student mainstreamed into an inclusive–based classroom environment while addressing federal mandates (King, 2016). Conderman (2011) described co-teaching as “two or more educators working collaboratively to deliver instruction to a heterogeneous group of students in a shared instructional space” (p. 24). Additionally, this strategy has been known to support the challenges and capitalize on instructional needs for diverse learners in the general education classroom (Nierengarten, 2013).

According to King (2016), DI, when incorporated into a co-taught classroom, can support the learning needs of SPED students. The recommendation for the best learning environment for students with mixed levels of learning is in an inclusive classroom (King, 2016; Peterson, 2016). Some researchers suggest that co-teaching enhances and increases instructional performance for SPED students (Nichols, Dowdy, & Nichols, 2010).

There are a few approaches to co-teaching. One model of co-teaching when one teacher is teaching while the other is observing and supporting students by circulating the room (Friend, 2014). Another model of co-teaching involves the use of teaching stations and grouping students to deliver content in small groups (Friend, 2014). Additionally, alternative teaching is another approach to co-teaching that allows the teachers to divide students into two groups, one large and one small, taking the smaller group to deliver a more modified instruction (Friend, 2014). However, one of the most common approaches to co-teaching is team teaching. According to Friend (2014), this form of co-teaching involves collaborative lesson planning and instructional delivery by both an inclusion or SPED teacher and a general education teacher. It is also noted that this particular approach is predominately executed by one teacher delivering instruction and one teacher assisting. In most cases, the general education teacher takes on the lead while the SPED teacher supports and assists the SPED students (Scruggs et al., 2007). Prior research substantiates the belief that co-teaching can influence DI by providing more support for SPED students and maximizing instruction to improve student achievement (King, 2016; Tomlinson, 1998).

Little research has been conducted to show how general education and SPED teachers implement DI strategies in a co-teaching model (King, 2016). Using the co-teaching model presents a challenge with incorporating the components of DI due to the teachers' lack of understanding (King, 2016).

Differentiated Instruction and Inclusion Settings

Since the mandate of placing students in the LRE set by IDEA (1997), SPED students have been placed into general education classrooms allowing them to receive the same education as students without disabilities (Giangreco, 2007; IDEA, 1997; Yell, 2006). This is also known as inclusion. In 2002, NCLB (2002) was passed, which also promoted equal education based on challenging state achievement standards and state assessments for all students (NCLB, 2002). Together, NCLB and IDEA forced school districts nationally to adhere to the changes made to increase the student achievement for SPED students by mainstreaming SPED students into general education classrooms. Mainstreaming students into a general education classroom will allow SPED students to have additional support to be successful (Deason, 2014; Giangreco, 2007). Therefore, it is essential for educators to be equipped with effective instructional practices to meet the different needs within their classes to help each student reach his/her greatest potential (Rosenzweig, 2009).

Several studies have revealed many benefits to inclusive education (IDEA, 2007). Since transitioning SPED students into general education classrooms, the expectation of academic achievement for SPED students has increased (Thompson, 2003), which has compelled teachers to individualize learning for all students, including special needs

students. One approach toward meeting those is the implementation of DI. As it was previously stated, DI is the instructional strategy that allows teachers to meet the needs of all students without changing the integrity of the standards (Tomlinson & Cooper, 2006).

According to Baker (2005), teachers must be knowledgeable and understand DI before they can incorporate it into their curriculum. Prior research suggested that the implementation of DI influences inclusion for it blends individualized learning, flexible grouping, and tiered assignments at a level suitable for each style of learning (Choate, 2002). According to Deason (2014) and Henderson (n.d.), it is critical that inclusion teachers provide a plethora of learning opportunities, varying the content, process and product as a part of DI, to meet the needs of all students. However, it is imperative for general education teachers to have an understanding and readiness of varied strategies which will increase their self-efficacy and confidence in implementing DI within an inclusive setting (Deason, 2014).

Differentiated Instruction and Student Achievement

DI helps teachers meet students where they are in their educational journey as a means of getting them where they need to be (Morgan, 2014; Tomlinson, 2014). Gentry, Sallie, and Sanders (2013) concluded that teachers who differentiate instruction efficiently incorporate best practices in moving nondisabled and disabled learners toward proficiency within their state standards. In addition, Gentry et al. (2013) cited that the use of DI was shown to increase student engagement, improve intrinsic motivation, increase student productivity, and improve self-competence. According to Deason (2014), teachers who infuse the learning experience by using DI provide scaffolded instruction,

which allows students to work with others who may have more background knowledge. In addition, DI will allow teachers to cultivate student growth and maximize student success by meeting their individual needs and assisting with their learning process (Tibin & Tippett, 2014).

Dixion, Yssel, McConnell, and Hardin (2014) reported on the difficulty in teaching in an inclusion classroom, which included disabled and nondisabled students. According to Hehir (2012), there are other districts, nationally, that have shown growth in the achievement of students with learning disabilities through inclusive practices. Hehir (2012) also presented findings from three urban schools and two suburban schools where inclusive practices positively influenced student achievement and growth. Morgan (2014) cited that DI is designed for diverse learners, ensuring that all students are successful; however, in the local setting, teachers still report struggling with this practice.

Researchers have found that DI is one of many instructional strategies used to support SPED students toward academic success (Rachmawati, Widasmara, & Wibisono, 2016). According to Royster, Reglin, and Losike–Sedimo (2014), middle school teachers reported that the lack of understanding and knowledge of DI hindered their ability to implement strategies for DI. In addition, some general education teachers also feel that the lack of training presents a barrier to the implementation of DI within an inclusive classroom. Unlike content area knowledge professional development, it is difficult to locate professional development specifically for DI (Principal, personal communication, October 2016; Tricarico & Yendol–Hoppey, 2012). According to Nicolae (2014), the barriers teachers face with DI can directly affect student learning, which indirectly affects

the school performance. The target school has not examined how general education teachers use DI, or the lack of DI, within inclusive classrooms (Principal and special education lead teacher, personal communication, October 2016). This instrumental case study may provide more information about how general education and SPED teachers can collaborate and implement DI to increase student achievement within inclusion-based classrooms.

I will use the results of this study to create and facilitate a professional development workshop that the district may use to develop programs to assist general education teachers with pedagogy for the implementation of DI to improve their inclusion-based classroom. The professional development may lead to a more effective use of DI in diverse classrooms. In addition, the professional development may also influence instructional practices in inclusive classrooms that could result in increased student achievement.

Lack of Training in Differentiated Instruction

According to the research, one reason for the lack of implementation of DI within inclusive classrooms is teachers not feeling prepared to teach in a mixed-level classroom due to not receiving the proper training (Deason, 2017; Sadiogl et al., 2013). Ashby (2012) noted that teachers faced some challenges with accommodating a classroom of diverse learners. Advocates for inclusion acknowledge the importance of implementing DI but report that training is essential (Horne, Timmons, & Admowycz, 2008). The lack of teacher preparation aligns with teacher self-efficacy, for teachers may feel inadequate when teaching students in an inclusion classroom. Their attitudes may become negative,

which can impact the overall climate of the learning environment (Sharma, 2012).

Training can help to improve teachers' attitudes toward inclusion and provide educators with the knowledge and tools needed to serve the students, thus increasing student achievement (Deason, 2017; Sharma, 2012).

Deason (2017) noted that the lack of special education training, specifically, has affected the general education teachers' attitudes toward the inclusion of students with disabilities (Hsien, Brown, & Bortoli, 2009). It is equally important for general education teachers to receive SPED training, for it lessens the frustrations of working with students with disabilities and aids in sustaining the expectations of the classroom to effectively deliver instruction (Deason, 2017; Grskovic & Trzcinka, 2011; Hwang & Evans, 2011). SPED teachers are also encouraged to have the training to better serve as consultants to the general education teachers (Hamilton–Jones & Vail, 2014). Teacher training can affect the quality of learning for students within an inclusive classroom. Conversely, a lack of training can impact the ability for students to learn at their full potential (Park & Oliver, 2009).

Hisen et al. (2009) reported that teachers trained in SPED provided students with an equal education in an inclusive setting. He also noted that teachers who were trained reported having an increase in skills, knowledge, and confidence when providing instruction for students with disabilities in their classrooms. In a study conducted by Cooper, Kurtts, Baber, and Vallercorsa (2008), half of the teachers who contributed to the study discovered that being unprepared to meet the needs of their SPED students, while simultaneously conducting instruction for other students in their classroom, led to

negativity and frustration, ultimately affecting the learning environment for all students (Deason, 2017). Therefore, there has been a push for teacher preparation programs to promote training for general education teachers in inclusive instructional practices (Dee, 2011). Unfortunately, the lack of training in these teacher preparation programs directly affects novice teachers, as well as veteran teachers, who lack the training and experience to manage an inclusive classroom (Fullerton et al., 2011). Smith and Tyler (2011) reported that the lack of training had not prepared teachers for the demands of diverse classrooms populated by students with mixed abilities.

According to Kappler–Hewitt and Weckstein (2012), teachers should receive specific training in DI and how to effectively implement it in their classrooms. Teachers are intimidated when they are pushed to use DI in their classrooms without any training. The instructional practices involved in the implementation of DI may be unclear to them (Chesley & Jordan, 2012; Dee, 2012). It is suggested that teacher training should take place at the beginning of the year to help teachers adapt and adjust to the reality of a 21st century classroom (Forlin, Earle, Loreman, & Sharma, 2011).

Teacher training programs are necessary for all general education teachers working with SPED students in an inclusive classroom (Ajuwon et al., 2012). According to Fullerton et al. (2012), college programs are starting to incorporate SPED courses, as well as courses on new models to help merge SPED and general education students into an inclusive classroom. Unfortunately, many educators received training before these program changes.

Educator training in DI is critical for general education teachers working with SPED students. McMaster (2013) stated that inclusion is not just an educational trend. It is something that is constantly evolving, and it is important for teachers to be equipped with the tools to provide all students with a quality education in the LRE (Deason, 2017; Ashby, 2017). Teachers can overcome any challenges with implementing DI given the proper training, which may directly impact the academic performance of students (Dixon et al., 2014).

Teacher Self-Efficacy and Differentiated Instruction

According to the research, a teacher's self-efficacy directly affects his/her implementation of DI within his/her classroom (Dixon et al., 2014). Teacher self-efficacy is the belief a teacher has in his/her ability to be effective. In this case, a teacher with high self-efficacy believes he/she can effectively implement DI and positively influence student achievement (Bandura, 1997; Suprayogi, Valcke, & Godwin, 2017). In contrast, Garrett (2017) and Dixon et al. (2014) reported teachers who had a low self-efficacy found the implementation of DI challenging due to their fear of not providing effective delivery. Teaching experience can also impact a teacher's level of self-efficacy. Researchers reported that novice teachers displayed low confidence in the ability to implement DI (Dixon et al., 2015). However, Dixon et al. (2014) and Suprayogi, Valcke, and Godwin (2017) both reported that high teacher self-efficacy increases DI implementation levels. Teachers with high self-efficacy are confident in their teaching abilities and embrace the implementation of DI. In addition to self-efficacy, the lack of

training, resources, and support are also barriers preventing the implementation of DI within middle school general education classrooms (Prince, 2014; Opre, 2015).

Implications

Researchers have acknowledged that DI is one of many best practices that is used, in addition to other instructional strategies, to increase student achievement and learning outcomes for SPED students (Rachmawati, Widasmara, & Wibisono, 2016). This project study has the potential to have a positive social impact, for a professional development training curriculum and materials plan will be developed on how middle school teachers can incorporate the components of DI to support SPED students in an inclusive classroom.

Some general education teachers expressed that a lack of training presents a challenge for incorporating the components of DI in an inclusive classroom. Unlike content area knowledge professional development, it is hard to find professional development specific for DI (Principal, personal communication, October 2016; Tricarico & Yendol–Hoppey, 2012). An investigation was conducted at a middle school which evaluated inclusion programs. The middle school teachers reported that they were not successful with an inclusive setting due to the lack of understanding and knowledge about inclusion (Royster, Reglin, & Losike–Sedimo, 2014). This research could impact social change by providing the district, as well as the school site administration, with tools needed to support middle school teachers when incorporating the components of DI to support SPED students, which could lead to student success and more productivity in society.

The findings from this study could encourage school districts to evaluate middle school teachers' use of DI within an inclusive classroom and provide a professional development workshop on how to overcome the challenges that would occur with incorporating DI in an inclusion-based classroom. According to Wu (2013), the implementation of DI can catapult significant gains in academic skills, as well as improve attitudes toward learning. Several studies agree that DI, when incorporated into a curriculum, can maximize learning for SPED students by providing them with extra support to be more successful in an inclusive setting.

The target school has not examined how general education teachers use DI, or the lack of DI, within inclusive classrooms (Principal and special education lead teacher, personal communication, October 15, 2016). Therefore, the results from this study could isolate the challenges middle school teachers face when working with SPED students in an inclusive classroom. Once those challenges are acknowledged, a project will be developed to assist the middle school teachers so that they will have strategies needed to be more effective when working with SPED students in an inclusive classroom (Special education teacher, personal communication, Nov. 8, 2018).

This project study includes professional development training that will consist of informative workshops providing middle school teachers with an opportunity to collaborate with other teachers to develop model lessons that include the components of DI within their curriculum aimed to support SPED students. Tiered activities could be created to assist in providing effective instruction to the varied learning needs for all content areas.

Summary

In this study, I focused on middle school teachers' experience in using the components of DI to support SPED students in inclusive classrooms. DI allows teachers to create a learning environment that meets the needs of diverse learners while promoting instructional, as well as social, growth for all levels of learners (Monsen, Ewing, & Kwota, 2014). Despite placing SPED students in inclusive classrooms, it is not known how middle school teachers are incorporating the components of DI to support SPED students in an inclusion classroom. In Section 1 of this study, an extensive review of the literature on DI and inclusion is provided.

In Section 2, I present how the project was conducted and the case study approach for this study. Section 3 showcases the data collected and introduces any thematic relationships and patterns that may emerge from the study. The final section provides an analysis and reflection of the study. This section also provides an explanation of the findings, recommendations for further research, and suggestions for social change.

Section 2: The Methodology

The purpose of this qualitative instrumental case study was to explore rural middle school teachers' experiences with incorporating the components (content, process and product) of DI with SPED students in an inclusion classroom. I explored middle school teachers' (grades 6–8) experiences incorporating the components of DI to support SPED students in an inclusion-based classroom in one middle school in one rural school district located in South Carolina. According to The State Report Card (2016), teacher communication, and communication with the administration, there has been a decline in student achievement for SPED students placed in an inclusive setting.

With a steady decline, teachers and school administrators have determined there is a need to close the achievement gap for SPED students by incorporating the components of DI to increase student achievement. Many researchers have explored the implementation of DI within the classroom and teacher perception of DI, but research on incorporating the components of DI to support SPED students has never been done at the study site. Thus, an instrumental case study was the best design for this study. According to Creswell (2014), the purpose of an instrumental case study is to explicate an issue. The shared experiences of the participants while incorporating the components of DI to support SPED students in their inclusion-based classrooms at the study site bind this case.

The following research questions were the basis for developing interview questions for this study:

RQ1: What type of training, if any, have rural middle school teachers had with teaching the components (content, process and product) of DI within their inclusive classrooms to support SPED students?

RQ2: How do rural middle school teachers use the components of DI to support SPED students within an inclusion class?

RQ3: How do the components of DI used by the teachers at the school of study align with best practices in DI to support SPED students within an inclusion class?

RQ4: What challenges do middle school teachers at the school of study face with incorporating the components of DI to support SPED students in an inclusion class??

In the methodology section, I describe the research I conducted for this study. Next, I explain the background for the study, along with the sampling procedures used to choose the participants for the study. Finally, I discuss the qualitative portion of the study, thoroughly explaining the instruments used to collect data and the data analysis procedures in this chapter.

Case Study Research Design and Approach

A case study method allows the participants to provide their intimate thoughts and feelings about inclusion and their understanding of DI and how it is used in a non-inclusive setting to enhance student learning. Merriam and Tisdell (2016) stated that case studies are an exploratory way of deepening the knowledge and understanding of a central phenomenon. The instrumental case study design is bound by the participants' shared experiences while incorporating the components of DI to support special education students within their inclusive classroom. This case study provided a rich and

in–depth understanding of how rural middle school teachers use the components of DI, the challenges middle school teachers face while implementing DI in an inclusion classroom, and how the teachers align the components of DI with best practices in DI for supporting SPED students within an inclusive classroom.

Selecting a qualitative approach required that I be familiar with all the different kinds of qualitative approaches. After reviewing other possibilities provided by Creswell (2014), I narrowed down a method based on relevancy. I outlined the traits of potential methodology options for this study, such as: ethnography, phenomenology, grounded theory, narrative, and case study.

I rejected the ethnography design for the focus of this is on the understanding of a cultural group and making an interpretation of beliefs, values, behaviors of cultures (Yin, 2014). I did not seek to explore a cultural group. I rejected the phenomenological research design for this study because it involves lived experiences and perceptions of study participants about a specific phenomenon detailed by individual participants (Creswell, 2014; Yin, 2014). This research design would have allowed me to answer questions based on the participants' life experiences, but it would have required prolonged engagement in the field. For that reason, I rejected this design.

The perception and views of the participants based on an incident or interaction is the basis of grounded theory research design. The data are collected from a group of individuals to discover a theory about why a phenomenon occurred (Creswell, 2014). For that reason, the grounded theory design was not appropriate for this study. I rejected this

design for the intention of this study is not to develop a theory involving teachers and their use of DI.

The narrative approach is necessary to understand the lives of individuals (Creswell, 2014). This approach is most appropriate for understanding stories about the individual lives of the participants and their experiences. I rejected this design for the intention of the present study is not to investigate the story of the participants' lives outside the school environment.

A quantitative research analysis is a method that focuses on numerical data and general information through surveys and experiments (Yin, 2014). For this reason, I rejected a quantitative research method. This design method does not support the depth that the researcher needs to thoroughly understand teachers' use of DI in middle school inclusive classrooms.

A mixed methods design is a method that is a mix of both qualitative and quantitative research (Creswell, 2014). I rejected this design approach for I will not collect any quantitative data to be analyzed for my study.

Setting and Sample

The school district of study is in the southeastern region of South Carolina and enrolls approximately 10,000 students from Pre-K to 12th grade. However, the focus for this study consisted of one rural middle school within the district of study, which serves approximately 550 students in grades 6–8 with a diverse population where 69% of the students are eligible for free and reduced lunch. According to the Department of Education (2016), the enrollment of students was: 33% White, 53% Black, 12%

Hispanic/Latino, 1% Asian, and 2% Multiracial. During that year, 98 students or 18% were classified as SPED students, and 35% of the students were placed in an inclusion-based classroom (District Data System, 2016; special education teacher, and personal communication, September 7, 2016; South Carolina Department of Education, 2016). The SPED students in the school of study received instruction through a co-taught inclusion model or push in by a SPED teacher. However, the number of inclusion students varied from class to class.

One of the key elements to conducting a qualitative study is determining how many participants would be appropriate for this study. There were 24 middle school teachers ($n=24$) at the study site, and all 24 teachers were invited to participate in the study. Inviting all 24 of the teachers for the study increased the possible number of participants and allowed for a generalization of the data collected (Leedy & Ormond, 2015). However, I used a purposeful sample from the school of study, which included all content area teachers who currently teach in an inclusion-based classroom. For this study, 14 teachers who taught in an inclusion setting were considered to participate in the study. From the purposeful sample, there were 10 willing participants. The standards I used to select participants for this study included: two participants who taught English and language arts (ELA), two participants who taught math, two participants who taught social studies, two participants who taught science, one participant who taught English for Speakers of Other Languages (ESOL) students, and one participant who taught SPED. This sample of teachers allowed more diversity for my investigation into instructional practices of the participants and their incorporation of DI, or lack thereof to support

SPED students in an inclusion-based classroom. It also allowed for a more representative sample of the overall teacher population at the school of study.

For this qualitative study, I completed a formal request to conduct a research study. I obtained a letter of cooperation from the school principal at the study site. Next, I contacted potential participants to request volunteers for the study. I only used school district email accounts to notify participants about the study. Upon the participants' acceptance to be a part of the study, all communication with the participants took place using my Walden University email account. In approximately one week after my initial email was sent to notify potential participants of the study, I sent a second email, that provided a consent form which informed the participants of their rights and requirements. The participants' rights and requirements included: reported study will not disclose participants' identities, as well as any details about the location of study; names or any other identifying information that may connect them with this study will not be disclosed; no personal information will be used for any purpose outside of this research project; and all the information collected will be safely secured on my personal, password-protected computer, which is kept at home. Once participants were chosen, I sent a letter of cooperation via email to the middle school principals to request permission to conduct my study using the teachers at their school.

To conduct my study, I obtained permission from Walden University's Instructional Review Board (IRB). To gain access to teacher participants, I obtained a letter of cooperation from the principal and district to conduct my study. Next, I sent out an email using their district email account to all the middle school teachers thanking them

for participating in my study. During this initial contact, I provided potential participants with an explanation of my study. I also ensured them that they do not have to participate in this study, but I would appreciate their time. I also explained that participation in this study would involve a 60-minute interview, a one hour observation (noting their use (not) of incorporating the components of DI to support SPED students), and a document review (i.e., lesson plans, assessments, homework, projects, etc.). Once the participants agreed to participate in my study, all communication with the participants took place using their email account and my Walden University email account. Within one week after the initial email was sent to notify potential participants of my study, I sent a second email that provided a consent form with detailed information about my study, including what the participants were asked to do and their rights. Potential participants were asked to respond within one week if they were willing to participate. I collected the willing participants' personal email information and sent an email to schedule a time to interview and observe each participant. From that pool of participants, I selected a purposeful sample. According to Merriam (2014), purposeful sampling involves the selection of participants who have "information-rich" (p. 78) cases related to the purpose of the study to learn about the phenomenon.

Likewise, Leedy and Ormond (2015) stated that purposeful sampling would also assure representation of the overall population of the school of study. Using this approach will assure the representation of the overall population of the study site (Leedy & Ormond, 2015). As I noted earlier, I selected two participants who taught ELA, two participants who taught social studies, two participants who taught math, one participant

who taught ESOL students, one teacher who taught SPED students, and two teachers who taught science. The teachers selected for this study allowed me to deeply explore how teachers incorporated the components of DI, or the lack thereof, to support SPED students. Interviews took place in a private, remote location, and one hour was allotted for each interview. To uphold confidentiality, I assigned a letter to each participant to identify each participant's interview data. When scheduling the interviews, I requested that each participant provide an artifact to be collected and analyzed using the review of artifacts protocol. Each participant presented those artifacts after each interview.

Data Collection Strategies

For this study, I gathered data through face-to-face, semi structured interviews, observations, and the gathering of artifacts to explore how middle school teachers incorporated the components of DI to support SPED students in their inclusion-based classroom. I also gathered data on the type of strategies they found useful, the challenges they reported in using the components of DI, and the resources or support they needed to effectively incorporate the components of DI to support their SPED students in an inclusive classroom. From the participants who volunteered for my study, 10 teachers were willing to be interviewed and observed, and were willing to submit documents for review. I used three different methods of data collection for triangulation. Triangulation of the data permits a researcher to find consistencies and inconsistencies within the data collected by utilizing multiple data collection sources to support the validity of the study (Leedy & Ormond, 2015).

Data Collection Instruments

To address the study problem, I conducted face-to-face, semi structured interviews with middle school teachers who were teaching students in an inclusive classroom at the school of study. According to Leedy and Ormond (2015), face-to-face interviews allow the researcher to establish a rapport with the participants. In the semi structured interviews, I used guided, open-ended questions which allowed the participants to address the issues in a conversational style. It also allowed me to add additional questions as the conversation progressed. The use of open-ended questions provided candid and in-depth discussions about inclusive practices. According to Merriam and Tisdell (2016), interviews can be used to collect data for a wide range of ideas. More so, the semi structured interviews will provide detailed, thick descriptions of teachers' understanding of DI to support SPED students who have transitioned into an inclusion setting. This format not only offered me the opportunity to begin each interview with questions that produced data to address my research questions, but it also allowed me to probe for more in-depth exploration to seek out thematic relationships. I created an interview protocol (Appendix B) that was used to collect data. The interview protocol assured that the interviews addressed the research questions for this study, for it is supported by case study design and Tomlinson's model of DI. The transcripts from the interviews were hand-coded and analyzed for common themes. I used a highlighting system to code the interviews, as well as to construct diagrams by theme, assigning a list of coding classifications to each theme. The coding classification consisted of words or phrases that were found to be common throughout the transcriptions.

In addition to the interviews, observations of middle school teachers in the core content areas (English language arts, mathematics, science, and social studies), as well as, an ESOL classroom and a SPED class were used to collect data. According to Merriam and Tisdell (2016), the key elements to observations are locations, contributors, activities, connections, and conversations. Yin (2014) conveyed that observations add “new dimensions for understanding” (p. 114). The observations allowed the researcher to collect insightful details regarding teacher/student engagement. The researcher created an observation protocol (Appendix C) to record the information collected from the observations, which is a helpful tool for a systemic approach to conducting classroom observations and personal reflections (Creswell, 2014). Observations included: classroom layout, teacher interaction, engagement with SPED students, lesson objectives, teaching models, the use of materials, assignments, and methods to evaluate student performance, and teaching strategies using the components of DI. Yin (2014) suggested that researchers use fields notes taken during their observations and later organize the notes by important topics. The observation protocol provided me with the means to collect and record descriptive and reflective notes that focused on any examples of differentiation seen in an inclusive classroom, as well as any other pedagogical methods associated with DI.

The sample of artifacts that was collected from the participants was another useful piece of evidence that guided the research for this study. According to Yin (2014), artifacts can be a key component in a case study. Any artifacts that teachers were using or have used when implementing DI was accepted as a form of data. As it was previously

stated, the researcher requested that each participant provide an artifact that showed the incorporation of the components of DI. The artifacts included: worksheets, lesson plans, assessments, homework, and other documents that may reveal practices of DI, or the lack thereof, within an inclusive classroom. I also created a protocol for completing the review of documents (Appendix D). Interviews, observations, and artifacts provided an inclusive interpretation of the phenomenon being investigated.

This study explored the challenges reported with incorporating the components of DI to support SPED students in an inclusion-based classroom by the teachers at the middle schools in South Carolina, as well as the types of support or resources the teachers need to incorporate the components of DI within an inclusive classroom. This study may help bridge the learning gap for diverse learners and increase the academic success for SPED students. The results of this study may inform the district about the training needed for middle school teachers to effectively improve their incorporation of the components of DI to support SPED students in an inclusion-based classroom.

Interview Protocol

The interview protocol was aligned with the conceptual framework and addressed the research questions outlined in this study. At the start of each interview, I reminded each participant of the purpose of the study, as well as his/her rights as a participant. At that time, each participant signed the consent form. The consent form also included an agreement to be audio recorded during the interview.

The interview protocol was broken into three sections: Background Questions, Knowledge and Training, and Instructional Practices. The first addressed background

information on the teaching experience and the classroom environments of each of the participants, such as, how long he/she taught, the number of SPED students in his/her class, class size, and background knowledge on DI. This section aimed to gather relevant information in effort to put the participants at ease. This section aimed to gather relevant information while using less intimidating questions, putting the participant at ease.

The second section focused on knowledge and training, which allowed the researcher to collect information on the participants' understanding of the components of DI and any training in DI attended by the participants. The researcher began this section by asking the participants how much training or professional development about the components of DI has been offered to middle school teachers. The researcher asked follow-up questions by asking the participants to share their experiences, what they learned, and whether it was useful, if they did participate in any training or professional development. The researcher inquired about instructional tools, if any, he/she needed to effectively incorporate the components of DI to support SPED students in an inclusion-based classroom. The researcher also asked questions about the challenges each teacher faced, if any, with incorporating the components of DI in his/her inclusion-based classroom.

The third section addressed the participants' instructional practices. I asked each participant what instructional strategies he/she was currently using, if any, that were aligned with the components of DI to support SPED students. I also asked each participant what assessments he/she used to assess a SPED student's level of understanding according to the standards. Next, the researcher asked each participant for

some examples of activities he/she has used to engage SPED students while incorporating the components of DI within their curriculum.

After the interview, I thanked each participant for allowing me to interview him/her. I also reminded each participant that I would transcribe the interview while listening to the audio recording. A summary of findings was sent to each participant to review and verify his/her own data for accuracy.

Conducting the Interviews

The number of participants for the interviews was 10. From those participants who volunteered for this study, I selected two participants who taught ELA, two participants who taught social studies, one participant who taught an ESOL class, one participant who was a SPED teacher, two participants who taught math, and two science teachers for my purposeful sample.

The time for each interview took between 45 to 60 minutes. I audio recorded the interviews, as well as took brief notes during the interviews. After each interview, I drafted a reflection that included details from the interview, along with thoughts and reactions. While listening to the audio recording, I transcribed each interview using my password-protected personal computer. I used the transcriptions for coding and theme development. After analyzing the data, I wrote a summary of the findings and emailed it to each participant, using his/her email address, for verification and accuracy. This is known as member checking. Member checking ensures that the researcher has accurately recorded the participants' thoughts (Merriam, 2014). Once the email was sent, I requested for each participant to review the draft findings. Each participant was given one week to

review the findings and notify me of any necessary changes. All the participants approved the findings. I reviewed their feedback and no adjustments were necessary. Merriam (2014) noted that this procedure ensures that the researcher has accurately captured the participants' meaning.

Observation Protocol

The observation protocol that I created was aligned with the conceptual framework and addressed the research questions outlined in the study. Once I interviewed each participant, I allotted one hour to observe each participant while he/she was teaching class. The objective of the observation was to determine how the participants were using the components of differentiation, or the lack of, as well as their content delivery and student/teacher interaction as it relates to SPED students. Given the nature of observations, I attempted to conduct my observations with minimal disruption to the instructional process. This allowed me to observe any evidence of DI being used in an inclusive classroom setting (Yin, 2014). In addition to using the observation protocol, I also took brief notes to collect and record data (Yin, 2014). At the end of the observation, I thanked each participant for allowing me to observe him/her. I also informed each participant that I recorded field notes during the observation and that I would send them a summary of the findings to review and verify for accuracy. Participants were given one week to review the findings for accuracy and notify me of any necessary changes. All participants approved the findings. Thus, no adjustments were necessary.

Conducting the Observations

I allotted one hour for each observation, which took place in each teacher's inclusion-based classroom. I used an observation checklist (Appendix C) to record findings of DI within the classroom. The checklist was created by *The Learning Forward Organization* and influenced by Carol Tomlinson. With permission from *The Learning Forward Organization*, I verified the checklist to seek evidence as it related to my study. When conducting observations, I observed the activities as an uninvolved participant in the classroom. During each observation, I used the observation checklist. I also noted evidence that showed the use of DI to support SPED students, such as, teachers using the components of DI (content, process and product), teaching strategies (i.e., tiered lessons and grouping), and leveled instruction. At the end of the observation, I completed a self-reflection detailing my thoughts on the observation. In addition, I also sent a summary of the field notes by email to each participant for verification of accuracy. Each participant was given one week to review the findings and notify me of any necessary changes. I reviewed any feedback that was given by each participant concerning accuracy, to determine if any adjustments need to be made to the field notes. Upon my review, I determined that no adjustments needed to be made.

Review of Documents Protocol

The review of artifacts that I created was aligned with the conceptual framework and addressed the research questions outlined throughout the study. Once I interviewed and observed each of the participants, I allotted 30–45 minutes to review the documents provided by each participant. I used a checklist to determine the use of DI presented in

the artifacts provided by each of the participants. The goal of the review of artifacts was to determine the use of DI, or the lack thereof, within an inclusive classroom that may not have been observed during the scheduled observation. Field notes were taken during the review of artifacts were used to collect and record data (Yin, 2014).

Conducting the Review of Documents

I allotted 30–45 min to review the artifacts submitted by each participant in the form of lesson plans, homework activities, projects, assessments, or worksheets to find evidence of planned DI. I used the artifact checklist (Appendix D) and looked for evidence of tiered lessons to support diverse learners, lessons to support the standards/content, flexible grouping, student choice, and implementation of ongoing assessments. I also recorded field notes during the review of artifacts. At the end of the review of artifacts, I completed a self-reflection detailing my thoughts. In addition, I wrote a summary of the field notes and sent an email to each participant for verification of accuracy. Any feedback that was given by each participant concerning accuracy was reviewed and determined if any adjustments needed to be made to the field notes from the artifacts. Upon my review, I determined that no adjustments needed to be made.

Researcher's Role and Bias

I am currently a seventh–grade science teacher in the school district of study. I have taught for eight years in the same school within the district of study. Because of the number of years taught in this district, I have developed a professional and personal relationship with many teachers working within the district of study. However, I have no supervisory role within my school or school district.

The bias I may have brought to this study was that I have a strong passion for SPED students and equality in education for all students. I chose this topic because I wanted to improve the quality of education for SPED students who have placed in the LRE or inclusion classroom. In addition, I wanted to be instrumental in creating a professional development program for middle school teachers and SPED teachers to be equipped with instructional strategies, such as utilizing the components of DI, to create meaningful learning that will support SPED students. I was fully aware of my role as a researcher in this study. I was able to set aside bias to conduct this study by selecting teachers from surrounding middle schools, not just my local school. In addition, I used a peer reviewer, from whom I collected a signed confidentiality agreement. Utilizing a peer reviewer and member checking ensured that I interpreted the data as the participants intended.

Personal experiences or biases related to the topic were connected to my current work with the curriculum. Since I have had teacher–training responsibilities for a new curriculum in the past, maintaining a bias–free view was important in determining concerns and challenges without considering my personal experiences. Additionally, as recommended by Yin (2014), I used reflective practices as I analyzed data to ensure objectivity and the reporting of data only, free of any researcher opinion or bias.

Data Analysis

The purpose of this qualitative instrumental case study was to explore rural middle school teachers' experiences with incorporating the components (content, process and product) of DI with SPED students in an inclusion classroom. An instrumental case

study design was used to explore middle teachers' experiences (grades 6–8) using the components of DI to support SPED students in their inclusive classrooms in one middle school in a rural school district located in South Carolina. Data gathering included face-to-face, semi structured interview questions, observations of classroom interactions, and a review of documents (i.e., lesson plans, projects, homework assignments, assessments, etc.).

According to Creswell (2014), qualitative data analysis is a method that allows the data collected to be structured in a manner that brings meaning to the data. This process of collecting data is called inductive analysis, which means examining data, transcribing, transferring, analyzing, and interpreting commonalities into thematic relationships and patterns (Creswell, 2014; Yin, 2014). Creswell (2014) provided six steps for analyzing and interpreting qualitative data. The six steps include: (1) collecting data, (2) preparing data for analysis, (3) reading through data to get a general sense, (4) coding and labeling data into segments, (5) coding text for descriptions in research reports, and (6) coding text for themes to be used in research reports. I followed the steps prescribed by Creswell (2014) for this study. Data analysis required organization, time, reflection, and the ability to reduce bias (Creswell, 2014; Merriam & Tisdell, 2016; Yin, 2014).

Data were gathered using face-to-face, semi structured interviews that examined middle school teachers' use of DI in an inclusive classroom setting. All 24 middle school teachers at the study site were invited to participate in this study. However, only 10 met the criteria of being a teacher in an inclusion classroom and agreed to participate. The

willing participants were interviewed, observed, and submitted artifacts for evaluation. From the 10 participants, two participants who taught ELA, two participants who taught math, two participants who taught science, two participants who taught social studies, one who taught ESOL students, and one who taught SPED students were selected for my purposeful sample.

The interview protocol I created was divided into three sections: Background Questions, Knowledge and Training, and Instructional Practices. The first section allowed me to collect information regarding teaching experience. The second section explored the participants' knowledge and training, or lack thereof, of the components of DI and the challenges they face while incorporating DI in their inclusive classrooms. This section connected to my first and fourth research questions. The first question asked for information about the type of training, if any, with teaching the components of DI. The fourth question addressed teachers' challenges by incorporating the components of DI to support SPED students in an inclusion-based classroom.

The third section explored instructional practices using the components of DI. This section connected with the second research question, for it address how the components of DI align with best practices in DI for SPED students in an inclusion-based classroom. After conducting the interviews, I transcribed the audio recordings of the interviews, input the information into Microsoft Word, and printed a copy of each transcription. I also looked for themes and recurring patterns. I used colored highlighters to note similarities in phrases and words used by each participant. Having the text in different colors allowed me to note dominant themes that were emerging. I categorized

the highlighted statements from the interviews into five themes: 1) knowledge of DI, 2) training/professional development, 3) challenges using DI, 4) resources/support, and (5) using technology for DI.

The observation protocol I designed addressed my third and fourth research questions: RQ3: How do the components (content, process and product) of DI that teachers use, if any, align with best practices in DI for SPED students in an inclusion classroom?; and RQ4: What challenges do rural middle school teachers face with incorporating the components (content, process and product) of DI for SPED students in an inclusion classroom? The research questions sought to answer what challenges middle school teachers identify with implementing DI and the resources they need to effectively incorporate the components of DI to support SPED students in an inclusion-based classroom. Once I conducted the observations, I reviewed my field notes and looked for themes and recurring patterns.

The review of documents protocol I created addressed my third and fourth research questions: RQ3: How do the components (content, process and product) of DI that teachers use, if any, align with best practices in DI for SPED students in an inclusion classroom?; and RQ4: What challenges do rural middle school teachers face with incorporating the components (content, process and product) of DI for SPED students in an inclusion classroom? The research questions sought to answer what challenges middle school teachers identify with incorporating the components of DI to support SPED students in an inclusion-based classroom and the resources to effectively implement DI

to support SPED students. After analyzing the documents, I reviewed my field notes and looked for themes and recurring patterns.

To assure validity, data triangulation was used to corroborate the findings. The three approaches used when applying triangulation were: interviews, instructional observations, and a review of artifacts. Although the bulk of the data collection derived from interviews, the instructional observations and review of documents helped to authenticate the themes identified from the interviews while adding rigor to the study (Creswell, 2014; Lodico et al., 2010).

Validity of Data

Validity in research is imperative. Creswell (2014) defined validity as the internal and external believability of the methods used in research. Thus, several steps were taken to ensure validity. I conducted an extensive search on DI in relationship to SPED students and used that information to formulate research questions for my study. In addition, I also used the triangulation method by collecting data through semi structured interviews, instructional observations, and reviewing artifacts to record evidence from rural middle school teachers' experiences using the components of DI to support SPED students in an inclusion-based classroom. This provided the reader with an in-depth understanding of the findings (Merriam, 2014). Creswell (2014) identifies three strategies used for validity in qualitative research: member checking, bias, and rich, thick descriptions. I established member checking throughout the data collecting process by providing each participant with a summary of his/her findings from the interview and a summary of the field notes collected from the instructional observations and review of artifacts. In addition,

participants were able to notify me of any changes to the findings for accuracy. There were no changes that needed to be made. I was able to identify and maintain awareness of my personal bias. I set aside prejudice and predispositions during the data collection process by using an established protocol for the interviews, observations, and artifact reviews. The final verification of validity was the use of rich, thick descriptions. The open-ended questions utilized during the interview process allowed me to ask guiding questions and gave the participants an opportunity to provide detailed descriptions during their responses. Additionally, the data collected using the protocols for the observation and artifact review provided detailed descriptions of all the participants' experiences incorporating the components of DI to support SPED students in a middle school inclusion-based classroom. Utilizing these steps ensured the validity of the data.

Coding of Data

The purpose of coding data is to organize data using an inductive process to find repetitive patterns and thematic relationships from the transcriptions and field notes collected during the data collection process (Creswell, 2014; Yin, 2014). For each data collection tool used in this study, the data analysis involved hand-coding by highlighting emerging themes in different colors. This method provided me with the ability to see emerging themes and organize them in a systematic way.

Accuracy and Credibility

To maintain and improve reliability, accuracy, and credibility, the data from interviews, observations, and the review of documents were collected and triangulated to provide evidence of quality (Creswell, 2014; Yin, 2014). Using the triangulation process

from multiple resources improved the accuracy and credibility of this study (Creswell, 2014). Creswell (2014) cited that credibility refers to the trustworthiness of the data collected, and the analysis conducted. Trustworthiness refers to the methods used to collect data and establishes authenticity for the results of the study (Creswell, 2014; Yin, 2014). The measures taken to achieve accuracy and credibility in this study included: member checking and the triangulation of more than one data collection tool. Member checking proved to be a significant part of my study, for all the participants could review the initial interpretations of the data to ensure accuracy of the analysis by the researcher and legitimize that the responses were accurately represented (Creswell, 2014). The data collections used in this study were: one 45–60 minute face-to-face, semi structured interviews with each participant, one 55–60 minute instructional observation of each participant, and one 15–20 minute review of documents (artifacts) for each participant. Each tool addressed the understanding and utilization of the components of DI to support SPED students in a middle school inclusion–based classroom setting and were aligned with the research questions.

Discrepant Cases

To reduce bias and support credibility, it was important to accurately report any discrepancies (Creswell, 2014; Yin, 2014). According to Creswell (2014), there could be contradictions, for reality can involve different viewpoints. Thus, it is imperative to provide information that is contradictory to thematic relationships since contradictory information can add to the credibility of the research (Creswell, 2014). The participants were interviewed, observed, and critiqued based on the artifact given for review. The data

collection tools were used to collect data regarding their experiences with using the components of DI, or lack thereof, to support SPED students in a middle school inclusion-based classroom. Discrepancies, if any, were accurately reported in the data collected and verified through member checking. However, there were no discrepancies reported. According to Creswell (2014), the purpose of reporting discrepant cases is to assure that the data is accurate and establish credibility.

Limitations

The limitations for this instrumental case study were that the study consisted of a small sample size and was specific to one rural middle school located in the Piedmont Region of South Carolina. According to Creswell (2014), a small sample and the geographic location of the study may reduce generalizability. It is possible that if the study were conducted in a different middle school, the results would be different due to the different experiences in teachers' use, or lack thereof, of DI to support SPED students in an inclusion-based classroom.

Other limitations within this study were the data collection methods which included potentially inaccurate responses provided by the participants during the interview process (Yin, 2014). Yin (2014) conveyed that participants may provide inaccurate responses to provide the researcher with a reply that may be more acceptable to the researcher. Additionally, the observations were scheduled in advance; therefore, the lessons may not have been authentic and may have been created to please the researcher.

Another limitation identified for this study was my experiences, which may have easily influenced personal bias (Creswell, 2014). To alleviate this limitation, all personal

beliefs and experiences were removed by using a scripted introduction, informed consents, and guided interview questions. Member checks were also utilized to eliminate personal bias.

Data Analysis Results

The process of collecting the data consisted of one 60 minute interview, one 60 minute instructional observation, and one 15–20 minute review of artifacts for each participant. Data analysis occurred three weeks after the data collection process. The method applied to each data collection tool is explained below. An analysis of each collection tool occurred separately after the collection of data for the identification of thematic relationships and patterns.

Interview Data

Data Collection Process

After I obtained IRB approval to conduct my study of rural middle school teachers' experiences with incorporating the components (content, process and product) of DI to support SPED students in an inclusion–based classroom, purposeful sampling was used to locate and contact participants needed for this study. First, I contacted the district office via email requesting permission to collect data by interviewing and observing middle school teachers at the study site. Once I obtained permission, I contacted all the middle school teachers in grades 6–8 via email with an invitation to participate in my project study. This initial contact with teachers yielded 10 participants who agreed to participate in my study and met the criteria of teaching in an inclusion–based classroom. Next, I contacted each participant to set up interviews and observations

based on dates and times convenient for each participant. Before the start of each interview, each participant was presented with a detailed consent form that each participant signed, as well as, a reminder that the session would be audio-recorded and transcribed.

The protocol that I created was utilized during each interview. All the interviews were audio-recorded using my device. The participants answered four background questions, five questions on their knowledge and training, and three questions based on their instructional practices (Appendix B). In addition, the participants also answered clarifying questions asked by the researcher. All the recordings were downloaded and saved on the researcher's password-protected personal computer. After I completed each interview, I began to transcribe the data collected using Microsoft Word on a password-protected personal computer. I transcribed each participant's interview and then drafted a summary of each transcription which was sent via email to each participant for a member check. Each participant was given one week to review the findings and notify me of any necessary changes. No changes were necessary. All the notes that were taken during each interview were transported to my home and put into a safe place that was inaccessible until analysis could be conducted.

Interviews

All interviews were held in a public location that had an option for privacy. Each participant chose a site that was suitable for him/her. The sites consisted of teachers' classrooms and a conference room in the guidance office. The interviews lasted approximately between 45 and 55 minutes. Each participant answered the original 13

questions included in the protocol, as well as the follow-up questions that I asked for clarification. Once the interviews were completed, each participant was allowed to review a summary of the transcription to assure the accuracy of the data.

The interview process provided an understanding about the participants' experiences with and knowledge of DI to support SPED students within in middle school inclusion-based classroom. Additionally, it also provided information on any training, or lack thereof, which was noted during the instructional observation or review of artifacts. During each interview, I took notes to support coding and analysis. According to Creswell (2014), one of the significant roles of a researcher is that of a critical listener, for it is one of the primary data collecting instruments during the interview process.

How and When Data Was Analyzed

I used a voice recorder on my phone to audio-record all interviews. After each interview, and within 48 hours, I transcribed each interview using Microsoft Word. I also wrote a summary of each transcription and emailed the review of his/her interview to each participant to check for accuracy. Each participant was given one week to respond to the researcher with any necessary changes. After I transcribed each interview and member checking was completed, the initial reading of the transcripts began. During this initial reading, I made notes in the margins and noted essential details that were connected to the research questions.

Next, the data analysis process consisted of the second reading of each transcription and hand-coding for patterns and thematic relationships. Creswell (2014) and Yin (2014) noted hand-coding of interview data involved reading the data, marking

it by hand, and color-coding the data based on themes. I then went through each transcription and highlighted the parts that matched each theme. As I reviewed each transcription, I looked to find similarities and differences between the participants' responses (Creswell, 2014; Yin, 2014). Then I noted common themes amongst the data collected from all participants. The themes that I created were: (1) Knowledge of DI, (2) Training/Professional Development (3) Resources/Support, (4) Implementing DI, and (5) Using Technology in DI. It took approximately three weeks to complete. I used a similar process for each of the data collection tools and each participant.

Patterns and Themes

Qualitative data were collected, which included responses from interviews, field notes from observations, and field notes from document reviews. The results are divided by the following research questions:

RQ1: What type of training, if any, have rural middle school teachers had with teaching the components (content, process and product) of DI within their inclusive classrooms to support SPED students?

RQ2: How do rural middle school teachers use the components of DI to support SPED students within an inclusion class?

RQ3: How do the components of DI used by the teachers at the school of study align with best practices in DI to support SPED students within an inclusion class?

RQ4: What challenges do middle school teachers at the school of study face with incorporating the components of DI to support SPED students in an inclusion class?

During the interview process, the teachers acknowledged the importance of using DI as an instructional strategy to support all students and how it could enhance the academic achievement for SPED students. However, they also expressed their challenges when incorporating the elements of DI to support SPED students in an inclusion-based classroom. All the teachers were aware of the benefits of using DI within their inclusion-based classroom, but they lacked the time it took to plan and prepare adequately for it. Recurring themes were prevalent during the interviews: (1) Knowledge of DI, (2) Training/Professional Development (3) Challenges of DI, (4) Resources/Support, (4) Implementing DI, and (5) Using Technology in DI. Through my questioning, I was able to gather information about each teacher's teaching background, knowledge of DI, how they incorporate the elements of DI to support SPED students, challenges they experienced with using DI, and the training and professional development received (if any).

Each interview ranged from 45-60 minutes. The study sample included ten rural middle school teachers from grades 6–8: two ELA teachers, two math teachers, two science teachers, one ESOL teacher, one SPED inclusion teacher, and two social studies teachers (see Table 1).

Table 1

Teacher Demographic Information, Experience, Class Size, Number of SPED students, and Course (s) Taught

Participant	Gender	Experience	Class Size	Number of SPED Students	Course(s) Taught
A	F	3	25	13	7 th Grade ELA and 7 th Grade Social Studies
B	F	40	10	10	ESOL Class
C	F	20	22	10	7 th Grade Pre-AP Math; 7 th Grade AP Math
D	F	20	22	15	7 th Grade Science
E	F	8	23	10	6 th Grade Science
F	M	2	20	14	7 th Grade Social Studies
G	M	8	22	17	8 th Grade Social Studies
H	F	12	25	10	7 th Grade Pre-AP ELA; 7 th Grade AP ELA (Gifted and Talented)
I	F	27	15	15	7 th Grade Special Education and Inclusion Teacher
J	F	7	20	11	6 th Grade Math

The first three background questions were answered by all participants (Appendix B). The participants included two male teachers and seven female teachers. The participants reported having between two to 40 years of teaching experience. The class size range was between 10 and 25 students. The number of SPED students ranged from 10–17 students within their inclusion-based classrooms.

Questions 4–7, Knowledge and Training questions sought to answer RQ1: What types of training or professional development in DI, if any, have rural middle school teachers at the school of study attended? They also spoke to its follow up question: If he/she did not have any training, did he/she attempt to attend any professional development sessions or workshops geared toward DI? If he/she did attend any training or professional development, what did he/she find useful for supporting his/her diverse population in an inclusion–based classroom? The questions also addressed the participants’ knowledge of DI (Appendix B). The interview addressed the following questions and responses of each participant.

Knowledge about DI: “What is your background knowledge about DI?” All the participants had basic knowledge of DI. It was a consensus that the knowledge and understanding they have about DI came from their studies as an undergraduate or graduate student. During the interview process, they also acknowledged the importance of using DI to support all students. To gather more information, I asked the participants to elaborate by asking, “How would you define DI?” Most of the teachers gave similar responses by acknowledging that all students learn on different levels and that DI can be used to benefit students, especially the SPED population. Teacher F stated, “It’s meeting students where they are.” Teacher H stated, “DI is providing students a different way of learning.” Teacher J elaborated, “I think DI is using different learning styles to enhance student success.” Teacher G expressed, “I really do not know a lot about DI other than what it has been told to me in various classes for alternative certification, but I know it’s about meeting students where they are, which I struggle to do.”

Furthermore, Teacher A expressed, “Really DI is meeting the students where they are but pushing them to the next level by offering different opportunities for them to show it.” Finally, Teacher B stated, “DI is an instructional tool that uses different instructional strategies to meet individual student needs.”

Training/Professional Development: “To your knowledge, how much training or professional development on using the components of DI to support SPED students is offered to middle school teachers?” Some of the teachers agreed that they have minimal to no training, and that there is a need for more training where DI is modeled for them. The responses varied on when they received any professional development or attended a workshop about DI and whether they found it beneficial.

Teacher H expressed that the best professional development she attended was a STEM workshop. She stated:

The school sent me to a STEM workshop. The basics of this workshop were using the four C’s: communicate, collaborate, critical thinking, and creativity to differentiate instruction within classrooms. It was a chance for teachers in all content areas to share what instructional strategies and activities they were using to implement the 4 C’s and what they found successful. The presenters provided us with examples of each component and modeled the use of the components. The teachers were given a chance to be the students as well. It was a great experience. However, I have not had any other professional development training on DI.

Teacher H felt that the workshop provided her with resources that she could use to enhance learning and increase student achievement amongst all students, stating, “It was

refreshing to attend a workshop that was engaging and hands-on.” Teacher H also stated that “Other than the STEAM training, I haven’t had any other training or professional development in DI.” In contrast, Teacher I said, “Since teaching middle school (she previously taught high school ELA), I have not been provided the opportunity to further my knowledge of DI. I do believe that DI is woven into other professional developments I have attended.” I asked Teacher D to elaborate on the other professional developments she attended as it related to DI, she stated:

I participated in an ELA workshop on how to incorporate text-dependent analysis, TDA, and other literary components to strengthen students’ reading skillsets. We learned about different strategies, such as summarizing, anticipation guides, and vocabulary building techniques that all students can benefit from using. However, it did not provide information on how to differentiate that.

Teacher A expressed that she has been offered various opportunities for professional development via departmental meetings. She stated, “I feel like more opportunities should have been presented. Although, we were given a snapshot on using DI, it was not modeled, and time was short.” Teacher B, Teacher D, and Teacher G stated they received very little training in DI. Teacher G said, “We have been told by the administrative team to differentiate and show in our lesson plans how we were going to differentiate, but we were never shown what that looks like.” Teacher C expressed, “There have not been any professional development opportunities that I am aware of that focus specifically on how to differentiate instruction for students with disabilities.” In

contrast, Teacher C, Teacher E, Teacher F, and Teacher J expressed that they have not been offered any form of training in DI.

Question 6 and Question 7: “If you were not offered any professional development, have you attempted to attend any professional development sessions geared toward DI? If so, what did you find useful? Explain?” Teacher D stated previously that he had little training, he said, “I had to read a book about DI. After reading the book, I had to apply the activities learned in order to meet the needs of my students. I found the information to be useful because it provided me with different strategies to add to my curriculum to create a meaningful learning environment, but it has not been modeled for me on what the implementation of these strategies would look like for my classes. It has to be ongoing, not just for a workshop or breakout session at the beginning of the year.”

Teacher H previous stated that she did attend a professional development training. She stated, “I found the STEM workshop to be useful, especially the shared inquiry. It focused on critical thinking. Using the four C’s ensures that the students are focused. The workshop showed how students could pull evidence to improve their writing.” I followed Teacher H’s response by asking, “How can the four C’s be applied for special education students?” Teacher H stated, “I’m sure it can be applied with all students, including SPED students. However, it will take a lot of planning and collaborating to come up with an activity that is tailored to meet their learning needs.” Teacher A expressed that, “Although we have had some professional development during planning, it has been hard finding PD on my own.” Teacher B said, “Yes, I have attended an ESLO professional development training. I found it very useful. This training provided me with resources

and skills for general education teachers to use when working with ESLO students.” Teacher’s C, E, and F stated they have not attempted to find any professional development related to DI. Numerous times throughout the interviews, the teachers voiced their interest in obtaining some professional development on how to incorporate the elements of DI to support all their students and enhance the learning to support the SPED students within their inclusion–based classrooms. Teachers D, E, F, G, and H stated that they have not been provided with professional development of any kind in approximately four years due various circumstances.

Challenges of DI: “What challenges, if any, do you face with using the components of DI to support SPED students in your inclusion–based classes?” All the participants agreed that the use of DI could be beneficial toward student achievement. However, they also agreed that there were some barriers. Many agreed that the challenges they faced were the varied levels within a class, lack of planning time, and a lack of resources.

Teacher D stated a major barrier to be the number of ESOL students in his classroom and trying to determine the best method to reach each of them. He said,

My largest class has 25 students. In that class, I may have 5–10 students who are ESOL or classified as SPED with an IEP. I have a hard time finding ways to reach those students. Our ESOL teacher will push in on various days to assist, but it’s not enough. I’m always unsure if what I do is working or even if they understand.

Teacher E also commented on the varied levels of learning. She said, “My classroom includes students with a wide range of learning disabilities/challenges. I have

one class that includes students who have reading levels ranging from grade 2 to grade 6. It's difficult to differentiate while meeting everyone's needs with such a wide range of level abilities." Teacher J expressed, "My biggest challenge is creating lessons that are specific to each student's need." Teacher H stated his biggest challenge was foundational skills related to vocabulary. He stated,

I find it hard to teach any lesson when my students do not understand the vocabulary due to their level of learning. For example, I teach capitalism which is a free market. Then, I have to explain what a market is. This prevents me from really teaching to the standard when I spend so much time with vocabulary building. I still do not know the best way to reach my lower level learners while staying true to the content.

Teacher G stated, "My challenges are having varied learning levels within my class and not knowing if I'm actually meeting their needs." I asked the participant to elaborate, and he stated, "The administration team does not do a good job with communicating about PD and how to use DI within our classrooms. Issues with using DI are class size, lack of resources, lack of knowledge and no communication. They [district] give us a lot of "lip service" on things they have planned but there is no follow-through. I have basic knowledge of what DI is, but it has not been modeled. It's also difficult for me to differentiate any lesson when I have a large class with each student reading on different levels." Teacher B mentioned the lack of support. She stated, "As an ESOL teacher, the challenge I see is the lack of support for general education teachers." I asked her to explain, she stated, "General education teachers are asked to provide the same work to all students and are not given support on how to do so."

Questions 9–12, instructional practice questions, focused on the participants’ instructional practices, including instructional strategies and planning (Appendix B). The following questions and responses addressed the participants’ views.

Resources/Support: “What instructional tools, if any, might you need to effectively incorporate the components of DI to support SPED students within your inclusion–based classes?” During the interview, some teachers reported that it would be beneficial to overcome some of the challenges with incorporating the elements of DI by having more planning time, more resources, and a supportive, certified co–teacher. Teacher J expressed the need for more support. She stated, “I would like another teacher in my class to help support and assist me in how to tailor lessons based on the individual needs. At the beginning of the year, we had a SPED teacher push in. Apparently, it stopped without notice.” I asked Teacher J to elaborate on her experiences with an additional teacher in her class. She stated,

Whenever the SPED teacher would push into my class, she was very helpful. She would assist all my students if needed, not just her SPED students. She would work with groups and read some text aloud.

Teacher I also expressed the need for support by a SPED certified teacher. She stated,

As a SPED teacher, I agree that general education teachers do need the extra support to combat the number of SPED students being mainstreamed. They [general education teachers] could benefit from planning with a SPED teacher, which would make

teaching SPED student less stressful. However, the general education teacher has to be willing to step outside of “the box” and adapt to a new way of teaching.

Teacher F also commented on the need for more support within the classroom. He stated, “The resources needed to make my classroom more effective are PD training, an added endorsement in SPED and push in from SPED teachers.” Teachers G, Teacher C, and Teacher H mentioned the need more hands-on materials, manipulatives, tiered/level learning activities, and more prep time. Teacher B, H, and I mentioned the use of technology to assist with differentiating instruction to support SPED students. Teacher B said, “My biggest challenge with differentiating instruction for my students is planning and availability.” I asked her to elaborate. She stated, “Due to the lack of funding for ESLO teachers, I travel between two schools, which also puts some constraints on my time and availability to collaborate, plan, and be a resource for teachers.” Teacher H expressed her biggest challenge with DI was timing and planning. She stated, “I personally believe the challenge for me is finding the time to plan properly.” Teacher C also commented on time by saying, “It has been difficult to cover the content standards effectively in the amount of time given. When you only have 55–60 minute classes, it is hard to balance your time with students and meet the needs of your SPED students.”

Implementing DI in Inclusion-Based Classrooms: “What instructional strategies are you currently using, if any, that are aligned with the components of DI to support SPED students in your inclusion-based classes?” All the participants spoke on using a plethora of strategies within their classes. However, they also stated that it takes a

lot of time to plan and prepare differentiated activities for their classes. Teacher C also commented on using varied learning strategies to support SPED students. She stated,

I try to include relevant, high-interest lessons, varied homework assignments, tiered lessons where students are assigned a different task but working on the same objective, interactive note booking, and group activities. However, it takes a lot of planning and preparation time to plan out an elaborate lesson to ensure all needs of students are being met.

Teacher E stated, “I use videos, some leveled articles, graphic organizers, infographics, diagrams, think-pair-share, creative writing, and guided notes, but depending on what is being covered, I may not have enough time to differentiate the content using those activities to see if my students as well as special students lack understanding.” Teacher J expressed using reading scores to develop instructional strategies. She said, “I used their MAP scores to group students based on their reading levels. I choose different reading articles tailored to their reading level.” Teacher H mentioned that she gives her students choices on how they would like to express their work. She stated, “I use choice menus for a lot of projects and other assessments. I provide students with tiered options from high-level thinking to low level.” I asked her to explain more about the choice menus. She stated,

I have various. One that I use more frequently is the tick-tac-toe. With this option, the students can pick three choices, but only one can be a lower-level activity. The other two must be slightly higher. The points could range from 10 pts to 50 pts.

Teacher A stated, “I do one–on–one conferencing in small groups. I also use handouts that allow the students to fill in the blanks with a given word bank. I utilize sentence starters to help my students who struggle with writing, which is almost all of them.”

Question 11 asked: “What assessments do you use to assess SPED students’ level of understanding according to your standards and the effectiveness of DI in your inclusion–based classroom?” All participants said they either read aloud their tests and quizzes to their students, or they have a read aloud feature on their computers that will read the text to them. Teacher D stated, “I shorten quizzes. Instead of giving them four answer choices, I will give three.” Teacher E and H both stated that they use exit tickets, thumbs up/thumbs down, and whole–class discussions. Some of the teachers mentioned using state and district testing, such as MAP testing, benchmark testing, and USA Test Prep to assess students. Teacher C elaborated on the use of MAP testing by saying, “MAP testing allows me to make charts and graphs based on their math level. It gives me instant feedback.” Teacher I mentioned using grading rubrics as form of assessment. Teacher A commented on the use of MAP scores, she stated, “In addition to MAP scores, I use open notes, drawings, and shortened questions.”

Question 12: “If you use the components of DI within your inclusive classroom setting, what are some examples of activities you have used to engage your SPED students?” Teacher D stated, “I use projects to show levels of understanding.” I asked the participant to elaborate on types of projects he has given. He stated,

One of the projects that my students had to do was build a human body. As they learned about a system, I provided them with an organ associated with that system. They had to write something about the organ. I gave them the options to write an interesting fact about the organ or function. Once all the systems and organs were covered, they must build the human body. They also had to write about how the various systems were connected. They had to label all the systems and color code the organs associated with that system. The students were given a grading rubric to guide them in completing this project, as well as a model of what it should look like with step-by-step instructions.

Teacher H commented on the use of projects with her ELA students. She said, “One of the activities I have used with my students is called the Escape Room. The Escape Room is set up in stations. The stations are on all ability levels.” Teacher G stated that he uses gallery walks. He stated, “Gallery walks are great way to assess student knowledge. I will post questions or images with a caption. The students are given time to walk around and write the answer to the question or their analysis of the image. After the allotted time, we will have a class discussion.” Teacher I and Teacher J both expressed using literature circles, grouping, and book choice as activities to differentiate levels of understanding. Teacher E stated, “I use a lot of graphic organizers, interactive labs, lab stations, and color-coding activities with my science students.” Teacher C commented about using foldable. She stated, “I have my students create a foldable on various math operations to help with building understanding.”

Using Technology in DI: Teacher H stated, “I used Kahoot, an educational game to help with my diverse learners. I also use videos.” Teacher I also commented on the use

of technology by stating, “I used a lot of video segments to discuss a particular topic and visual aids, such as pictures, to help teach my students new concepts.” Teacher B, H, and I mentioned the use of technology to assist with differentiating instruction to support SPED students. Teacher B said, “I used Quizlet to help build vocabulary with my ESOL students. With this computer application, I can create quizzes, flashcards, and matching games to help build their vocabulary and understanding. It takes a good amount of planning to create the Quizlets to ensure that I am providing them the content of various subjects.” Teacher A also mentioned the use of technology to differentiate the instruction in her inclusion–based classrooms, such as digital notebooks. She stated that this notebook is online, and it allows her SPED students a way of taking notes in class without having to write them down. In addition, she mentioned using a “flipped classroom.” I asked her to explain. She stated, “A flipped classroom is when she records her lesson and uploads it for students to watch. This allows them to stop and play as they see fit.” Teacher H, Teacher B, and Teacher I all stated they use collaborative teaching, technology, and guided notes to assist SPED students. Overall, all the participants expressed the need for more resources and materials to incorporate the components of DI effectively within their inclusion–based classrooms.

In summary, the data collected showed a discrepancy in the timing, planning, and lack of knowledge about DI. Individual interviews were conducted and provided data on the use, or lack thereof, of DI within an inclusion–based classroom. The data collected explored the experiences of rural middle school teachers and the challenges they are

faced with, or lack thereof, when using DI to support SPED students in an inclusion-based classroom.

The responses of the participants in the interviews provided me with a deeper understanding of challenges associated with incorporating DI to support a diverse population. Participants revealed that DI, when used, can be beneficial to all students and enhance learning for SPED students. They also expressed the challenges in doing so. Participants felt they lacked the knowledge, time/preparation, resources/materials, and professional development training opportunities to be able to incorporate the elements of DI effectively. Through my findings, I discovered that many teachers were incorporating the use of technology as a resource to assist them with differentiating instruction for diverse students. However, it can be concluded that most teachers had a basic understanding of DI, but some teachers had a better understanding.

Observation Data

Data Collection Process

Once the interviews were completed, I conducted an instructional observation of each participant. Each participant scheduled an agreeable time and date with the researcher to observe his/her class for one hour. I followed the instructional observation protocol (Appendix C) and took notes during each observation.

A summary was provided to each participant after each observation as a member check. The participant was given one week to review the summary and send it back to the researcher with revisions, if needed. All the notes were transported to the researcher's home and locked in a filing cabinet until data analysis began.

Observations

Observations were conducted in each participant's classroom. Each participant provided a date and time that was convenient for them. The observation lasted approximately 60 minutes. The researcher utilized the observation protocol (Appendix C) to collect data. Participants could review a summary of the observation once each observation was completed to assure the accuracy of the data.

The observation process provided an understanding of the participants' use of DI within their inclusion-based classroom to support SPED students. My role during the observation included taking notes to support coding and analysis. One of the primary roles of the researcher was as a critical listener. According to Creswell (2014), critical listening is a data collection instrument the researcher uses during the observation process.

Findings Connected to the Problem Statement and Research Questions

The observation data addressed RQ2 and RQ3: How do rural middle school teachers use the components of DI to support SPED students? How do the components of DI that teachers use to help SPED students in an inclusion-based class align with best practices in DI? Each participant agreed to a 60-minute instructional observation. The researcher utilized the observation protocol checklist and took notes during the observation. The observation protocol list analysis looked for evidence associated with the components of DI (content, process and product). As I observed each class, I placed a check under the appropriate column: strong, adequate, or none, as it related to the evidence associated with the checklist (see Appendix C).

Seven out of the ten participants' observations presented adequate evidence showing the use of DI within their inclusion-based classrooms. All 10 of the participants had their standards and objectives for the lesson posted on the board. Participants A, B, and I read the objectives aloud to the students letting them know what they will know and understand from the lesson being presented. In all the classes observed, the students were engaged during the lesson. Students were raising their hands to participate and answer questions.

Three of the ten participants showed strong evidence of DI with the layout of their classroom creating accessibility to grouping for teacher and student engagement. Participant A, an ELA class, had her desks arranged in groups of four. She also had a semi-circle table where she did a conference with students on their writing. Similarly, Participant D, a science teacher, had his desks arranged in groups of four. Participants B and I also had a semi-circle table that allowed approximately five students to sit at the table with a teacher. At the time of their observations, both teachers were working with students individually, while the other students were working independently on another assignment given by the teacher.

All ten of the participants showed adequate evidence of their use of materials and resources. All the participants had Smartboards within their classrooms, as well as Chromebooks for student use. All the participants used their Smartboards to present their instruction or integrated the use of the Chromebooks. Participant C, D, and E required their students to use interactive notebooks to keep and store all the information that was

given by their teacher. I observed students cut and pasting foldables inside their interactive notebooks, as well as taking notes.

A majority of the participants showed adequate use of various instructional strategies during their inclusion-based classes. Participant A had her students annotating in their notebooks while she read a book aloud to them. She modeled how to annotate while the students followed along in their notebooks. During the modeling, she explained her thinking while making connections to the learning objective. Participant E also used a variety of instructional strategies to deliver her content. She began the class with “Buzz Questions,” which students were prompted to answer using their Chromebooks. She showed a small video clip on the content being covered. She also asked a variety of questions about the video throughout her lesson. The questions were purposeful and connected to the lesson’s learning objective.

Seven of the ten participants accessed prior knowledge during the class by starting class off with some form of five-minute warm-up. The warm-ups consisted of a writing prompt, multiple-choice questions, or an image to access prior knowledge drawing connections to the standard. Although many of the participants did not show evidence of student choice, Participant A and E provided their students with choice. Participant A gave her students a choice to read for 20 minutes or write at the start of class. Participant E gave her students a choice to write a summary of their science article on notebook paper, type it using their Chromebooks, or draw a picture to display the contents of the article.

Although the findings from the interview process reflected teachers' acknowledgement of the importance of using DI to support all students, during the observations, there appeared to be a consensus amongst all the participants that there is a lack of time to incorporate DI within their inclusion-based classrooms to help SPED students. The data collected also reflect teachers' willingness to attempt to incorporate DI, but knowledge and understanding of how to effectively implement and utilize the components of DI is not always transferred to the classroom.

Review of Documents Data

Data Collection Process

The participants submitted three artifacts of their choice for analysis. The artifacts were given to me during each interview. Among the documents presented were lesson plans, classwork/worksheets, project descriptions, and assessments. Materials were transported to the researcher's home and locked in a filing cabinet until the data analysis process began.

Review of Documents

The analysis of documents was conducted in a conference room at the study site. Participants submitted a minimum of three artifacts of their choice during the interview process. Each review of documents lasted approximately 15–20 minutes. I utilized the document protocol checklist established for the analysis of documents (Appendix D). The review of documents process provided insight into each participant's use of DI to reinforce what was noted during each interview and observation. My role during the review of documents was to take notes on patterns and note connections related to the

thematic relationships coded from the interviews and observations. During the investigation of each document, I used a checklist (Appendix D) to analyze the use of DI. I then rated the participants according to the documents presented as strong, adequate, and none. Upon completion of the review, a copy of the findings from each document review was returned to each participant. All participants approved the findings.

Findings Connected to the Problem Statement and Research Questions

The review of documents addressed RQ2 and RQ3: How do rural middle school teachers use the components of DI to support SPED students in an inclusion-based class? How do the elements of DI that teachers use align with best practices in DI for SPED students in an inclusion-based class? The participants were asked to submit any documents that showed evidence of DI that would help to support SPED students. The documents submitted were classwork/worksheets, project descriptions, lesson plans, and assessments.

Lesson plans. Of the ten participants, three teachers submitted lesson plans for the review of documents. The intended purpose of the lesson plans was to look for evidence of DI: activities aligned with standards, variety of activities, evidence of small groups/flexible learning, and implementation of ongoing assessments (formal or informal). Teacher H, Teacher F, and Teacher D submitted lessons plans. (See Figure 1-3)

Evidence of DI → □	Strong	Adequate	None	□
Lesson planned for diverse students □	□	X□	□	□
Implementation of ongoing assessments □	□	□	□	□
Lesson support standards/content and topics □	X□	□	□	□
Use of a variety of instructional strategies and activities used to teach the lesson □	X□	□	□	□
Evidence of small groups or flexible learning □	□	X□	□	□
Evidence of projects and problem-solving activities □	X□	□	□	□
Evidence of student choice activities □	□	□	X□	□

Figure 1. Teacher H Review of Documents (Lesson Plans)

Evidence of DI → □	Strong	Adequate	None	□
Lesson planned for diverse students □	□	X□	□	□
Implementation of ongoing assessments □	□	X□	□	□
Lesson plans support standards/content of topics □	X□	□	□	□
Use of a variety of instructional strategies and activities used to teach the lesson □	X□	□	□	□
Evidence of small groups or flexible learning □	X□	□	□	□
Evidence of projects and problem-solving activities □	□	X□	□	□
Evidence of student choice activities □	□	□	X□	□

Figure 2. Teacher H Review of Documents (Lesson Plans)

Evidence of DI → □	Strong ✓	Adequate ✓	None □	□
Lesson planned for diverse students □	□	X□	□	□
Implementation of ongoing assessments □	□	X□	□	□
Lesson plans support standards and topics □	X□	□	□	□
Use of a variety of instructional strategies and activities used to teach the lesson □	□	□	X□	□
Evidence of small groups or flexible learning □	□	X□	□	□
Evidence of projects and problem-solving activities □	□	□	X□	□
Evidence of student choice activities □	□	□	X□	□

Figure 3. Teacher F Review of Documents (Lesson Plans)

Participant H listed her standards and objectives for the lesson being taught. She recorded the vocabulary associated with the lesson. She also listed all the supplies/materials the students will be using throughout the lesson. On her lesson plans, she had a section listing how she planned to differentiate her instruction: using guided notes, ESOL students were given copies of guided records in Spanish and English as well as PowerPoint copies in Spanish translated to English. She had a variety of ongoing assessments: Kahoot answer, illustration activity, and homework.

Participant F had social studies standards and objectives listed at the top of his lesson plans. He also had a list of vocabulary words that the students will be using during this lesson. He recorded a variety of activities and the implementation of technology to engage his students and appeal to his SPED population, such as video clips, graphic organizers, and collaborative pairs. His ongoing assessments were Web Quests on a

famous medieval figure, quizzes, and “war games”. However, there was no evidence of student choice.

Participant D submitted his lesson plans for review. He had the standard and objectives listed, and an activity that was aligned with the standard. I also noted that he recorded the vocabulary that students should know for this standard. For assessments, he listed “teacher observation”. However, he listed some ongoing assessments under homework (i.e., lab report, complete chemical formula color sheet). He also had a section titled “differentiated instruction”. In this section, there were sub-headings: At-Risk and Accelerated. For at-risk, he listed how he was going to differentiate instruction using visual aids and/or teacher assistants. For accelerated, he listed “work independently” and “visual aids”. Although he had what type of lesson he was going to deliver, he did not list how he was going to execute the activities. There was not any indication for student choice presented on the lesson plans. He included what type of lesson he was going to deliver, but he did not list how he was going to execute the activities. There was not an indication for student choice presented on the lesson plan.

Classwork/worksheets Four of the participants submitted documents in this category. The documents included graphic organizers, writing assignments, labeling diagrams, concept maps, and comprehension questions. The purpose of each of the documents submitted was for students to apply their understanding of the concepts being covered or to review the concepts that have been covered in class (see Figure 4-6).

Evidence of DI →	<input type="checkbox"/>	Strong ↗	Adequate ↘	None ↖	<input type="checkbox"/>
Lesson planned for diverse students	<input type="checkbox"/>		X	<input type="checkbox"/>	<input type="checkbox"/>
Implementation of ongoing assessments	<input type="checkbox"/>		X	<input type="checkbox"/>	<input type="checkbox"/>
Lesson plans support standards and topics		X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of a variety of instructional strategies and activities used to teach the lesson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
Evidence of small groups or flexible learning	<input type="checkbox"/>		X	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of projects and problem-solving activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
Evidence of student choice activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

Figure 4. Teacher B Review of Documents (Classwork/Worksheet)

Evidence of DI →	<input type="checkbox"/>	Strong ↗	Adequate ↘	None ↖	<input type="checkbox"/>
Lesson planned for diverse students	<input type="checkbox"/>		X	<input type="checkbox"/>	<input type="checkbox"/>
Implementation of ongoing assessments	<input type="checkbox"/>		X	<input type="checkbox"/>	<input type="checkbox"/>
Lesson plans support standards and topics		X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of a variety of instructional strategies and activities used to teach the lesson	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of small groups or flexible learning	<input type="checkbox"/>		X	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of projects and problem-solving activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
Evidence of student choice activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

Figure 5. Teacher G Review of Documents (Classwork/Worksheet)

Evidence of DI →	Strong	Adequate	None
Lesson planned for diverse students		X	
Implementation of ongoing assessments		X	
Lesson plans support standards and topics	X		
Use of a variety of instructional strategies and activities used to teach the lesson		X	
Evidence of small groups or flexible learning			X
Evidence of projects and problem-solving activities		X	
Evidence of student choice activities		X	

Figure 6. Teacher G Review of Documents (Classwork/Worksheet)

Participant B, ESOL teacher, submitted a worksheet on prefixes and making connections to the learning objectives. Prefixes was defined at the top of the worksheet. It provided a prefix and meaning. The students had to circle the prefixes in each sentence. On the back of the worksheet, the students were required to pick three of the prefixes and create a new word which assessed the student's level of understanding. The document did not display evidence of projects/problem-solving or small groups/flexibility. The students were not given another option to show their level of understanding on this handout.

Participant G, a social studies teacher, submitted two graphic organizers on the content that was covered during his observation. The worksheet was connected to the learning objective. One the worksheets had some answers already filled it (lower level students), and the other had no answers filled in. The students had to use their notes

complete the worksheet. The worksheet did not show evidence of student choice or projects/problem-solving.

Participant E, a science teacher, submitted a worksheet that required the students to label, color, draw, and answer questions about what they were learning, providing the students with a variety of ways to display their understanding. The worksheet required the students to interpret and analyze information showing adequate evidence of problem-solving. However, the worksheet did not show evidence of flexible or small grouping.

Projects. One of the participants submitted project descriptions. The documents included were individual projects and group projects with writing or presentation components. The students had the option to turn in a written document or present their work via Google Slides. All documents aligned with the state standard and objectives (see Figure 7).

Evidence of DI → □	Strong	Adequate	None	□
Lesson planned for diverse students □	□	X □	□	□
Implementation of ongoing assessments □	□	X □	□	□
Lesson plans support standards and topics □	X □	□	□	□
Use of a variety of instructional strategies and activities used to teach the lesson □	□	X □	□	□
Evidence of small groups or flexible learning □	□	□	X □	□
Evidence of projects and problem-solving activities □	X □	□	□	□
Evidence of student choice activities □	X □	□	□	□

Figure 7. Teacher Review of Documents (Assessment)

Participant A, an ELA teacher, submitted a project description about mental disorders. The students were given a choice as to what disorder they wanted to research. They were also given a choice on how they wanted to present their findings (i.e. foldable, PowerPoint, or poster board). A grading rubric was also attached to the project description. The assessment had measurement criteria and measured student performance in more than one way. She was assessing their writing, content, and creativity. The project was aligned with the standard and learning objectives being taught. The project was individualized; therefore, no evidence was presented showing small groups or problem-solving activities.

Assessments. Three of the participants submitted an assessment, either a test or quiz. The purpose of each assessment was to determine the students' level of knowledge and understanding of the topic being covered (see Figure 8–10).

Evidence of DI → □	Strong	Adequate	None	□
Lesson planned for diverse students □	□	X□	□	□
Implementation of ongoing assessments □	□	X□	□	□
Lesson plans support standards and topics □	X□	□	□	□
Use of a variety of instructional strategies and activities used to teach the lesson □	□	X□	□	□
Evidence of small groups or flexible learning □	□	X□	□	□
Evidence of projects and problem-solving activities □	□	X□	□	□
Evidence of student choice activities □	□	□	X□	□

Figure 8. Review of Documents (Assessment)

Evidence of DI → □	Strong	Adequate	None	□
Lesson planned for diverse students □	□	□	X□	□
Implementation of ongoing assessments □	□	X□	□	□
Lesson plans support standards and topics □	X□	□	□	□
Use of a variety of instructional strategies and activities used to teach the lesson □	□	□	X□	□
Evidence of small groups or flexible learning □	□	X□	□	□
Evidence of projects and problem-solving activities □	□	X□	□	□
Evidence of student choice activities □	□	□	X□	□

Figure 9. Teacher C Review of Document (Assessment)

Evidence of DI →	Strong	Adequate	None
Lesson planned for diverse students	X		
Implementation of ongoing assessments	X		
Lesson plans support standards and topics	X		
Use of a variety of instructional strategies and activities used to teach the lesson			X
Evidence of small groups or flexible learning		X	
Evidence of projects and problem-solving activities			X
Evidence of student choice activities			X

Figure 10. Teacher J Review of Documents (Assessment)

Participant I submitted a 25-question assessment. She stated, “I gave this assessment via Google Forms.” She proceeded to say, “Many of my students have oral accommodations, and the Chromebooks have a read-aloud application that students can access. The computer will read the questions and answer choices out to the students once the students are finished. Upon the submission of their quiz, the students will receive their score.” The assessment submitted was a multiple-choice reading quiz. However, the questions were short and concise, with fewer answer choices. The assessment was aligned with state content standards.

Participant C, a math teacher, also submitted a Google Form for review of documents. It was a 20-question math test using rational and irrational numbers. She stated, “I provide each student with a hard copy of the test allowing the students to show how they solved the problems and circle their answer. Once they have completed their

test, each student is required to submit their answers using the Google Form.” The assessment provided measured student performance in the form of multiple choice. The assessment was aligned with state standards.

Participant J, an ELA teacher, submitted a 20-question reading comprehension assessment. The students had to read a passage and answer some questions related to the passage. The assessment had more than one way to measure student performance: multiple-choice, short answer, and essay. She presented evidence of having small groups with her assessment. When she submitted her assessment, she informed the researcher that she often forms a small group within her class to read the test aloud for those students who have oral accommodations. The assessment was aligned with state content standards. There was no evidence of student choice. The assessment was aligned with state content standards.

The review of documents showed teachers incorporating some components of DI within their inclusion-based classrooms. The data collected also reflect teachers’ willingness to attempt to incorporate DI, but knowledge and understanding of how to effectively implement and utilize the components of DI is not always transferred to instructional practices.

Thematic Patterns Between Data Sources

Yin (2014) recommends conducting analysis for patterns between data sources. The data sources used for this study involved responses from interviews, field notes from observations, and field notes from reviewed documents. Five thematic relationships emerged from the data: (1) Knowledge, (2) Training/Professional Development (3)

Challenges of DI, (4) Resources/Support, (4) Implementing DI, and (5) Using Technology in DI.

Through data analysis, I provided an adequate understanding to show how Tomlinson's Theory of DI framework encompasses middle school teachers' understanding of incorporating the components of DI to enhance learning for all students, especially SPED students. According to Tomlinson (2000a), DI is a commonsense approach to teaching diverse learners in mixed ability classroom which focuses on effective instructional strategies to maximize student abilities to learn as a result of their teacher's ability to respond each student's unique style of learning (Tomlinson, 2005a). Using an assortment of instructional strategies to differentiate content, process and product will allow teachers to meet the learning needs of more students because they are addressing the variability in students' readiness levels, interests, and learning preferences (Tomlinson, 2000b; Tomlinson & McTighe, 2006).

The results of the data analysis point to the need for administration and district officials to provide quality professional development (PD) opportunities for middle school teachers in using the components of DI to support all students, which will enhance the learning of their SPED population. Many of the participants stated that they would like more support to combat the challenges of incorporating DI within their inclusion-based classes. Administrators and district officials will need to provide the time and resources necessary to organize a professional development program or workshop on DI specializing in SPED or diverse learners. Having a professional development workshop will give general education middle school teachers the knowledge and training necessary

to effectively incorporate the components of DI to support their SPED population. According to Tomlinson & Allan (2000), effective professional development using DI provides knowledge and understanding teachers need to vary the instruction within their classrooms.

Conclusion

An instrumental case study design was used to explore rural middle school teachers' experiences using the components of DI to support SPED students within their inclusion-based classrooms. Individual interviews, instructional observations, and a review of documents were conducted and provided data on teachers' experiences with using DI and the challenges they may face. Data from the interviews, along with field notes from the observations and a review of documents, were hand-coded to help identify possible thematic relationships and patterns. The information collected provided the researcher with a deeper understanding of the challenges associated with incorporating DI within middle school inclusion-based classrooms. There was a consensus amongst the participants about the benefits of using DI to enhance student achievement for the SPED population, but the data also revealed the challenges the middle school teachers faced with doing so. Participants felt that more resources, more time/preparation, and more professional development opportunities would better equip them for using DI within their middle school inclusion-based classes.

In section 3, I will discuss the project derived from studying the literature. In section 4, I will include a reflection of the project. The reflection will consist of the

project study's limitations, strengths, and potential impact on 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 instrumental case study was to explore rural middle school teachers' experiences incorporating DI components (content, process and product) with SPED students in an inclusion classroom. Findings from current literature and this study support the need for professional development that will address middle school teachers' understanding of DI and demonstrate how to incorporate the components to support SPED students within their inclusion-based classrooms. Middle school teachers at the study site presented challenges with incorporating DI in their inclusion-based classes. Data collected indicate a need for professional development regarding incorporating DI components to enhance achievement for SPED students in inclusion-based classes. I developed a project to address these challenges and to consider ways middle school teachers could overcome them.

I created a three-day professional development training that focused on enhancing middle school teachers' understanding of DI components and the ability to use different models of DI to support SPED students in their inclusion-based classes. First, teachers need a clear understanding of DI components. Next, teachers need DI instructional strategies that are aligned with the standards so that the components can be incorporated in their classrooms in a timely, practical way. Finally, teachers need time to collaborate and develop lessons that embrace the elements of DI and then create instructional material to implement those lessons. The goal of this professional development workshop is to increase the DI effectiveness by enhancing middle school teachers' knowledge and

understanding of DI components. In addition, the professional development workshop will provide instructional strategies aligned with teachers' existing standards so that the teachers can implement DI elements and support SPED students in their inclusion-based classes.

Rationale

Five themes emerged from the data in this study: (a) knowledge of DI, (b) training/professional development, (c) resources/support, (d) implementing DI, and (e) using technology in DI. The participants feared that implementing DI components would impact the amount of time they have to teach content. Participants also did not feel appropriately knowledgeable of DI components. Finally, all participants expressed a need for professional development that would include methods of using of DI components in classrooms, support all students, and enhance learning for SPED students.

This professional development program is based on current literature. According to Avalos (2011), effective professional development creates a learning community for educators to collaborate and share resources that will enhance student achievement. Effective professional development programs offer instruction in pedagogy and should encompass seven components: teaching communities, leadership, resources, data, learning design, implementation, and outcomes (Fullan et al., 2014)

Findings from the data collected showed that some teachers attended professional development in which they were exposed to DI strategies; however, many of them felt that more training was needed to implement DI in their classes. To their knowledge, the district has not offered any professional development on DI.

The project was designed with adult learners in mind. There are six components necessary to support adult learning: (a) need for knowledge, (b) controlling individualized learning, (c) real-life experiences, (d) preparedness to learn, (e) exposure to learning, and (f) intrinsic motivation (Jordan, 2016). Additionally, the components of adult learning need to be established and job-embedded within professional development activities (Houk, 2010). Jordan's (2016) adult learning components were considered when creating the project to increase teacher knowledge and skills.

The key findings from this study provided the framework for a three-day professional development program to support middle school teachers' understanding of the components of DI and enhance the learning of SPED students. Teachers may better understand strategies used to align the existing standards and content with DI components to meet the needs of students in an inclusion-based class. The middle school teachers will be exposed to different models of DI, as well as DI activities that can be used during their classroom instruction. Additionally, the professional development program will provide teachers a chance to collaborate and develop lessons that include DI components and activities associated with improving student achievement for diverse learners. Providing middle school teachers this professional development program may lead to an increase in the effective use of DI in inclusion-based classes at the school of study.

Review of the Literature

I conducted an exhaustive search and analysis of peer-reviewed research articles using Google Scholar and Walden University library resources such as ERIC and Educational Research Complete. Keywords searched include: *DI*, *effective professional development*, *adult learning*, and *professional learning communities*. The literature review supported a three-day professional development workshop on incorporating DI components to support SPED students and increase student achievement within inclusion-based classes. The professional development workshop will also provide middle school teachers with strategies to overcome challenges when implementing DI.

Professional development. The program I created for this study was a professional development program aimed at increasing teacher understanding and effective incorporation of DI components (content, process and product) in the curriculum to support all students, including SPED students. Professional development programs provide educators with a way to cultivate skills and stay well informed with the latest trends in education. According to Williford et al. (2017) and Edinger (2017), professional development is a pivotal component in advancing the effectiveness of teachers in raising student achievement through a sustained, comprehensive, and intensive approach toward classroom success. Professional development is about how teachers learn and transform their knowledge into practice to improve student skills and experience in class (Avalos, 2011; Lunsford, 2017). Teachers need visual models of training, opportunities, and support to acquire new knowledge to advance their teaching

styles over an extended period as they attempt to use their curriculum (Donovan et al., 1999; Lunsford, 2017).

Research shows that professional development is needed for novice teachers more so than veteran teachers. According to Thornton (2013), novice teachers could benefit more from the incorporation of professional development in DI, for they have less exposure to examples of DI. Veteran teachers are more inclined to use DI but may not develop a sensitive disposition necessary for professional development (Thornton, 2013). Maintaining responsive placement is essential for student achievement of middle school students, according to Avery (2017). Thornton (2013) concluded that responsive installation increased with teacher preparation programs focusing on best practices, such as DI. Avery (2017) stated that veteran teachers often find professional development challenging. However, Burrige and Carpenter (2013) cited that veteran teachers often adapt new practices within their own teacher identities when considering the implementation of DI.

Furthermore, researchers convey that teacher education programs and continued professional development, mentoring, and co-teaching will foster highly responsive teaching (Thornton, 2013). Professional development can help teachers ensure that students are successful in meeting the state proficiency standards for the subjects they teach. With the incorporation of active professional development, teachers will be better equipped meet the requirements of their diverse students (Burrige & Carpenter, 2013).

Unfortunately, the money that schools invest in teachers' professional development does not always result in improved classroom instructional practices.

According to Calvert (2016), school districts spend an annual average of \$8,000 to \$12,000 on professional development per teacher. However, professional development programs have been criticized for their ineffectiveness (Feist, 2003; Gore et al., 2017; Gutierrez & Kim, 2014). According to Gore et al. (2017) and Gutierrez and Kim (2014), the ineffectiveness of professional development is due to not understanding the needs of adult learners or andragogy (Knowles, 1973).

According to Bates (2017), adult learning is influenced by experiences and self-concepts. It requires an understanding of building upon the learners' prior knowledge and cultural experiences (Bates, 2017). Recognizing the needs of adult learners allows for more significant opportunities to build self-efficacy while learning and growing as educators.

Effective professional development utilizes the principles outlined by Knowles (1984) while enhancing teacher knowledge of the subject matter and providing teachers with sustained support and coaching. Effective professional development is also an opportunity for districts to invest in teachers and strengthen their commitment and retention (Ladd, 2011; Smith & Rowley, 2014). According to Learning Forward (n.d.), effective professional development should have learning communities, leadership, resources, data, learning design, implementation, and outcomes (Standards for Professional Learning). Avalos (2011) stated that professional learning is "cognitive and emotional involvement of teachers individually and collectively for the betterment of student achievement" (p. 11). Professional development is also a learning community that allows educators to collaborate and share knowledge that will ultimately cultivate a

“learning school” (Killion & Roy, 2009). Killion and Roy (2009) defined a “learning school as a place where every student benefits from the knowledge gathered from his or her colleagues” (p. 17). Collaboration is noted as being a powerful way of ensuring excellent teaching for every student (Killion & Roy, 2009).

Professional development and modeling differentiated instruction. The goal of professional development is to improve the effectiveness of a teacher’s curriculum (Slater, 2017; DeVeve et al., 2014). According to Slater (2017), teachers are expected to use DI within their classrooms; however, it should be modeled during training sessions. Teacher self–efficacy and student achievement increase when DI is modeled during professional development and educators are supported in implementing DI. According to DeVeve et al. (2014), the incorporation of professional development enhances teacher ability to execute effective DI within the classroom. In contrast, teacher inexperience will inhibit implementation of DI. Furthermore, teachers in all disciplines can benefit from participating in a professional development program to improve content knowledge, enhance student achievement by showing performance–based mastery of skills, and focus on deeper knowledge competencies (National Commission on Teaching & America’s Future [NCTAF], 2016). Professional Learning Communities (PLCs) are an engaged ongoing collaboration of teachers and staff that identify and work toward common goals, disseminate knowledge, and reflect on individual practices (Smith, 2012; Tan & Caleon, 2016). According to Bowe and Gore (2017), PLCs support participants in sharing ideas and best teaching practices. A study was conducted by William (2013) in a Texas school district where teachers were placed into a PLC to show the impact PLCs have on student

achievement. Data were collected over a 5-year period and the results revealed student achievement improved over three of the five years due to PLCs. The PLCs also contributed to teacher self-efficacy within their discipline and improved team-building skills (Smith, 2012).

Houd (2010) cited five attributes of an effective PLC: (a) supportive and shared leadership, (b) shared inventiveness, (c) shared ideas and beliefs, (d) supportive situations, and (e) shared reflective self-practices. The implementation of the five attributes may ensure a successful PLC. PLC implementation can allow for: teachers to reach common goals, become involved in meaningful dialogue, generate opportunities for reflection, and ensure accountability for results (Svanbjornsdottir, Macdonald, & Frimannson, 2016).

Collaboration. Collaborative professional learning involves educators working together to improve their knowledge and practice while enhancing their teaching. Morrissey (2000) stated “teacher and administrator learning are more complex, more in-depth, and more fruitful in a social setting...participants can interact, test their ideas, and challenge their inferences and interpretations, and process new information with each other” (Killion & Roy, 2009, p. 27). Allowing an environment in which conversations regarding how to enhance student achievement take place is the foundation for effective professional development.

The concept of collaboration is one of the hallmarks of effective professional development. According to Harmon (2017), collaboration is the highest level of organization because expertise from everyone involved is synthesized, resulting in new

idea or products. Garret et al. (2001) mentioned that it is a platform where groups of teachers can collectively participate, resulting in improvements in teacher knowledge, skill, and changes in practices. Furthermore, collaboration allows teachers a learning environment that enables them to share goals and create learning communities.

Project Description

The purpose of professional development is to improve the effectiveness of a teacher's curriculum (DeVeve et al., 2014; Slater, 2017). The goal of the professional development program is to increase rural middle school teachers' knowledge of DI components and provide strategies they can use to overcome challenges when faced with incorporating the components to support SPED students. The project consists of a three-day training session; each session is approximately eight hours long.

On the first day, teachers will focus on creating an understanding of what DI is and learning different strategies that could be used in their middle school inclusion-based classrooms to support all students while maximizing student achievement for SPED students. This session will also include modeling of the strategies so that teachers can see what DI will look like in their classes. The second day will focus on the different models of DI. The first half of the session will focus on understanding inclusion and what it looks like. The second half of the session will focus on assisting middle school teachers with getting to know their students' strengths and weaknesses through various strategies. Finally, the third full day will concentrate on synthesizing the content. The middle school teachers will observe, reflect, and collaborate while seeing other teachers using models of

DI. They will also have a chance to work on creating lessons to include the elements of

DI.

Resources and support. The school of choice has many of the resources needed for this project to be implemented. The school has Internet access, Smartboards, and projectors available to use in the professional development room. However, the teachers will need their school-issued laptop to access their standards, content, and learning objectives. They may choose to take notes using Google Doc, Microsoft Word, or paper and pen/pencil. The presenter will also need copies of all handouts to give to the participants. The participants will be given a folder with all the handouts presented during the session.

Potential barriers and solutions. This project has been designed to be presented to all middle school teachers and SPED teachers at the middle schools in the district of study. Two potential barriers to this project are limited funding for substitute teachers so that teachers can attend the professional development program, and the availability of time during which to schedule the program. One possible solution would be to utilize three out of the five days the district has designated for professional development days or three of the four days the district has designated for teacher workdays for this professional development workshop. This solution will eliminate the need for substitute teachers, as those days are already designated as non-student contact days. This solution will also address the issue of scheduling time for training and allow teachers time after the session to reflect or collaborate.

Other potential barriers could be the potential lack of support from the administrative team for the implementation of this professional development workshop. Also, teachers may not actively take part in the session, which could ultimately influence

teacher buy-in. Both administration and middle school teachers have expressed the need for training so that they may understand DI components and subsequently align those components with their content standards to enhance learning for all students, including the SPED students in inclusion-based classes. Thus, support should not be an issue at the study site. It is suspected that the middle school teachers and administrative team will have a positive attitude and buy-in as they gain a better and clearer understanding of how to incorporate DI effectively and consistently.

Proposal for implementation and project timetable. It is essential to share findings from this study with local school administrators and community stakeholders. The proposed project is a three-day program (Appendix A). The timetable for this professional development workshop will be August 11th and August 13–14th, 2020. Each session will take place from 8:00 am to 3:00 pm. The first day the teachers will focus on creating an understanding of what DI is and learning different strategies that could be used in their middle school inclusion-based classrooms to support all students while maximizing student achievement for SPED students. The workshop will include video clips showing examples detailing teachers' experiences implementing DI. Teachers will be encouraged to openly discuss their challenges for aligning DI components with their content standards. The presenter will also offer solutions to overcome those challenges and share best practices they can incorporate in inclusion-based classrooms.

The second day will focus on different models of DI. The teachers will watch video clips of different models of DI (co-teaching models, small group instruction, and cooperative learning) and focus on getting to know their students. During the third

session, the participants will observe, reflect, and collaborate after seeing other teachers using strategies aligned with the components of DI, as well as have time to create lesson plans using those components.

Roles and responsibilities. Several roles and responsibilities will be involved in the success of this professional development program. First, the Director of Secondary Instruction for the district needs to approve the dates and times, as well as give permission for the program to be used at the middle schools. Secondly, as the facilitator, I will oversee the implementation of the program, ensuring that the participants have the necessary materials for a successful program. Finally, teacher buy-in is essential to the success of the program. It is the role and the responsibility of all middle school teachers to ensure that students are successful by approaching this professional development program with a willingness to learn and implement the skills/tools provided. Critical roles of leadership, the facilitator, and teachers must work cohesively for the professional development program to be successful.

Project Evaluation Plan

At the end of the each of the first two sessions, each participant will be invited to complete a formative evaluation to assess the effectiveness of this project and provide feedback on their experiences. The evaluations will help the facilitator determine the strengths and weaknesses of the first two sessions of the program and allow the facilitator to make any necessary changes for future sessions. The third evaluation will include a summative evaluation provided to the participants three to four weeks after the training sessions. The goal of the summative evaluation is to determine if the goals of the project

were accomplished. The evaluations will provide feedback on whether the participants feel more knowledgeable about DI components and incorporating them within their lessons. This information will be valuable for the facilitator to make necessary changes for future training sessions.

Key Stakeholders

The primary stakeholders include teachers, administrators, and district personnel. This professional development program will help them attain a better understanding of the importance of incorporating DI elements into inclusive classes to increase all student achievement while also enhancing learning for SPED students. Administrators at the study site will have the ability to monitor the program and the participants' learning. They will be able to support any teacher who may have questions or need assistance incorporating some aspects of DI into their lessons. Also, key stakeholders can monitor student learning and student success. The stakeholders will be given access to the study, its data, and its findings to provide a better understanding of the purpose and goals.

Project Implications Including Social Change

Local community. This professional development program will address the need to expand rural middle school teachers' comfort using DI components to support SPED students in inclusion-based classes. The study will be most beneficial to the SPED students involved, as they will receive lessons that better target their learning needs. Incorporating the components of DI to support SPED students could potentially increase students' love of learning and increase classroom engagement.

The professional development program could increase teacher self-efficacy, as well as provide support to educators who need to implement DI. Both changes could improve student achievement. According to DeVeve et al. (2014), the incorporation of professional development will enhance teacher skills to execute effective DI within the classroom. The participants will be allowed to collaborate to develop lesson plans; the instructional material will assist with creating lesson plans. In addition, participants will be provided a chance to collaborate to identify challenges and work to develop solutions to these problems. Improving middle school teachers' experiences and expanding their knowledge by incorporating DI components to support SPED students will lead to an increase in student achievement in all content areas.

Far-reaching implications. The results of this study could have far-reaching possibilities beyond this rural South Carolina school district. This professional development program will present strategies and suggestions to help rural middle school teachers overcome the challenges they face with aligning DI components in their lessons, resulting in enhanced learning for their SPED students. This professional development could serve as a model for other districts across South Carolina and be a catalyst for social change. Social change could occur if other school districts adopted this professional development program, leading to an increase in student achievement across a larger area.

Conclusion

The purpose of this qualitative instrumental case study is to explore rural middle school teacher's experiences with incorporating DI components with SPED students in an inclusion-based class. The qualitative data showed that teachers felt unprepared and unequipped to support SPED students by incorporating DI components in their inclusion-based classes. However, this professional development opportunity was created to help rural middle school teachers overcome the challenges of implementing DI components and meeting the needs of their SPED students. Middle school teachers will be able to grow professionally by having the opportunity to collaborate with colleagues and create relevant, differentiated lessons that support their students, including SPED students.

Combining interview data, instructional observations, and research findings, I developed a three-day professional development program for rural middle school

teachers in the current district. In section 4, I provide in-depth information about the project study, along with my reflections, conclusions, and recommendations.

Section 4: Reflections and Conclusions

In this qualitative instrumental case study, I explored rural middle school teachers' experiences with supporting SPED students in an inclusion-based classroom by incorporating DI components (content, process and product). DI is defined as an instructional strategy that allows teachers to teach a diverse group of learners based on their learning styles and talents (Morgan, 2014; Tomlinson, 2014). In Section 4, I examined my role as a scholar-practitioner. This section concludes with this study's implications on social change and possible future study.

Project Strengths

The professional development program that I developed for based on the data from this study addresses middle school teachers' challenges incorporating DI components in an inclusion-based class to support their SPED students. This project provides a professional development program to help middle school teachers develop strategies to overcome challenges they have incorporating DI in their classrooms. McNeill et al. (2016) discovered that continual professional development and training allows participants time to effectively incorporate the information they receive into their instructional practices.

Additionally, the project increases overall achievement for all students. Teachers increase their self-efficacy and excitement for learning and students experience improved learning as a result of teachers obtaining more DI knowledge. The U.S. Department of Education (2018) recommends that research-based instructional strategies be used to meet the needs of diverse learners to increase student achievement. Thus,

school systems that provide professional development opportunities intend to improve instruction and raise student achievement (NSDC, 2019). Annual DI professional development could cultivate students' learning and have a positive impact on standardized testing.

Limitations

One of the limitations that I identified for this project is funding. For teachers at this study site to participate in this professional development program, it would require that substitute teachers temporarily fill the primary teachers' positions. The most cost-effective way to conduct this professional development would be to utilize the district's designated days reserved for professional development. Those days are in August before the start of the official school year, limiting the length of the program to three days.

The level of teacher interest and administrator buy-in for the study potentially limits its effectiveness. The data collection revealed that the teachers at the study site have identified challenges using DI components within their inclusion-based classrooms and needed professional development on strategies middle school teachers can use to enhance learning for SPED students in their inclusion-based classrooms. However, some middle school teachers already feel equipped with tools and strategies and may not be willing to participate (Jordan, 2016).

Another limitation of the study is using one rural middle school to study the use of DI components within inclusion classes. At the study site, there are 24 middle school teachers, but only 10 participated in this study. The generalizability to middle school teachers outside the school of study will be affected by the small sample size. To address

this limitation and increase generalizability, the study could be conducted at other school sites within the school district (Creswell, 2014; Merriam & Tisdell, 2016).

The final limitation of this study is my lack of experience and competency as a researcher, as I lack experience in collecting and analyzing data, and developing a project of this magnitude. Creswell (2014) and Yin (2014) suggested utilizing strategies such as member checking and triangulation methods for collecting data to address this limitation. Also, the use of program evaluation processes to evaluate the effectiveness of the project would better assist me in supporting a project of this magnitude.

Recommendations for Alternative Approaches

Through a professional development framework, the project addresses teachers' challenges with incorporating the components of DI to enhance student achievement for SPED students in their inclusion-based classes. An alternative approach to the problem is implementing the co-teaching inclusion model. The co-teaching inclusion model consists of a classroom of two teachers, a SPED teacher and general education teacher as the primary teacher. The SPED inclusion teacher could serve as a physical resource by providing diverse instructional strategies and tools that the general education teacher is trained to implement. Utilizing this model would allow for individualized instruction. For example, students could be grouped according to their learning ability and work with either the inclusion teacher or general education teacher. Using this model, the SPED teacher and general education teacher could implement individualized instruction to meet the needs of all students. According to Alexander (2014), the co-teaching inclusion model

appears to be an efficient option for ensuring the individualized needs of SPED students are met.

Co-teaching is a model that can also address the challenges of unpreparedness as the SPED teacher must collaborate, plan lessons, and create assessments with the regular education teachers (Dewer, 2012). The effectiveness of co-teaching relies on the shared expertise and contributions of each teacher to collaborate on instructional strategies (Muraswki, 2012).

Scholarship

The data collected from this study will provide stakeholders with information about rural middle school teachers' knowledge of and incorporation of DI components to enhance learning for SPED students in an inclusion-based class. Improving middle school teachers' comfort using DI components can help meet the needs of students so that they can be academically successful in inclusion-based classes.

Self-analysis of scholarship. This study revealed a strength and determination within me that I did not know existed. It challenged me as both an educator and researcher. During the initial process, I learned valuable information about using DI components and aligning instructional strategies to improve academic success for SPED students. As a science teacher, I was able to apply this information to enhance the learning of my SPED students.

During the process, I learned how to be a study practitioner by learning to prepare, conduct, and analyze data to determine findings. I found the quantitative analysis to be challenging but finding themes to be more accessible. All the information I have

learned by conducting this study has helped me grow as a professional. I have a stronger desire and eagerness to share my knowledge of DI and to incorporate the components of DI with those outside my position and school district.

Self-analysis of project development. While preparing to conduct this study, I learned that teachers wanted professional development. More so, they wanted time to plan and collaborate with other content area teachers. They wanted time to share ideas, identify challenges they face, and produce solutions for overcoming those challenges. I reflected on the information I learned during the interviews when developing this project. I attempted to provide teachers with strategies they needed and that filled a perceived gap regarding using DI within their inclusion-based classrooms and to allow teachers time to collaborate to develop lessons and instructional materials. It was important to create a project that was meaningful and would provide a wealth of knowledge for middle school teachers so they would improve their confidence in incorporating DI in their inclusion-based classes.

Self-analysis of leadership and change. I began this doctoral process to meet a lifelong personal goal of obtaining my doctoral degree. However, through the process, I have developed perseverance and the belief in myself needed to bring about change for diverse learners. According to the South Carolina Department of Education (2018) and State Report Card (2018), our SPED population is growing. It is important that SPED students are afforded a quality education, despite their abilities, so that they can be successful, productive citizens. Through my doctoral journey I have discovered my own leadership potential, which may lead to new career goals for me, as well as bring about a positive change in secondary education.

Reflection on Importance of the Work

As I reflect on my journey at Walden University, I have grown as a scholar. Although I often felt overwhelmed, my deepened commitment to this topic kept me focused. As an educator, I wanted to find a solution to help teachers create a meaningful learning environment conducive to the needs of SPED students. I became more confident in my understanding of the importance of DI and in my ability to incorporate these components. Now that my journey is coming to an end, it is exciting to know that my work could positively influence the instructional practice of middle school teachers and expand their knowledge of DI in order that they may also increase student achievement for SPED students.

Implications, Applications, and Directions for Future Research

I designed a professional development to address the concerns of the administrators and middle school teachers at the local setting by increasing teachers'

knowledge of DI and supporting SPED students by enhancing their teachers' instructional practices. Using the information from this study and the professional development program created, the administrators can address middle school teachers' challenges incorporating DI components, which may lead to positive change. Improving middle school teachers' knowledge and incorporation of DI could lead to more effective instruction that uses the components of DI to support SPED students and increase overall student achievement. Tomlinson (2014) recommended research-based instructional strategies that accommodate students with varying instructional needs. When instruction is individualized to fit students' needs, student achievement is enhanced and there are positive outcomes. The positive outcomes include articulation of the curriculum, identification of learning differences through assessments, and collaboration (Taylor, 2015).

Implications for my project study are a change in instructional practices and ongoing professional development that address incorporating DI in middle school inclusion classrooms for all content areas. This study could be implemented at other middle schools in the district to extend the collaborative reach of the professional development program. The information gathered throughout this study could be shared with continuing education programs or district teacher evaluation programs to create more effective teacher preparation programs. For additional research, I recommend extending the research to include more middle schools and high schools within the district. For example, this professional development program could be implemented on a district-wide basis.

Conclusion

In this study, I focused on determining the challenges rural middle school teachers face incorporating DI components to support SPED students in inclusion-based classes. From the findings, I created a three-day professional development program to address expanding teachers' knowledge of DI components and instructional strategies aligned with these components to enhance student achievement. This program will also provide participants with the time to collaborate to develop meaningful lesson plans and instructional materials to meet the needs of their students. Developing more effective instructional strategies in all content areas will lead to an increase in student achievement. This will influence social change at the school of study. If effective, this professional development program may be valuable to other schools in assisting with increasing student achievement for diverse learners by incorporating the components of DI.

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Appendix A: The Project

This project is intended to be an interactive and hands-on approach to learn to incorporate the components of differentiated instruction (DI) in middle school inclusion-based classrooms. This professional development program is based on research in DI along with findings of a study done at a rural middle school in a South Carolina district. The findings from this study indicated the need for professional development where middle school teachers can see and learn how to incorporate the components of DI in their inclusion-based classrooms.

Target Audience

The target audience for this project will be general education and special education teachers from all content areas in middle school.

Professional Development Program

This project includes three sessions for the professional development program that will occur over the course of 3 full days. The adult learning theory by Knowles will be used as a guide to certify the effectiveness of this program.

Program Goals

1. Educate teachers on understanding of what DI is and the components.
2. Provide middle school teachers with strategies they can to support special education students.
3. Provide middle teachers an opportunity to collaborate through colleague interaction on how to incorporate the components of DI.

4. Provide teachers the opportunity to see examples of DI being implemented in classrooms through video clips and observing colleagues.

Day 1 Resources

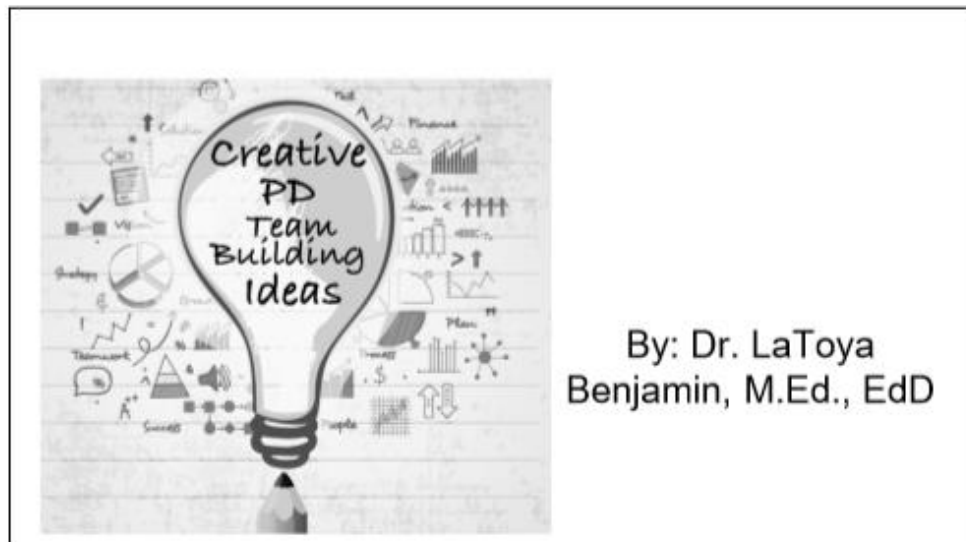
1. Table supplies: Paper, chart paper, pens, markers, teacher–laptops
2. Smartboard
3. Projector
4. Notebook
5. Door prizes

Day 1: What is DI?

Objective: Understanding the basic principles of differentiating content, process and product in an academically inclusion–based classroom.

8:00–8:30 AM	<p>Teacher Arrival/Sign In: As the Teachers are arriving, they will be given names of Superheroes as to what group they will be placed in:</p> <ul style="list-style-type: none"> • Wonder Woman–Special Education and ESOL Teachers • Dr. Strange–Science Teachers • Hulk–Math Teachers • Thor–Social Studies Teachers <p>Welcome/Rules (Light refreshments and coffee will be served in the Professional Development Room for participants)</p>
8:30–8:45 am	Ice Breaker: Two Truths and One Untruth
8:45–9:00 am	Hook–Teachers observe the “One Size Fit All Picture.” Teachers will be given roughly 5 mins to observe the image, then pair/share within their group about their observations followed by an open discussion.
9:00–9:45 am	Activity: Teacher Scavenger Hunt: Teachers will be given a handout containing questions related to DI. The goal will be for each teacher to walk around the classroom finding individuals to respond to the questions. After the person responds to the question, that individual will need to put their INITIALS in that box/square. The goal is to see how many

	boxes/squares they can fill. (A door prize will be given to the teacher who has the most names)
9:45– 10:00am	<p>Results–Teachers will transition back to their content groups. The facilitator will instruction them to take about 5 mins to discuss and share their responses to the activity. (5–10 min)</p> <p>Following the discussion, the facilitator will provide the teachers with some chart paper and markers; on the paper they write a summary from the responses given to share out with the whole class (15–20min)</p>
10:00– 10:15am	Break
10:15– 11:15am	<p>Slide Show–Facilitator will present a slideshow on a little about the synopsis project; data; and define the DI. In addition, the facilitator will include the components of DI as well as a definition for those components. (30–40min)</p> <p>Video Clipping on DI (15–20 min)–Facilitator will ask the teachers observe the video clip and record their observations (teacher/student interaction and student interaction); Following their observation; the teachers will then pair/share their observations with content group with the question in mind, Based on the Definition of DI, how was the teacher differentiating her instruction with her students).</p>
11:15– 12:00	The teachers will work in their groups their groups to come with a menu/choice board for their content area.
12:00– 1:00pm	Lunch on your own
1:00–2:00	Each group will share their menu/choice boards they created and given feedback from other groups
2:00–2:15	Bathroom break
2:15–2:45	Summarize and Plan for the next day's presentation: The facilitator will ask each teacher to take the information that has been provided and plan a lesson encompassing differentiated instruction based on their content.
2:45– 3:00pm	Complete Day 1 survey and dismissal



1

Ice Breaker-The Candy Game

- Red: What's your favorite book?
- Orange: What's the best vacation spot you have ever been to?
- Blue: What's your favorite kind of food?
- Green: What TV show are you addicted to?
- Brown: If you could have any superhero quality, what would it be?
- Yellow: What's the best part of your work week?

2

Slide 1: Facilitator will welcome teachers to the professional development program. Explain that the training today is to help teachers understand the components of DI how to incorporate those components to support special education students.

Slide 2–Ice Breaker: The facilitator will instruct each teacher to get a piece of candy (all different colors) and assign them to the groups associated with their content area. Once they are seated the facilitator will instruct the teachers not to

eat the candy, yet. Based on the color of candy they have; they will follow the prompt on the Smart Board to answer a question related to the color candy they have.

Differentiated Instruction Professional Development Program

Day 1=What is DI and DI Components?

Day 2-What is Inclusion and how to implement DI strategies to support special education students?

Day 3: Putting it all together

3

Learner Objectives

Teachers will...

- **Recognize the basic principles of differentiating content, process, and project in an academically diverse classroom.**
- **Be able to incorporate one or more instructional strategies that support special education students in an inclusion classroom.**

4

Slide 3–Slide 4: The facilitator will discuss and explain the purpose of the professional development for the next 3 days, and the objectives.

Day 1: Understanding DI

5



Slide 6: The facilitator will instruct the teachers to observe the image and write their observations. The teachers will then pair/share their information within their groups. The facilitator will bring the group back together to have a whole group discussion.

Activity: Teacher Scavenger Hunt

Accessing prior knowledge about DI.	Directions: Teachers will walk around the room and find someone to respond to the questions on the handout. After a verbal answer the person will then initial the square.	Rule: One person can only answer and initial one square.
What is your definition of DI?	Give an example of when you have used DI?	What is something you would like to learn about DI?
When do you use small group instruction?	Differentiation means as many lesson plans as you have students. Agree?	How do you discover how your students learn?
What is one way you can form groups in your classroom?	What are some quick on-going assessments in your class?	Are DI and Assessment related

7

Break Time.....

Take about 15 mins to use the restroom and grab a snack



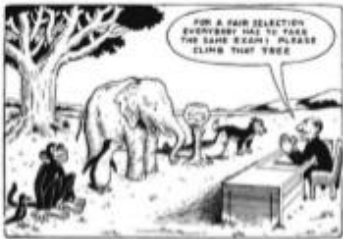
8

Slide 7: The Facilitator: Describe how students come into the classroom with a variety of readiness levels, learning styles, prior education experiences, interest, and personal experiences. These things should be taken into consideration when instructing them. Thus, the reason differentiating instruction is essential to promote student achievement. The facilitator will explain the scavenger hunt to the teachers. The objective of the scavenger hunt is to get teachers to initial as many boxes related to differentiated instruction. The teacher with most signatures during the allotted time will win a door prize.

Slide 8: Note to the Facilitator: Teachers will take a 15 min bathroom and snack break; upon their arrival back to the professional development

"Differentiated instruction is a teaching philosophy based on the premise that teachers should adapt instruction to student differences. Rather than marching students through the curriculum lockstep, teachers should modify their instruction to meet students' varying readiness levels, learning preferences, and interests. Therefore, the teacher proactively plans a variety of ways to 'get at' and express learning."

Carol Ann Tomlinson



9

What does DI look like?

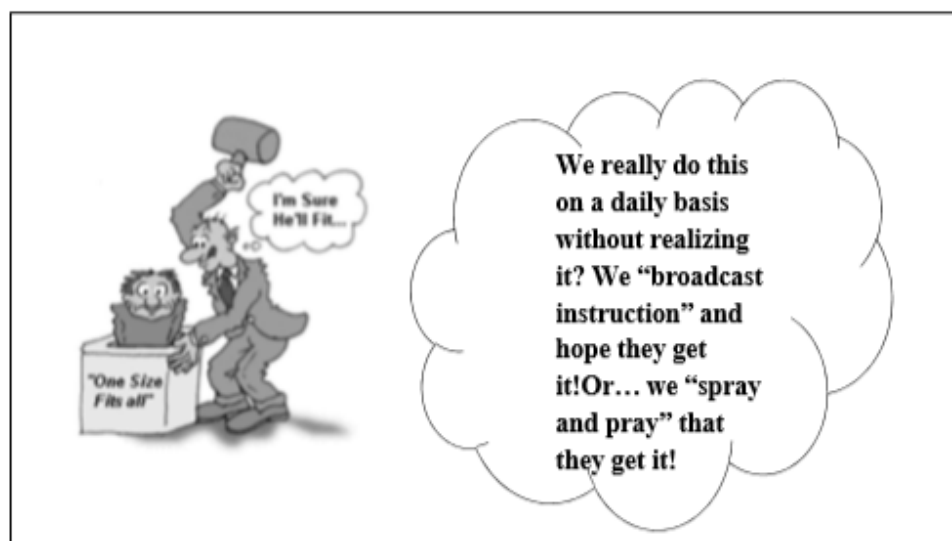
Video 1

What kind of teacher you would like to be?



10

Slide 9: The facilitator will read the quote about differentiated instruction by Tomlinson and given 5 min to discuss the quote within their groups.
 Slide 10: The facilitator will play the video about differentiated instruction. After the video the teachers within their groups will be given some chart paper to compare their definitions with the video, followed by a whole class discussion.



11

Based on the research conducted for this study, DI is defined as an instructional approach that allows teachers to adapt their content incorporating varied learning strategies to support diverse students based on their level of understanding. (Benjamin, L. 2019)

12

Slide 11: The facilitator will read the statement to the teachers.

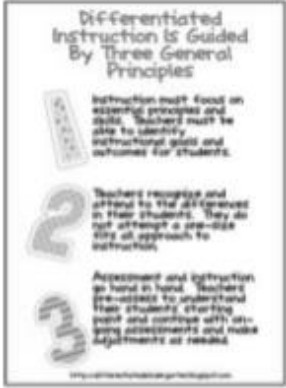
Slide 12: The facilitator will read the definition of DI derived from the analysis of the study.

Components of Differentiated Instruction

CONTENT-the "What" of instruction

PROCESS-the "How" of instruction

PRODUCT-the "Evidence" of instruction



Differentiated Instruction is Guided By Three General Principles

1. Instruction must focus on scientific principles and skills. Teachers must be able to identify instructional goals and outcomes for students.
2. Teachers recognize and adjust to the differences in their students. They do not attempt a one-size-fits-all approach to instruction.
3. Assessment and instruction go hand in hand. Teachers pre-assess to understand their students' starting point and continue with ongoing assessments and make adjustments as needed.

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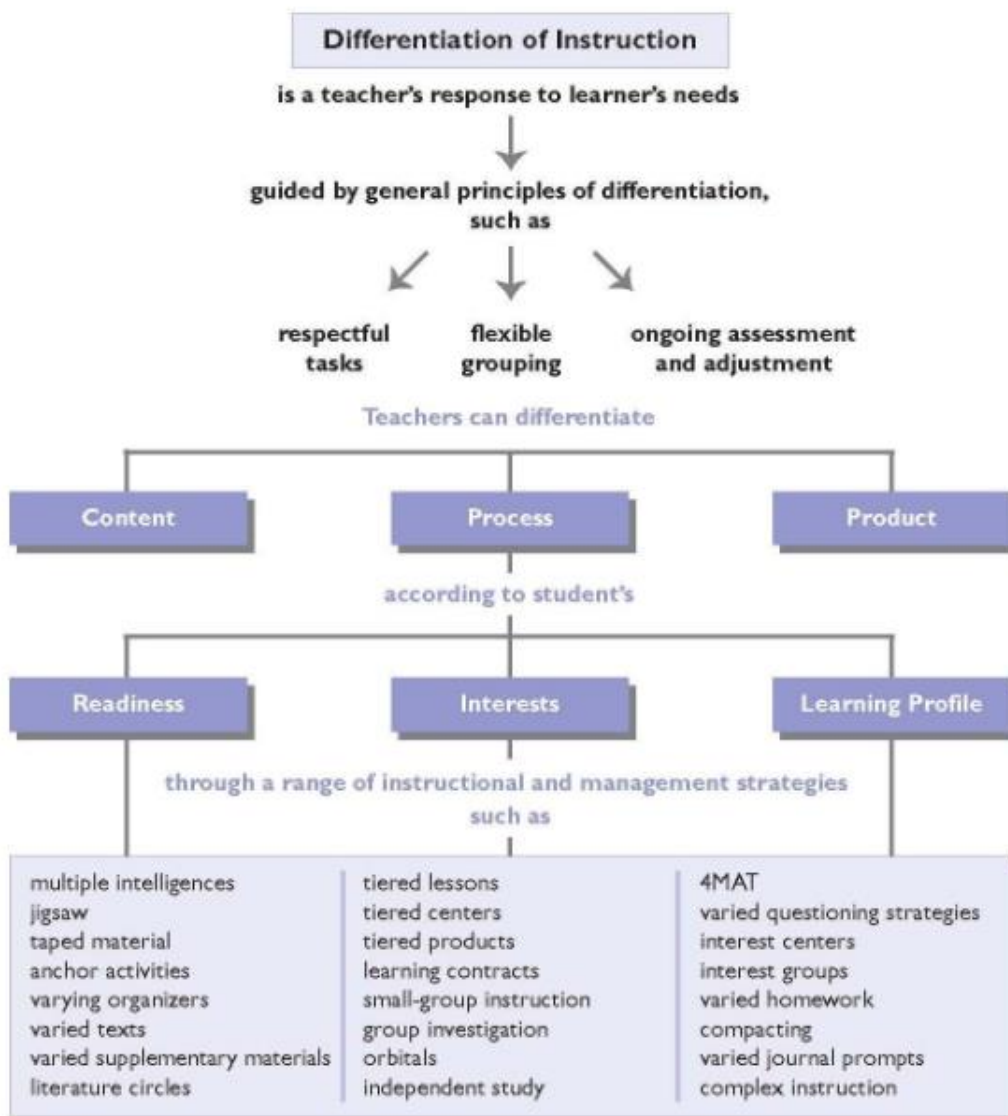
13

Lunch Break



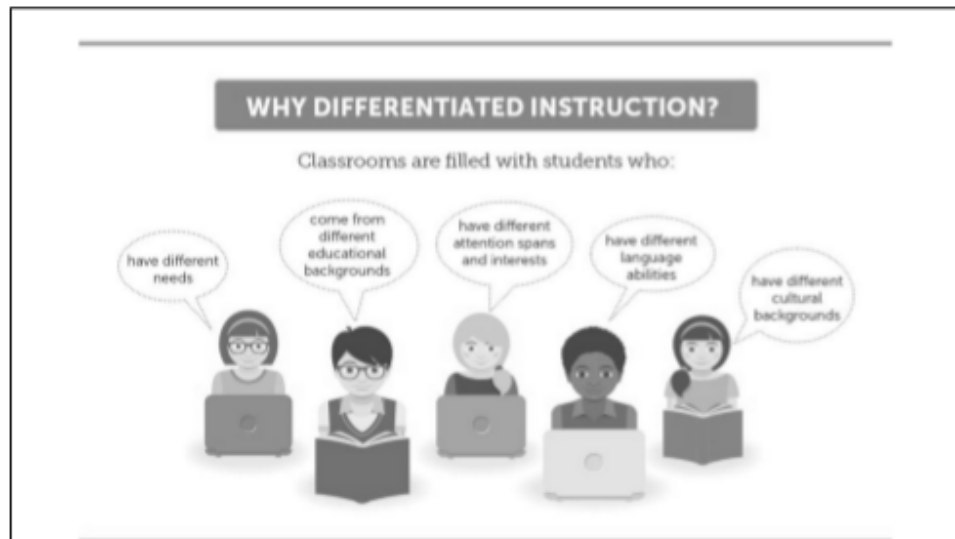
14

Slide 13: The facilitator will discuss ways to differentiate instruction using those components. Refer to the flow chart



Reprinted by permission from *The Differentiated Classroom: Responding to the Needs of All Learners*, by C.A. Tomlinson (Alexandria, VA: ASCD, 1999). The Association for Supervision and Curriculum Development is a worldwide community of educators advocating sound policies and sharing best practices to achieve the success of each learner. To learn more, visit ASCD at www.ascd.org.

The facilitator will discuss the concept map on differentiated instruction.
Slide 14: The facilitator will instruct the teacher to take a 1 hour lunch break on their own.



15

Ways to Differentiate Instruction

Establish learning targets

- What do you want the students to know

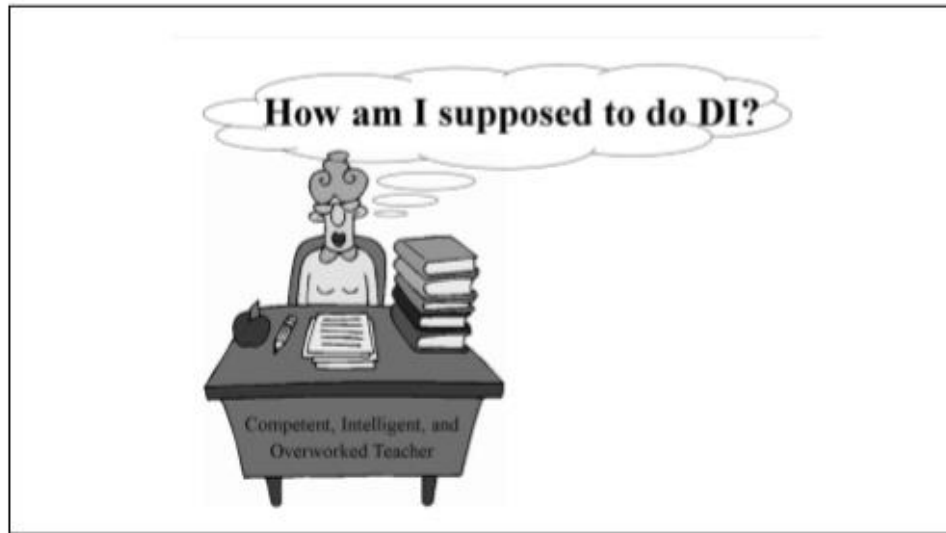
Design activities to help students meet those learning targets

- Differentiate for content, process, and product
- Differentiated for diverse learners including the special education student population

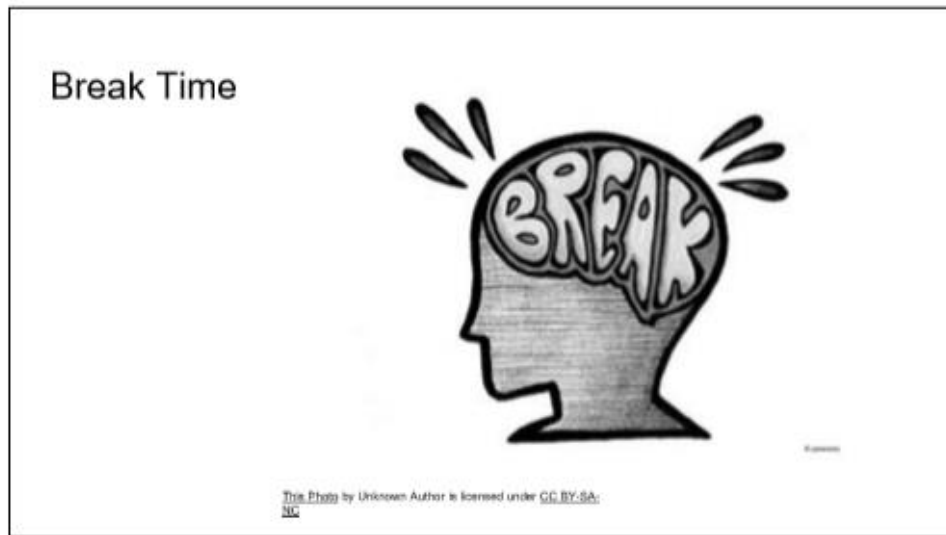
16

Slide 15: The facilitator will discuss the image and explain to teachers how students come to their classes with varied styles of learning. As educators we must adapt our curriculum to meet them where they are.

Slide 16: The facilitator will instruct the teachers to create an activity using the flow map incorporating content, process and product followed by a pair/share.



17




18

Slide 17: The facilitator will allow the teachers to do whole class discussion sharing their activity and how they can use this in their classrooms.

Slide 18: The facilitator will instruct the teachers to take a 15 min break

Differentiating Content

- Peer and Adult Mentors
- Varied Manipulatives and Resources
 - Ex: Tiered Lessons
- Interest Centers
 - Ex: Learning Stations; Choice Menus
- Charts and Models
 - Ex: Anchor charts; Graphic Organizers



- Highlighted vocabulary
 - Ex: Word Wall
- Audio and video recordings
 - Ex: Flip classrooms
- Resource materials at varying readability levels
 - Example: Read Works or Newela

19

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		

20

Slide 19 and Slide 20: The facilitator will discuss ways teachers can implement DI within their classrooms and find activities that are aligned with their content.

Differentiating Product

- Tiered product choices
- Model, use and encourage students to use technology within products and presentations
- Provide product choices that range in choices from all multiple intelligences



**Showcasing
what you
know and
what your able
to do...**

21

Summary

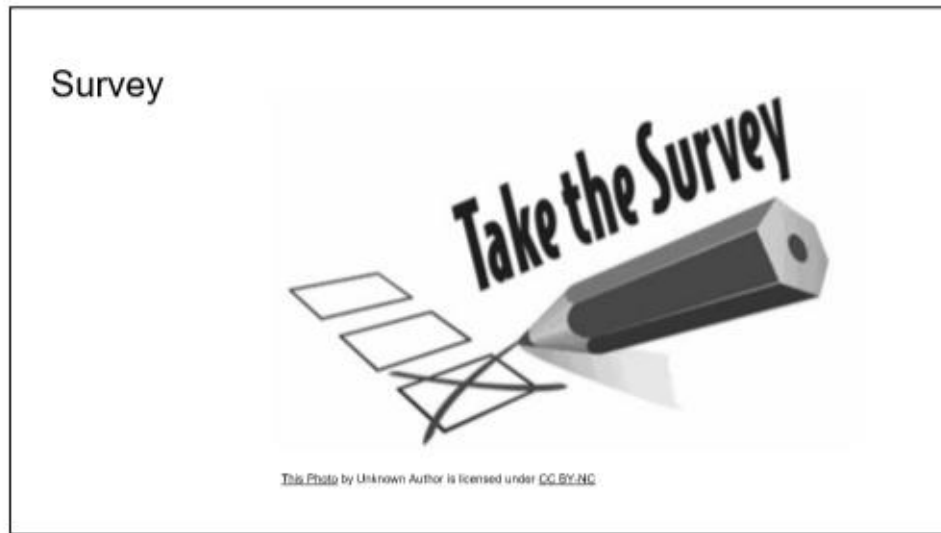
A Differentiated Classroom...

- **Provides various assignments based on skill level or interest to meet the needs of all students**
- **Incorporates content, process, and product when differentiating lessons**
- **Is flexible and adaptable to all learning styles**

22

Slide 21: The facilitator will explain the slide who teacher can use technology and other models to incorporate product.

Slide 22: The facilitator will summary Day 1 session.



23

Slide 23: The facilitator will ask each participant to take a quick survey before ending day 1 session.

Day 2 Resources

1. Table supplies: Paper, chart paper, pens, markers, teacher–laptops
2. Smartboard
3. Projector
4. Notebook
5. Graphic Organizers
6. Post its

Day 2– Getting to know your students and Strategies for Differentiating Instruction

Objective: Teachers learn how to find their students learning style and apply that information toward strategies for differentiating instruction.

8:00–8:15 AM	Teacher Arrival/Sign In Welcome Back (Light refreshments and coffee)
8.15–8:30	Ice Breaker: Two Truths and One Lie
8:30–8:45 am	Facilitator will discuss Day 2’s session about getting to know your students and using that information to implement strategies to differentiate instruction within their inclusive–based classrooms.
8:45– 9:15am	<p>Presentation: Discussion of the different learning styles. Facilitator will prompt teachers to take a 20 questions quiz on knowing their learning styles (the link will be shared via Google Doc). (15 mins)</p> <p>Teachers will have a chance to discuss their learning style in small groups followed by a whole group discussion and what that looks like with their students. (10 mins)</p>
9:15–9:30 am	Restroom and Snack Break Time
9:30–9:45	KWL access prior knowledge on inclusion
9:45–10:45am	<p>Presentation: What is Inclusion?</p> <p>Video Clipping: Teachers will use the instructional strategy “Connect the Dots.” (the Facilitator will model this technique)</p> <p>Teachers will Pair/Share their “Connect the Dot” activity and chart their “one” take–away to share during whole group discussion.</p> <p>Discussion on different models of inclusion.</p>
10:45–11:00am	Inclusion Scenarios
11:00–11:15	Break Time
11:15–11:45	Presentation of the different ways to differentiate instruction
11:45–12:00	Participates will be given choice menu templates to create a choice menu incorporating the components of DI within their content
12:00–1:00pm	Lunch

1:00–1:30	Share choice menu and given feedback
1:30–1:45pm	<p>Presentation: Strategies to Differentiate Instruction</p> <p>Facilitator will discuss different strategies teachers can use to differentiate instruction to support all students including special education students. Teachers will complete a graphic organizer as they watch the videos related to the different strategies.</p>
1:45–2:00	<p>Teachers will work in small groups to discuss their graphic organizers. Facilitator will provide each group with some post-its. Teachers will be prompted pick one strategy that was most interesting to them and one that they will implement in their classrooms. Once they have completed their post-it, they will place it on the Anchor Chart for whole class discussion.</p>
2:00–2:30	Discuss differentiating instruction using technology
2:30–2:45	Kahoot Summarizing day 2
2:45–3:00	<p>3–2–1 Exit Slip: Teachers will be asked to write down 3 things they learned from today’s session, 2 things they would like to know more about, and 1 thing they might have about today’s session. Participates will complete the survey.</p>

Day 2-Getting to know
your students and
Strategies for
Differentiating
Instruction

24

Slide 24: The facilitator will introduce Day 2.

Learner Objectives

Teachers will...

- Learn the importance of getting to know their students
- Determine their students learning styles and apply that information toward strategies for differentiating instruction.

25

Ice Breaker-Two Truths and a Lie

- Rules
 - Each group will write 3 statements on a sticky note
 - Each group will try to guess which statements are truths and a lie



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26

Slide 25: The facilitator will discuss the objectives for day 2 session

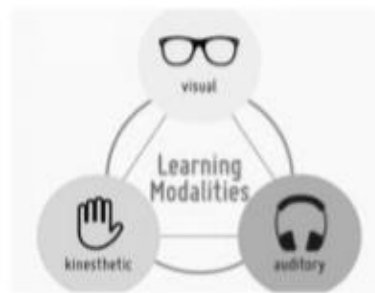
Slide 26–Ice Breaker: The facilitator will explain the activity “two truths and a lie” activity. Each group will come up with the two truths and one lie and share it with the class. The class will see if they discover the truths and the lie.



27

Learning Styles

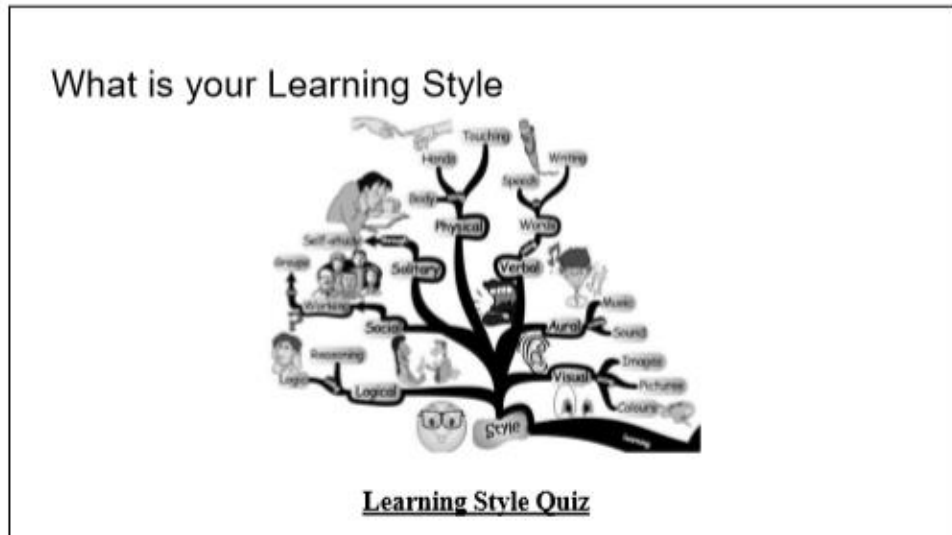
- Visual-You prefer using pictures, images, and spatial understanding.
- Auditory-you prefer using sound and music
- Verbal-You prefer using words, both in speech and writing
- Kinesthetic-you prefer using your body, hands, and sense of touch.



28

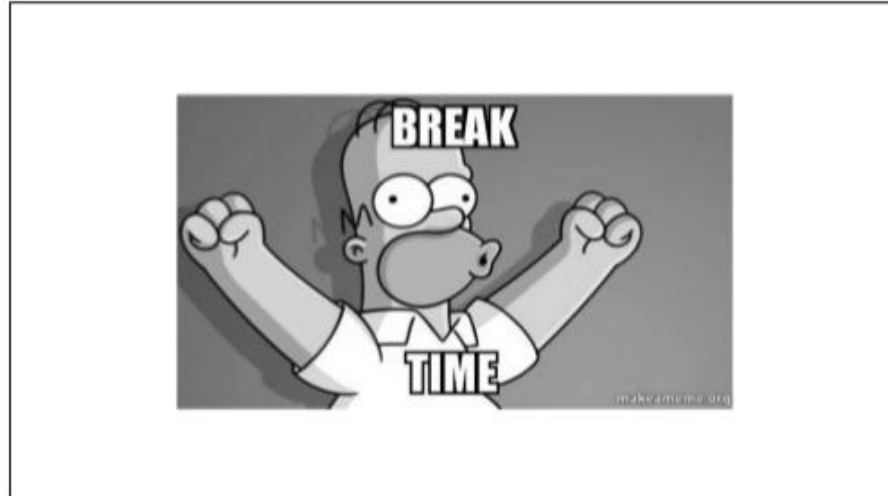
Slide 27: The facilitator will describe how students come into the classroom with a variety of readiness levels, learning styles, prior education experiences, interest, and personal experiences. These things should be taken into consideration when instructing students. Thus, the reason differentiating instruction is essential to promote student achievement.

Slide 28: The facilitator will discuss the different types of learning styles.



29

Slide 29: The facilitator will instruct the teachers to take the 20-question quiz to discover what their learning styles followed by a pair/share and group discussion.



30

Slide 30: The facilitator will instruct the teachers to take a 15 min break.

Inclusion and Differentiated Instruction

Video Clipping

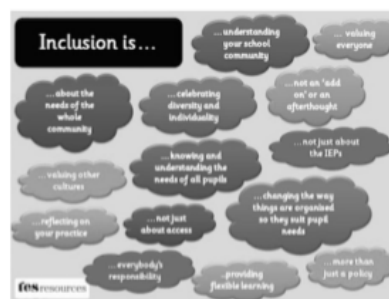
support valued
community differentiation
accommodations acceptance
diversity
ability inclusion

31

Slide 31: The facilitator will instruct the teachers to do a KWL on their knowledge of inclusion. We will discuss their knowledge, what they would like to learn about inclusion, and watch the video clipping about what they learned.

What is Inclusion?

Inclusive Education is when all students, regardless of any challenges are placed in the least restricted environment (age-appropriate general education class) to receive high-quality instruction, intervention, and support that enables them to meet success in their core classes (Bui, Quirk, Almazan, & Valenti, 2010; Alquraini & Gut 2012).



32

Slide 32: The facilitator will read the definition of inclusion followed by whole class discussion comparing their definition of inclusion to the actual meaning of inclusion. What does that look like in their classrooms?

Inclusion Scenario

Scenario One

It's two days before the first week of a new school year. You are a new ninth grade science teacher and have been told that you will have six students who have IEPs joining your science class. Two of them have IQ's between 60 and 70. The other four of the students has specific learning disabilities. How do you differentiate instruction.

Scenario One

It's two days before the first week of a new school year. You are a new ninth grade science teacher and have been told that you will have six students who have IEPs joining your science class. Two of them have IQ's between 60 and 70. The other four of the students has specific learning disabilities. You were told that you have an inclusion teacher assisting them. This new to you, for you have never met the special education teacher and little understanding of students with disabilities, what do you do?

33

Slide 33: The facilitator will display two inclusion scenarios for each group to discuss and answer followed by a whole class discuss.

Models of Inclusion

- **Blended:** a traditional learning setting merging with technology
- **Itinerant:** a traveling specialist, usually a certified teacher special education teacher/ESOL teacher. This teacher serves as a supportive teachers who often visits or assist in multiple classrooms.
- **Team Teaching:** the parting of two teachers together to cooperatively teach a class. This model typically includes one general education teachers and special education teachers.



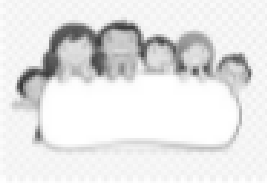
34

Slide 34: The facilitator will discuss the different models of inclusion.

Ways to Differentiate Instruction

Small group instruction

- Allows teachers to work more closely with smaller number of students to help them achieve more (Lipson & Wixson, 2012).
- Students that are more advanced or have higher interest in a particular subject can complete an independent study project while the teacher works with a smaller group of students.
- Once the teacher gets the independent study group working, he or she could be able to focus more on the learning needs of the other students and give them more time and attention



35

Slide 35: The facilitator will discuss ways to differentiate instruction using small groups and flexible/tiered grouping

Ways to Differentiate Instruction Continued

Flexible/Tiered Grouping

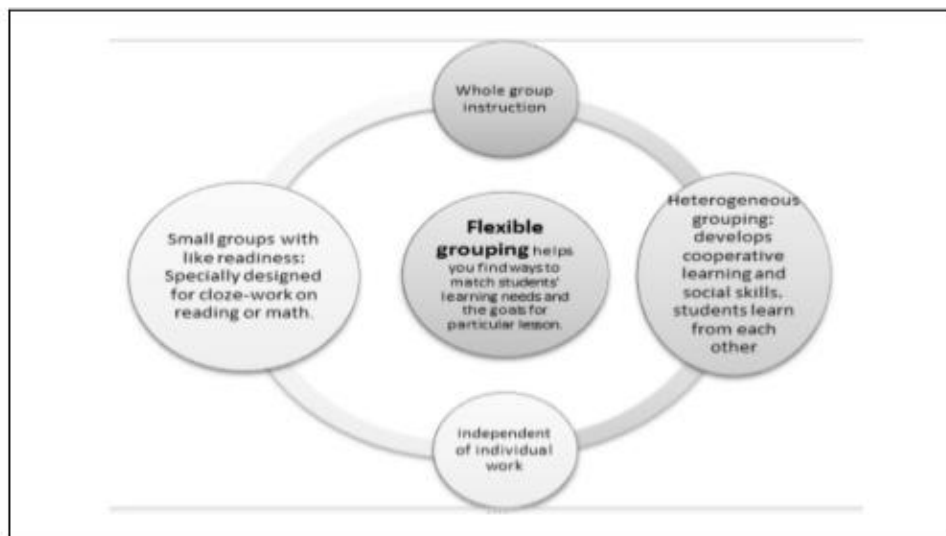
- These groups should be based on data from what students' needs are and should often be reevaluated to ensure that these flexible groups are meeting each student's needs (Rakow, 2012).
- These collaborative groups could offer more flexibility to provide various strategies with support of peer tutoring (Hoffman, 2002). These groups can also help motivate students through peer relations of wanting to be leaders among classmates (Wood & Jones, 1998). By implementing grouping, a teacher can easily assess what students understand and what they do not since they will be in smaller groups.

Strategic Grouping

A Schematic by Sean McElvaine

36

Slide 36: see Slide 35



37

Slide 37: The facilitator will discuss the model.

Ways to Differentiate Instruction Continued

Tired Lessons

- Creating lessons tailored for students based on their learning ability, interest, and readiness.
- Lessons that catapult students' achievement levels by challenging them to be successful at their level of readiness (King, 2016)


38

Slide 38: The facilitator will continue to discuss ways to differentiate instruction by using tiered lessons.

Ways to Differentiate Instruction Continued

Student Choice

- Provides students with a variety of activity options and allows them to choose according to their interest (Dotger & Causton-Theoharis, 2010).
- Students having a choice can be powerful tool in incorporating DI as it gives students the power to learn based on their interest and strengths (Crim et al., 2013).
- Studies have shown that students will have more motivation and achieve when they find interest in a topic (Mogan, 2014).




39

Slide 39: The facilitator will discuss student choice.

Choice Board Activity-Differentiating Instruction with Menus

“Almost every kid in middle school wants freedom of his or her choice of what they want to work on. They just do.” ~Eighth-grade Math Student (Westphal, L. (2009, p.3).

- Create a choice menu based on your content area that incorporates content, process, product.



40

Slide 40: The facilitator will instruct provide the groups with choice templates. Within their groups to create a choice board for their subject area being sure to incorporate the components of DI learned in session 1.

Ways to Differentiate Instruction Continued

Co-Teaching

- Two or more educators working collaboratively to deliver instruction to a heterogeneous group of students in a shared instructional space (Conderman, 2011).
- An approach schools can implement to meet diverse instructional needs for special education students to addressing federal mandates (King, 2016).



41

Slide 41: The facilitator will discuss co-teaching as another way to differentiate instruction, followed by the benefits of co-teaching for students in Slide 42.

Benefits from Co-Teaching and Students

Co-Teaching Benefits

- Co-teacher's added knowledge to the teaching experience
- Varied Learning Styles
- Professional Growth
- Personal Support

Student Benefits

- Improved academic and social skills
- Blended services decreasing referral and increasing student achievement
- Improved attitudes, self-confidence

42

Slide 42: see slide 41



43

Slide 43: The facilitator will instruct the participants to break for an hour lunch

Modeling DI strategies




- Small Group Video
- Flexible/Tiered Grouping Video
- Tired Lessons
- Co-Teaching Video

44

Slide 44: The facilitator will provide all the participants with a graphic organizer pertaining to the different models of DI strategies discussed. The participants will be instructed to record their observations about each of the strategies followed by a group/whole class discussion.

Using Technology to Differentiate Instruction

- Quizlet
- Kahoot
- Newsela
- Google Education Applications

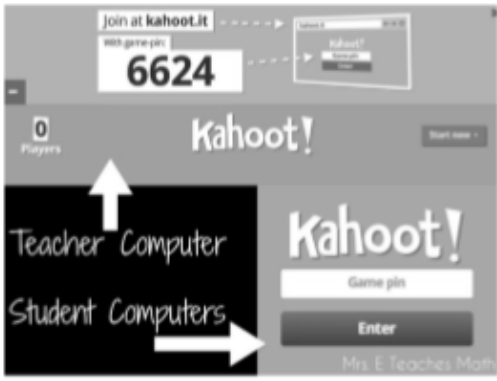




- According to Mahoney & Hall (2017) using technology can help to enhance student learning through individualizing and differentiating instruction for student who need extra support.
- Using applications such as quizlet, Kahoot, Newsela, Padlet, etc. can be used as tools to accommodate and differentiate instruction provided students with 21st century skills address the components of differentiated instruction—content, process, and product (Mahoney & Hall, 2017)

45

Slide 45: The facilitator will discuss how technology can be used to enhance differentiated instruction and support students of diversity.

Summary-Kahoot Game



- Teachers will log on to Kahoot to answer a few questions about the different strategies discussed during this presentation.

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46


Slide 46: The facilitator will play a game of Kahoot to summarize day 2 session and provide teachers with a preview of how to implement this instructional tool in their inclusion-based classrooms.

Reflection

3-2-1 Exit Slip

- Write 3 things you learned from today's session
- Write 2 I would like to know more about today's session
- Write 1 question you might have about today's session

3-2-1 Exit Ticket



47

Slide 47: The facilitator will instruct the participants to complete a 3-2-1 exit slip to reflect on their day 2 experience about what they learned, still have questions about

Survey

Please Take My
Survey

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48

Slide 48: The facilitator will ask each participant to fill out a survey evaluating day 2 session.

Day 3 Resources

12. Table supplies: Paper, chart paper, pens, markers, teacher–laptops
13. Smartboard
14. Projector
15. Notebook
16. Door prize
17. DI article
18. 5 Puzzles Boxes

Day 3– Putting it all together (Collaboration)

Objective: The teachers will take all the information given from session 1 and 2 to create lesson plans based on their content that incorporates content, process and product.

8:00–8:15 AM	Teacher Arrival/Sign In Welcome Back (Light refreshments and coffee)
8:15–8:45 am	Activity: Each group will be given a puzzle. They will be given 10 min to put the puzzle together “WITHOUT TALKING.” They will have to work together using non–verbal cues to put the puzzle together. The first group to complete the task will win a prize. Whole class discussion on the importance of collaboration.
8:45– 9:45 am	DI Article/Jigsaw: Teachers will be given an article about DI. Each individual in the small group will receive a letter (A, B, C, or D). Then, the Facilitator will instruct the lettered groups to divide off to read and discuss the article. (10 min) After 10 min, the individual will regroup with their original small group (content group) and share their findings, followed by a whole group discussion.

9:45– 10:00am	Restroom break and snack break
9:15– 12:00pm	<p>Teachers will work in their small groups to create a lesson plan incorporating the components of DI along with instructional strategies of differentiated instruction to support special education students within their classroom.</p> <p>Each group will be given a lesson plan template that will help guide them through their collaboration planning. Additionally, one person from the special education group will plan alongside each content group.</p>
12:00– 1:00pm	Lunch
1:00–2:00	Each group will share their lesson plan with whole class and will be given feedback
2:00–2:30	Summary of Day 3
2:30–2:45	Evaluation

Day 3: Putting it all together

Slide 49: The facilitator will introduce Day 3 session.

Learner Objectives

Teachers will...

- Take all the information discussed from day 1 and day 2 sessions and create lesson plans based on their content that incorporates the components of differentiated instruction support all students and support special education students.

50

Slide 50: The facilitator will inform the participates of the objectives for day 3.

Ice Breaker-Working together

- Rules
 - Each group will be given a puzzle kit.
 - Groups must work together to put the puzzle together WITHOUT TALKING.
 - The first group to put the puzzle together will win a PRIZE.



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51

Slide 51: The facilitator will inform the provide the directions for the ice-breaker on cooperative learning and collaboration, as well as ways they could use this activity with their students. The group that finishes the puzzle first will win a door prize.

DI article Jigsaw

Jigsaw Activity

- Directions:
 - Each group will be given an article about implementing DI to support special education students within an inclusion-based classroom
 - Everyone in that group will also be assigned a letter (A-D)
 - The goal is for everyone to return back to their original group and piece the meaning of the article together.

52

Slide 52: The facilitator will give each group an article about implementing DI to support special education students within an inclusion classroom. The facilitator will then explain to the participants about the Jigsaw activity. The facilitator will then assign each participant from each group a letter A–D.

DIFFERENTIATION IS NOT

TRACKING OR GROUPING STUDENTS INTO CLASSES BY "ABILITY" **INCOMPATIBLE with STANDARDS**

BLUEBIRDS, BUZZARDS & WOMBATS
(ability grouping within a classroom)

DUMBING DOWN
teaching for some students

Something *extra* on top of good teaching

Mostly for students identified as **GIFTED**

A SET OF INSTRUCTIONAL STRATEGIES

MOSTLY FOR STUDENTS WITH IDENTIFIED LEARNING CHALLENGES

53

Slide 53: After the allotted time given for the Jigsaw, all the participants will go back to their groups and discuss their findings from the article; followed by a whole class discussion. The facilitator will discuss ways they could use this activity to differentiate varied reading levels within their classrooms.



54

Slide 54: The facilitator will instruct the participants to take a 15 min break

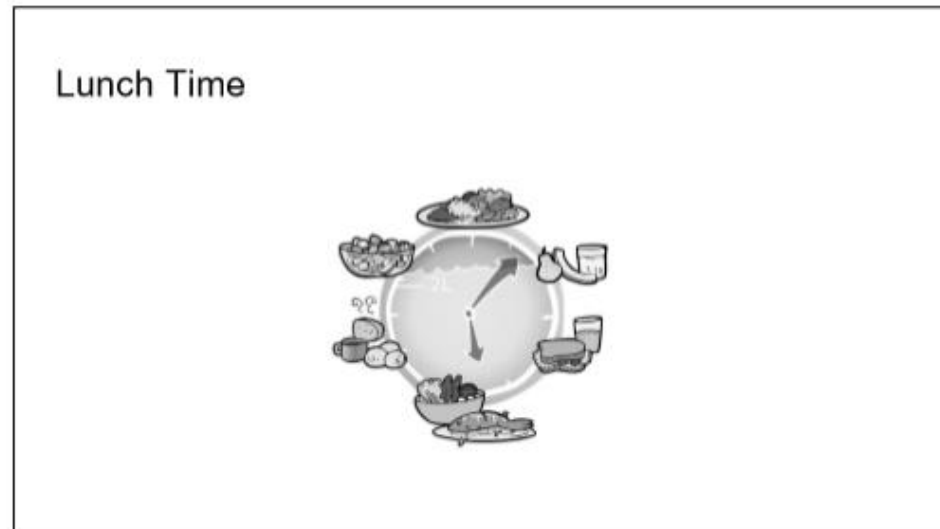
Collaboration

- Each content group will work within their small groups to create a lesson plan
- One special education teacher will collaborate with each group to offer support and resources.
- The lesson plan should include one technology component.

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55


Slide 55: The facilitator will discuss the importance of teachers collaborating with as a content area, grade level, and departments. For the remainder of the professional development day 3, the teachers will be working within their content groups along with a special education teacher to create a lesson plan with all the components of differentiated instruction followed by sharing and feedback.



56

Slide 56: The facilitator will instruct the participants to break for an hour lunch.

Content Lesson Plan Presentations

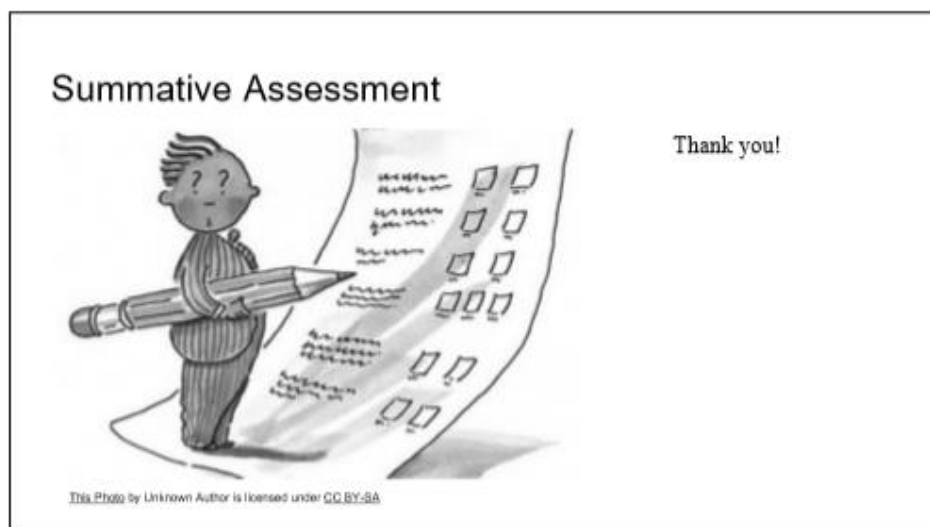


- Each group will share their lesson plan and provided feedback from other groups

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57

Slide 57: The facilitator will instruct the participants to finalize their lesson plans and began presenting them to the group.



58

Slide 58: The facilitator will thank all the participants for attending the professional development and to complete the session upon dismissal.

References

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- Morgan, H. (2014). Maximizing student success with differentiating learning. *Journal of Educational Strategies*. 87(1). 34-38. Accessed from <https://eric.ed.gov/?id=EJ1025571>
- Learning Quiz
<http://www.educationplanner.org/students/self-assessments/learning-styles-quiz.shtml>
- Video 1
<https://www.youtube.com/watch?v=AqepSNjowU>
- Small Groups Video
<https://www.youtube.com/watch?v=Kg38A1gzYiE>
- Flexible Tiered Grouping Video
<https://community.nwea.org/videos/1092>

59

References Continued

Tiered Lessons Video

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

Co-teaching Video

https://www.youtube.com/watch?v=7G_PuClpaaM

Inclusion and Differentiated Instruction: Teachers in the Movies do it Too

<https://www.youtube.com/watch?v=i6rEy3Lqfi0>

Formative Evaluation for Day 1 and Day 2

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

This professional development was relevant to my needs.	1	2	3	4
		5		
This professional development was of high quality.	1	2	3	4
		5		
This professional development enhanced my understanding of differentiated instruction.	1	2	3	4
		5		
This professional development provided me with relevant tools to effectively incorporate differentiated strategies in my inclusion-based classroom.	1	2	3	4
		5		

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Summative Evaluation

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 more knowledgeable about differentiated instruction to support special education teachers.	1	2	3	4
		5		
I feel better equipped to incorporate strategies of differentiated instruction in my inclusion-based class.	1	2	3	4
		5		
I feel that this professional development was a productive use of my time.	1	2	3	4
		5		
I feel that attending this professional development will make me a more effective teacher.	1	2	3	4
		5		
I understand the need to differentiate instruction in my inclusion classroom to reach all students including my special education students.	1	2	3	4
		5		

Summative Evaluation (After 3 months)

Using a scale of 1–5, where 1 is Disagree and 5 is Agree, please answer the following questions.

I have been able to utilize strategies that I learned during the professional development in my classes.	1	2	3	4
		5		
I feel confident incorporating differentiated instructional strategies in my class to support all my students including special education students.	1	2	3	4
		5		
I feel confident utilizing strategies to address the needs of my diverse learners.	1	2	3	4
		5		
I feel confident utilizing strategies to address the needs of my diverse learners.	1	2	3	4
		5		

What advice would you share with other middle school teachers that may be beneficial to others when creating and incorporating lessons using DI to enhance learning for special education students?

Comments:

Appendix B: Interview Protocol

Interviewee's Assigned Letter:

Opening Script:

Thank you for taking the time to allow me to interview you today. The purpose of this qualitative instrumental case study is to explore rural middle school teacher's experiences with incorporating the components (content, process and product) of DI with special education students in an inclusion classroom. Your participation in this study is voluntary. If you at any time there is a question you do not want to answer or if you would like to stop the interview process entirely, please let me know. To protect your identity, I will be assigning you a letter and will use your letter instead of your name. I will be taking notes during the interview and I will also need to audio record the interview. Once the interview is over, I will transcribe for accuracy. Do you have any questions before we begin? Please let me know when you are ready, and I will begin recording.

Background questions:

1. How long have you been teaching?
2. How many special education students you do you currently have in your class?
3. What is your typical class size?

Knowledge and Training:

4. What is your background knowledge about DI?
5. To your knowledge, how much training or professional development is offered to middle school teachers on using the components of DI to support special education students in inclusion classrooms?
6. If not, have you attempted to attend any professional development sessions geared toward differentiated instruction or workshops on supporting special education students in an inclusive classroom?
7. If so, what did you find useful? And Why?
8. What challenges, if any, do you face with using the components of DI to support special education students in your inclusive classroom?
9. What instructional tools, if any, you may need to effectively incorporate the components of DI within your inclusive classroom to support special education students.

Instructional Practices

10. What instructional strategies are you currently using, if any, that are aligned with the components of DI to support special education students in your inclusive classroom?
11. What assessments do you use to assess special education's students' level of understanding according to your standards and the effectiveness of DI in your inclusive classroom?
12. If you use the components of DI within your inclusive classroom setting, what are some examples of activities you have used to engage your special needs students?

Concluding Script

Thank you for allowing me to interview you. I appreciate your time. Keep in mind that all your responses will remain confidential. Once I have transcribed the interview and analyzed the data, I will send you a summary of my findings for you to see if my interpretation was accurate. If there is anything you feel that I should change, please notify me.

Appendix C: Observation Checklist Protocol

Date:**Time at Start of Observation:****Time at End of Observation:****Participants' Assigned Letter:****Number of special education students in class:**

Evidence of DI	Strong	Adequate	None
Classroom is designed or arranged for quick and easy grouping for teacher and student engagement			
Materials/Resources are on students' level for success			
Variety of assessment tools are used			
Variety of instructional strategies are used to engage student learning			
Teacher is assessing student prior knowledge and skill			
Teacher is using variety of ways to introduce concepts to students (i.e. visual aids)			
Providing student with choice			
Comments:			

Requested permission to use and modify from The Learning forward organization
 Acknowledgements: This instrument was created with Carol Tomlinson

Appendix D: Review of Artifacts Protocol

Date:**Time at Start of Review:****Time at End of Review:****Interviewee Assigned Letter:**

Evidence of DI	Strong	Adequate	None
Lessons planned for diverse learners			
Implementation of ongoing assessments			
Lessons support standards/content and topics			
Use of a variety of instructional strategies and activities used to teach lesson			
Evidence of small groups or flexible learning			
Evidence of projects and/or problem-solving activities			
Evidence of student choice activities			
Comments/Explanation:			

