

The Influence of Differentiation on Student Behavior and Achievement

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Abstract

The purpose of this study is to examine how a teacher's preparedness and thus their familiarity with differentiation affects student achievement. The sample consisted of 242 students; 97 students were surveyed from kindergarten, 66 students were surveyed from first-grade, and 79 students were surveyed from second-grade. The data for this qualitative study consisted of two surveys created by the researcher and interviews with both students and the teachers. The student survey asked students true or false questions about their classroom environment, attitudes about school, and methods of instruction used in their classrooms. The teacher survey focused on the types of instruction that each teacher uses in their classroom. The interviews took the results from the two surveys and went more in depth to understand the responses that were given on the surveys. Results revealed that differentiation has positive effects on student attitudes and perceptions of their teacher. Students are positively impacted when teachers take the time to get to know them and tailor education to fit their needs. Differentiation is an excellent way for teachers to provide each student with equal opportunities to succeed in the classroom.



Institutional Review Board Decision Tree

Based on your responses, you do not need approval from the IRB.

It looks like your study is exempt because it does not meet the definition of a research activity. Therefore, it does not require approval by the IRB. However, you should follow ethical practices even when just practicing or demonstrating research.



Refer to [45 CFR 46.102\(d\)](#)

Student researchers may benefit from going through the IRB process even if they are only collecting data to learn techniques.

[Return to Beginning](#)

Table of Contents

Abstract.....	2
Institutional Review Board Decision.....	3
Chapter	
1. Introduction.....	5
Statement of the Problem.....	6
Purpose of Study.....	6
Significance of the Study.....	6
Limitations.....	7
Definition of Terms.....	7
Overview of the Study.....	7
2. Review of the Literature.....	8
3. Methodology and Procedures.....	16
Population.....	17
Sample.....	17
Data Collection Instruments.....	17
Procedures.....	18
Research Questions.....	18
4. Data Analysis.....	19
Collection of Data.....	20
Research Questions.....	21
Study Results.....	22
5. Findings, Conclusions, Implications, and Recommendations.....	26
Summary of Findings.....	26
Conclusions.....	29
Recommendations.....	30
Implications.....	30
References.....	32
Appendices.....	38

Chapter 1

Introduction

Differentiated instruction has been widely debated among teachers for many years. First introduced in the 1900's, differentiation did not have a title, it was just talk about individualizing instruction. Over the years more and more research was conducted and thus the term differentiated instruction came to be. Differentiated instruction is viewed as a road map for student success because it is a set of strategies to help teachers meet each child where he or she is in order to improve students' engagement, lead them to do their best work, and maximize their success (Dugas, 2016). Based on all of the research that I have read, researchers generally agree that children perform better in classrooms where differentiated instruction is implemented. In order for this practice to be successful, the teacher should be familiar with it thus making the child's learning environment more comfortable.

Whether or not a student is placed into a classroom that implements differentiated instruction is completely up to the teacher. This practice is something that is encouraged, but not something that is required in every classroom. The students have to be on board with the change as well, and all of that comes from the relationship that the teacher builds with their students. Through differentiated instruction, the teacher focuses on the essentials while collaborating with students to create meaningful learning, and in turn all students participate in respectful work (Hillier, 2011). The relationship that the teacher has with the students in the class affects how successful differentiated instruction is within a classroom. Having those relationships helps students gain self-confidence which in turn helps them perform academically at their best.

Problem Statement

The impacts of the use of differentiated instruction in the classroom have been debated by many. Many researchers question whether differentiated instruction makes enough of a difference to shy away from the whole group instruction setting. Even though differentiated instruction has been around for years, many people still have questions as to what differentiated instruction is and what benefits, if any, can be observed from using differentiated instruction in the classroom setting. Therefore, the problem for this study is to examine how teacher's preparedness and thus their familiarity with differentiation affects student achievement.

Purpose Statement

The purpose of this study is to examine how a teacher's preparedness and thus their familiarity with differentiation affects student achievement.

Significance

Student achievement is the cornerstone of education and all of that begins in elementary school. Whether a student feels comfortable or not in their classroom could have significant effects on the student's academic success. In 2018, an article was written about the significance of educational experiences and the part they played in strengthening the effects of motivation and behavior which in turn strengthened the effectiveness of differentiated instruction (Hartwig, 2018). This study will examine how teacher's preparedness and thus their familiarity with differentiation effects student achievement.

Limitations

This study was limited by the following factors:

1. All of the participants came from the same school and thus the results are not observable in other schools and school systems.
2. The survey used to assess the student's comfortability within their classroom was created by the researcher and not tested for reliability or validity.
3. Time was also a limiting factor because this survey was conducted in semester time span instead of over an entire year.

Definitions

1. **Differentiation**- a wide variety of teaching techniques and lesson adaptations that educators use to instruct a diverse group of students, with diverse learning needs, in the same course, classroom, or learning environment.
2. **Learning Environment**- the diverse physical locations, contexts, and cultures in which students learn.
3. **Familiarity**- close acquaintance with or knowledge of something
4. **Achievement**- a thing done successfully, typically by effort, courage, or skill.

Overview of Study

This research consists of five chapters: Chapter One includes the introduction, the statement of the problem, the purpose of the study, the significance of the study, the limitations, definitions of important terms, and an overview of the study. Chapter Two

examines a review of the literature related to the study. Chapter Three contains all of the research methods that are used in the study. Chapter Four provides all of the findings of the study. Finally, Chapter Five contains a short review of the study, a summary of the findings, a discussion of the findings, conclusions, and recommendations for future study.

Chapter 2

Review of the Literature

Differentiated instruction is a topic that is discussed widely in education, but what is it exactly? There are many different definitions of differentiated instruction. Each teacher and researcher views it differently, and it has a different meaning depending on the circumstances. Differentiated instruction has been around since the 1900s, but at that point, it did not have a specific name. While it did not share the same name, it did share the same concepts. According to Daryl Dugas, “differentiated instruction is a set of strategies to help teachers meet each child where he or she is to improve students’ engagement, lead them to do their best work, and maximize their success” (Dugas, 2016). Essentially, it is a road map for student success. The more individualized the journey, the more successful the student will be. Jerry Aldridge states, “differentiated instruction should be implemented in a way that does not change what is taught but rather changes how it is taught” (Aldridge, 2010). Teri Consentino had a great suggestion for changing how to teach a topic. Consentino suggested, “spiral[ing] student learning and scaffold[ing] material throughout different subject areas of the curriculum” (Consentino, 2012). By doing this, the teacher is making connections between the subjects to strengthen the student’s understanding of the topic. To understand how to teach an item, you first have to understand the different aspects that go into making differentiated

instruction a success. Differentiated instruction requires planning ahead of time. It is not something that a teacher can decide to do on a whim because much careful planning and consideration have to go into differentiating lessons.

On top of that, it is also important to reflect on what worked and what did not work when implementing this plan. Svenja Janina Hartwig says, “the two components preparing DI [differentiated instruction] and reflecting on DI are important for the adequate performance of DI” (Hartwig, 2018). All of the components have to work together to be successful. One overlooked component is the “adaptations made in the midst of instruction that is an important aspect of differentiation” component (Parsons, 2013). Educators and professionals always talk about planning and reflection, but no one usually talks about the adjustments made while implementing differentiated instruction. Teachers who are successfully implementing this plan “adjust their instruction in real-time to meet the specific needs of individual students or the demands of the situation in which they find themselves” (Parsons, 2013). While educators are not able to completely implement differentiated instruction without any planning, they can adjust their plan when they see that something is not working. Differentiated instruction is meant to make the student’s life easier not more complicated.

One misconception about differentiated instruction is that it is only useful in certain settings. This belief, of course, is not true because differentiated instruction can be used in all academic subjects as well as specialized subjects such as PE and music. An article written by Erin Hillier details the four major principles of differentiated instruction and the ease of use in the music classroom. These four principles are: “the teacher focuses on the essentials, assessment and instruction are inextricably linked, the teacher and students collaborate in

learning, and all students participate in respectful work” (Hillier, 2011). All of these components work well in a music classroom, and they are the same components that are used in a general education classroom. One way that differentiated instruction can be used across the board is through assessments. Cindy Ambrose said it best when she said, “testing students once a year, with data reported many months later, is like using an autopsy to determine how to help a patient” (Salpeter, 2007). Assessments can be used to gather information about student needs and then instruction can be altered to meet the needs identified by the assessments. Another way to think about how to implement differentiated instruction focuses on the students’ different learning styles. Robert Sternberg said, “understanding thinking styles helps teachers differentiate instruction to maximize the learning outcomes of all learners” (Sternberg, 2005). Understanding how a student learns can help teachers to alter instruction to benefit the student.

In many cases, students who have never been to school before and do not have that background knowledge are the ones who can benefit tremendously from differentiated instruction. Shayne Piasta wrote an interesting article on how differentiated instruction can be used to “move beyond whole-class approaches and instead provide alphabet instruction that aligns with a current emphasis on assessment-driven decision making and differentiated instruction” (Piasta, 2014). Using an approach like this takes into account the students’ different learning needs as well as the difficulty of the material. Echo H. Wu also stresses the importance of differentiating instruction to reach gifted students as well. Wu states, “research shows that when teachers do modify their curriculum, they usually modify for just the struggling learners, not the higher end learners or only by interest or learning style” (Wu, 2017).

Wu's solution to this is to use "CLEAR Curriculum" that aids teachers in specific ways to differentiate instruction. There are many different definitions and aspects of differentiated instruction, but one thing remains the same; differentiated instruction is there to help students reach their full potential no matter the circumstance.

When talking about differentiated instruction, it is also important to talk about whether differentiated instruction makes a difference or not. There have been many different studies done to test the validity of differentiated instruction. In a study focusing on the classroom level, classroom observations were used to measure teachers' differentiated instruction practices and thus predict the mathematical achievement of second and fifth-grade students. According to Janke M. Faber, "no significant positive effects were found for differentiated instruction practices. Furthermore, findings showed that students in low-ability groups profited less from differentiated instruction than students in average or high-ability groups" (Faber, 2017). Ruthanne Tobin also talks about the possible downsides of differentiated instruction detailing insight to form the teachers' perspectives. Tobin's article states that differentiated instruction has possibilities, but it also has barriers with the potential obstacles being "fears and insecurities, constraints, and misconstrued messages" (Tobin, 2013). It will be up to the teacher and how effective they are to overcome these potential barriers.

While the past two articles have been articles that oppose the effectiveness of differentiated instruction, there are many more that stand on the favoring side of the subject. The above study results are opposite from the findings that came from a study conducted in German elementary school classrooms. In a review written by Natalie Förster, her research found that "students in the learning progress assessment group showed higher reading fluency

than students in the control group” (Förster, 2018) meaning that the students who were being taught using differentiated instruction methods performed more adequately than the students without differentiated instruction methods. Sally Reis also conducted a study to determine the effectiveness of differentiated instruction concerning reading programs in elementary schools. Reis found that “an enrichment reading approach, with differentiated instruction and less whole group instruction, was as effective or more effective than a traditional whole-group basal approach” (Reis, 2011). Shayne Piasta also details the importance of moving from a whole group setting approach to more of an individualized program this time with children who are learning their alphabet. Piasta states that “children in the same classroom often show different alphabet learning needs and some letters are more difficult to learn than others” (Piasta, 2014). The fact that many researchers are detailing using fewer whole group and more individualized plans shows that across the board there is more and more research pointing towards differentiated instruction being effective. While it is easy to take the word of accomplished researchers that differentiated instruction is effective, why not hear it from the mouth of a child himself? Joshua Patterson did just that in his article about differentiated instruction. His article followed a student named Billy who is in the sixth grade. Billy’s teachers used differentiated instruction methods in his mathematics class, and Billy details his experience by saying, “I don’t know how they did it, but all I know is math is easier and funner for me” (Patterson, 2009). While Billy did not know how the teachers did it, the teachers knew it was all credited to the differentiated instruction approach that they took, so not only do the teachers notice a difference, but the students do as well.

Teri Constantino and Judy Salpeter both detail ways to use and test the effectiveness of differentiated instruction. In her article, Teri Constantino mentions the use of “spiraling and scaffolding throughout different subject areas” to assist in the use of differentiated instruction (Constantino, 2012). Doing this will strengthen the differentiated instruction across the board. Judy Salpeter talks about using assessments to help determine which type of differentiated instruction is the most beneficial. She says that “frequent assessments allow teachers to group students in a flexible way for remediation or enrichment” (Salpeter, 2007). The data from the assessments can help teachers place students into groups to use for differentiation.

However, understanding whether differentiated instruction makes a difference relies on more than just the data alone. A study conducted by Hatixhe Ismajli details how differentiated instruction can be successful when the teacher uses “effective strategies that enable understanding of knowledge in matching the instruction with learners’ interests and abilities... as well as cooperate[s] with learners’ parents to get in-depth knowledge about their learners” (Ismajli, 2018). Matching the curriculum with areas that interest the student help to make differentiated instruction that much more successful, and talking to parents is a great way to get them involved as well as a great way to get to know more and more about the students outside of school. After all who knows the kids and what they like more than their parents? Not only does the child determine if differentiated instruction is effective, but the teacher does as well. Muhamad Nanang Suprayogi details how differentiated instruction relies on a “complex set of variables like teacher’s self-efficacy, beliefs, experience, professional development, certification, and class size” (Suprayogi, 2017). Svenja Janina Hartwig also details how teacher attitudes affect the effectiveness of differentiated instruction. Hartwig states that

“educational experiences and the perceived quality of teacher training did play a big part in strengthening the effects of motivation and behavior which in turn strengthened the effectiveness of differentiated instruction” (Hartwig, 2018). So not only are academics a deciding factor, but attitudes are as well. Another way for differentiated instruction to be successful is for teachers to adapt and change their instruction during lessons continually. According to Seth Parsons, “there is growing evidence that differentiated instruction has positive effects on student achievement” (Parsons, 2013). While Parsons details the positive effects in his article, he also stresses the concept that “teachers who effectively differentiate their instruction not only carefully plan instruction to differentiate for the variety of learners in their classrooms but also provide moment-by-moment adaptations to meet specific needs that become clear during instruction- needs that were not or could not be anticipated” (Parsons, 2013). In other words, differentiated instruction is not successfully executed through planning alone. To effectively execute differentiated instruction, teachers need to be prepared for the minute by minute decisions that could result in a change to lesson differentiation. This aspect is something that many people do not talk about when talking about differentiated instruction, but an important aspect none the less. Based on all the research that has been conducted it seems as though people are more in favor of differentiated instruction than against it, so why is it so important?

The research has shown that differentiated instruction does seem to make a difference, but understanding why that difference is essential can help to explain the use of differentiated instruction within the classroom better. Styles are an aspect that help explain the importance of differentiated instruction. Robert Sternberg talks about how “styles are often confused with

abilities so that students are thought to be incompetent-not because they lack in abilities, but because their styles of thinking do not match the styles of the people creating the assessments” (Sternberg, 2005). This quote shows that differentiated instruction is important because when used correctly, teachers can get away from the stereotype that a student “can’t do” and rather help them get to a place where they reach their full potential. Susan Watts-Taffe details how “differentiated instruction can be used to meet the needs of students whom literacy needs, interests, and strengths vary widely” (Watts-Taffe, 2013). Katie Tricarico also details why differentiated instruction is important. She says, “differentiated instruction is something that is important to implement because it increases learning for all students by incorporating active learning, student interest, and student learning styles into lessons” (Tricarico, 2012).

Does that only extend to general education classrooms or can it be used in all classroom settings including related arts and special education? Erin Hillier and Lenwood Gibson both wrote articles that help answer this question. Erin Hillier wrote an article about the use of differentiated instruction in an elementary music classroom. She details how to use differentiated instruction within the music classroom but that it is important to remember that “teachers adopting the differentiated instruction model in their classrooms do so with the understanding that differentiation is not a rote procedure with sequential steps and a prescribed desirable end product. Rather, it is a process that recognizes that each teacher is as unique as the students he or she teaches, and is shaped by the trials and errors of everyday classroom experiences” (Hillier, 2011). Lenwood Gibson takes the stance for students with learning disabilities. In the first chapter of his book, Gibson details “the importance of using differentiated instruction with students who have learning disabilities” (Gibson, 2013). So the

answer to the question is yes, differentiated instruction can be used across the board in all types of classrooms.

The common theme for successful differentiated instruction seems to be implementing it effectively. What kind of training does one go through to learn how to apply differentiated instruction effectively? Echo H. Wu touches on this subject in an article written from an interview done with Dr. Carolyn Callahan. In the interview, Dr. Callahan stated that “about 25% of teachers who can really develop and modify curriculum for differentiation and are willing to do so, and 50% of teachers can and will implement if you give them the differentiated curriculum, while the other 25% either can’t do or won’t do” (Wu, 2017). In general, it is important to remember that teachers have to be willing to take the necessary steps before differentiation can be useful. After those first steps, as long as it is done correctly, differentiated instruction can be practiced within the classroom.

Chapter 3

Methodology and Procedures

Differentiated Instruction is a topic that is widely discussed in education. The purpose of this study is to gain insight into whether or not differentiated instruction makes a difference in an elementary classroom setting. Based on the literature review, there is plenty of evidence that shows that differentiated instruction improves students’ engagement, leads them to do their best work, and maximizes their success. This study will further investigate those claims. This chapter includes information regarding the population of the school where this study was conducted as well as the methods and procedures used to collect data for the study.

Population

The population of this study consisted of select students in a county school in East Tennessee. The elementary school was located in East Tennessee, which according to the 2010 census had a population of 48,205. This elementary school had a total enrollment of 723 students.

The elementary school served grades kindergarten through fifth. The students represented all types of income levels and race. The racial breakdown was 92.3% Caucasian, 3.2% Hispanic, and 2.4% African American. Seventy-seven and a half students were recipients of free/discounted lunch.

Sample

The sample for this study came from fourteen elementary classrooms (five kindergarten classes, four first- grade classes, and five second-grade classes). The sample consisted of 242 students. 97 students were surveyed from kindergarten, 66 students were surveyed from first-grade, and 79 students were surveyed from second-grade. All races and genders were used in this study. This study was done anonymously so there is not a specific breakdown of male and female ratios. These students were selected based on their grade-level.

Data Collection Instruments

The data collection instruments used for this study consisted of a survey from which a data analysis was derived. The survey focused on how comfortable the students felt in their classroom environment and the methods of instruction that are used in their classroom. Out of all of the students surveyed, 5 students in each grade were randomly selected to be interviewed. They were asked questions that aligned with the survey that was given to the

entire sample. Fourteen classroom teachers were also interviewed to determine how comfortable they were with differentiated instruction and to see where their students are performing academically.

Procedures

Before my research was conducted, permission was requested from the principal of the elementary school. I then received permission from the school board and superintendent. After permission was given as to what classes were researched, I met with the classroom teachers and explained to them what will be researched. From that point I met with the students and informed them of the research and explained the survey that they were going to take. Permission was also sought out from Milligan College's Institutional Review Board. After all of the permissions were collected, the study was implemented. The participants were asked to fill out the survey created by the researcher. The ten questions were true and false questions and focused on the methods used in the classroom as well as questions to gauge how comfortable students are in the classroom. Five students in each grade were randomly selected to be interviewed in order to further investigate the findings of the surveys. The teachers were also interviewed to see what methods of teaching they use in their classroom as well as the percentage of students who perform in the average percentile or above academically. Once all data was collected, the results were analyzed.

Research Questions

Research Question 1: Are students who are in a classroom where the teacher is comfortable with differentiation more likely to report that they understand the material than students who are in a classroom where the teacher is uncomfortable with differentiation?

Research Hypothesis 1: Students will report a significant difference in comfort level in a classroom where the teacher is comfortable with differentiation instruction and in a classroom where the teacher is not.

Null Hypothesis 1- Students will report no difference in comfort level in a classroom where the teacher is comfortable with differentiation instruction and in a classroom where the teacher is not.

Research Question 2: Do students who are in a classroom where the teacher is comfortable with differentiation perform better academically than students who are in a classroom where the teacher is uncomfortable with differentiated instruction?

Research Hypothesis 2: There will be a significant difference in student grades from students in classrooms where the teacher is comfortable with differentiated instruction and classrooms where the teacher is not comfortable with differentiated instruction.

Null Hypothesis 2- There will be no difference in student grades from students in classrooms where the teacher is comfortable with differentiated instruction and classrooms where the teacher is not comfortable with differentiated instruction.

Chapter 4

Data Analysis

The purpose of this study was to gain insight into whether or not differentiated instruction makes a difference in an elementary classroom setting. Every child learns at different speeds and in different ways. A big part of student success is students having the confidence that their teachers know about their lives and incorporate lessons to make them as successful as they can be. In 2018, an article was written about a study that was conducted in

Germany. In this study, they proved that students who were being taught using differentiated instruction methods performed more adequately than the students without differentiated instruction methods. This study shows that elementary classrooms are affected when differentiated instruction is implemented.

Data Collection

The data for this qualitative study consisted of two surveys created by the researcher and interviews with both students and the teachers. The data was collected to describe whether or not teachers were using differentiated instruction, as well as, describe if there was a difference between classrooms that used differentiated instruction and those that did not. Two-hundred and forty-two students from a Northeast Tennessee school were surveyed. Ninety-seven of those students were surveyed from kindergarten, sixty-six students were surveyed from first-grade, and seventy-nine students were surveyed from second-grade. Of the two-hundred and forty-two students, five from each grade were randomly selected to be interviewed. Of the fifteen students, seven of the students were male, and eight of the students were female.

Along with the student interviews, each of the teachers was given a survey as well. Fourteen teachers were surveyed. Five of the teachers teach kindergarten, four of the teachers teach first-grade, and five of the teachers teach second-grade. The demographic profile of the participating students is displayed in Table 1.

I used two different surveys for this study (see Appendix A). The first survey was one for the students. Students were asked questions regarding the types of instruction that their teacher used as well as questions pertaining to how well the students felt that their teacher

knew them. Students were asked to circle a thumbs up if they agreed with the statement or a thumbs down if they disagreed with the statement. The second survey was a survey created for the teachers whose students were surveyed (see Appendix B). Teachers were asked to write place check marks by the different forms of instruction that they use regularly in their classroom. Interviews (see Appendix C) were also conducted with fourteen students, seven males, and seven females.

Table 1 Demographic Profile of Participating Students

Grade	Frequency (<i>f</i>)	Percent (%)
Kindergarten	97	40.09
First-Grade	66	27.27
Second-Grade	79	32.64
Total	242	100.00

Research Question

Two research questions were used to guide the analysis of the collected data. Those two research questions were:

- 1. Are students who are in a classroom where the teacher is comfortable with differentiation more likely to report that they understand the material than students who are in a classroom where the teacher is uncomfortable with differentiation?**

2. Do students who are in a classroom where the teacher is comfortable with differentiation perform better academically than students who are in a classroom where the teacher is uncomfortable with differentiated instruction?

To answer these research questions, three instruments were used to collect the data and then the data was examined and analyzed. The instruments used were two surveys and interviews.

Results Derived from Student Surveys

Four trends emerged when the student surveys data was analyzed. Trend 1 showed that 96% of students stated that their teacher makes them feel smart and 97% reported that their teacher cares about them. These percentages are significant because they show that students are in a conducive learning environment and that they possess positive attitudes about school and their teachers. Trend 2 showed that 99% of students stated that their teacher expects them to do their best. For differentiation to be effective, the high expectations have to be there, and this trend shows quite clearly that the teachers at this particular school have communicated to their students the high expectations they have for student learning. Trend 3 showed that 93% of students stated that their teachers show them pictures to help them learn, 90% indicated that their teachers show them videos to help them learn, and 73% of students stated that their teachers know some of their favorite things and use them to help them learn. This is where the differentiated instruction comes into play. Differentiation is not something mandatory for teachers, so it is interesting to see the percentage of students who recognize these different teaching strategies in their classrooms. The final trend that I observed from the student surveys, trend 4, showed that only 50% of students stated that they feel that their

teacher knows about their life at home. This statistic is important because, to differentiate instruction to make every student successful, teachers have to have an understanding of the environment that they are coming from as well as the outside factors that could attribute to their learning difficulties. Figure 1 shows the percentage of students in each grade who state that their teacher knows about their life at home compared to the students who affirm that their teacher does not know about their life at home.

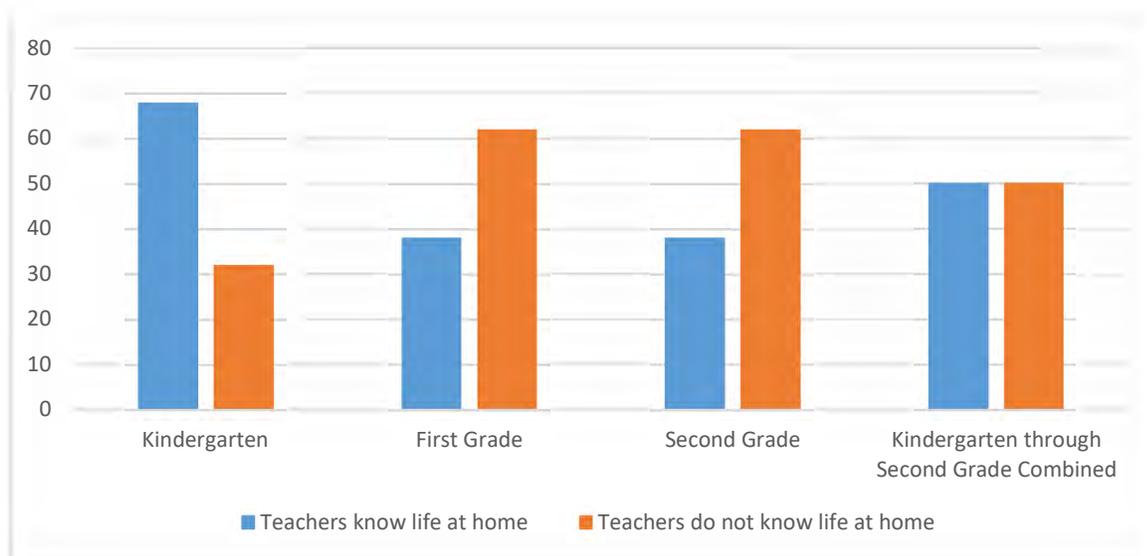


Figure 1: Percentage of students who say teachers know their life at home compared to those who say teachers do not.

Results Derived from Teacher Surveys

Teachers were surveyed to find out the kind of instruction that they use in their classrooms. Once the data was collected and analyzed, four trends emerged. Trend 1 had to do with visual learning, and 100% of teachers stated that they used visual tools like pictures and videos to aid in student learning. Trend 2 focused on auditory learning, and 44% of teachers indicated that they used auditory tools such as songs, chants, and oral assessments to aid in student learning. Trend 3 centered around kinesthetic learners and 78% of teachers reported

using kinesthetic learning approaches like hands-on activities, online resources such as games, and written assessments and drawings. Figure 2 shows the percentage of kindergarten teachers, first-grade teachers, and second-grade teachers who use kinesthetic learning approaches in the classroom.

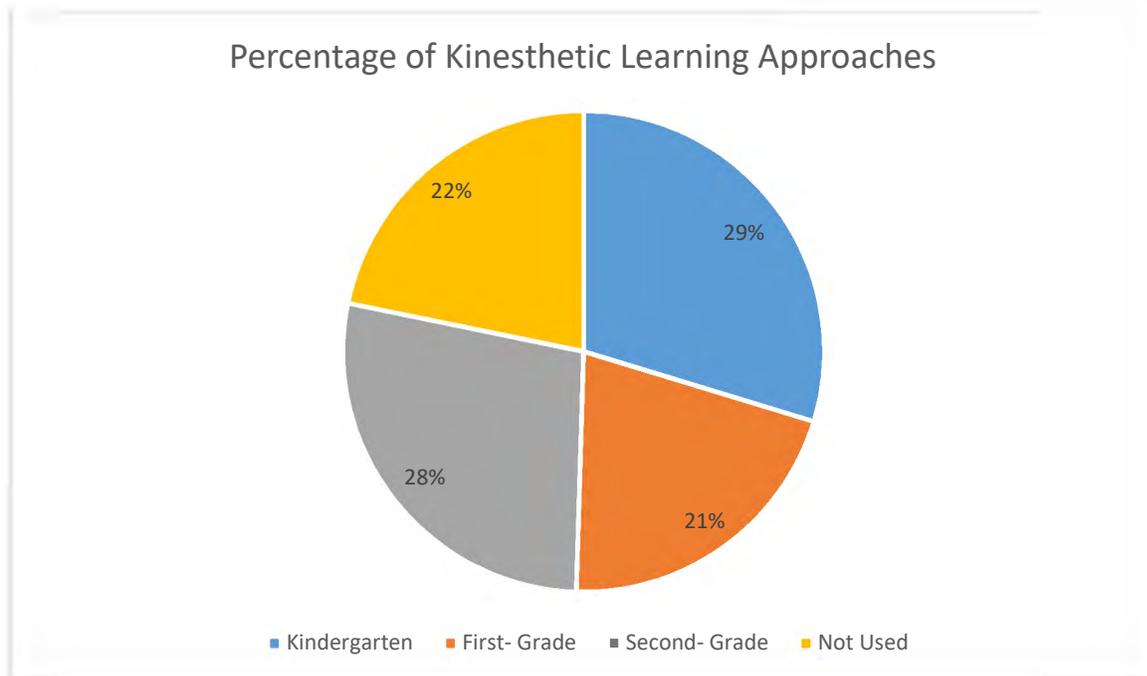


Figure 2: Percentage of Kinesthetic Learning Approaches Used in each Kindergarten, First-Grade, and Second-Grade Classroom.

The final trend, trend 4, focused on grouping and 63% of teachers reported using intentional groupings to aid in student success. Intentional grouping is one way that teachers can differentiate instruction by pairing students with each other.

Results Derived from Interviews

When interviews were conducted, four trends emerged. I began the conversations by asking students questions about their learning environment. The first trend came from how comfortable the students felt in their classroom. Seventy-one percent of students interviewed

stated that it was easy to focus in their classroom and the other 29% said that it was hard to concentrate in their classroom because “someone in our class is always getting fussed at and being bad.” Behavior problems can be a big roadblock to differentiated instruction so hearing that from some students helps to explain some of the answers from the survey. The second trend focuses on auditory versus kinesthetic learning. Seventy-nine percent of students reported that it is easier for them to learn something if they are practicing it by themselves rather than listening to the teacher explain it. One student even said, “sometimes my teacher likes to talk too much, and I want to ask her to let me try, but I don’t want to be disrespectful, so I just listen while she talks and talks and then it is time to go.” This goes back to the questions about the different types of learning that are used in the classroom and the way that the teacher differentiates what is used. The third trend goes back to the question on the survey about teachers knowing a student’s home life. I asked the students interviewed if their learning is affected when something happens at home to make them sad or upset. Ninety-three percent of students interviewed said that their learning is affected when something happens at home to upset them because “it is hard to forget when something bad happens because it just keeps playing in my head even when I’m trying to turn it off and put something new in my brain.” This further explains why it is important that teachers know what is going on at home because it directly affects a student’s performance at school. The fourth and final trend that appeared from the interviews comes from asking students what they would change about their classroom. Sixty-four percent of students stated that they would “make school more fun by letting kids do more fun stuff like making things instead of writing so much and taking tests.” These results show that over 50% of students interviewed want more hands-on

activities and less writing because they think it will help them do better in class which is an example of differentiated instruction.

Chapter 5

Findings, Recommendations, and Implications

Introduction

This chapter is comprised of a summary of the findings that came from the research, recommendations for further research, and implications that came from this study. This research study came from the review of literature that identified that differentiation has positive impacts on student behavior and achievement. The summary of findings was also based on the data analysis described in the last chapter.

Summary of Findings

The main goal of this study was to answer the question regarding whether or not differentiation makes a difference in student achievement. Several trends transpired from the three instruments that were used to collect data for this research. The data collection instruments were student surveys, teacher surveys, and interviews.

Four trends emerged from the results of the student surveys. The first trend focused around learning environments and attitudes. From the results conducted by surveys, it was apparent that the students surveyed felt respected and cared for at school and that shows that these children are in a learning environment that is conducive to learning and that they possess positive attitudes about school and their teachers. This is important because if a student does not feel valued in the classroom, then no type of instruction that the teacher uses is going to make a difference in the students' academic growth.

The second trend focused on expectations. Through the student surveys, I was able to detect that students felt that their teachers expect them to do their best. High expectations are a big part of academic achievement and building off of the conducive learning environment that was discovered in the first trend; it was discovered that students were being held to high standards for academic achievement. For differentiation to be effective, high expectations have to be present to push students to think past the obvious answers and grasp concepts that are higher order thinking.

The third trend focused on the different types of teaching methods that the teachers used in the classroom. Based on the percentages that were obtained from the surveys it is evident that the teachers in this particular school use various instructional methods regularly in the classroom. This trend is really where the concept of differentiation comes to the forefront because it clearly outlines whether or not teachers are implementing various teaching strategies.

The fourth and final trend focused around teachers' knowledge of their students, more specifically their home lives. Many factors go into academic achievement, and many times those can be outside factors especially when something is happening at home. Half of the students surveyed stated that they feel that their teacher knows about their life at home. This means that half do not think that their teacher knows about their experience at home and that knowledge is instrumental in ensuring that students are reaching their academic potential.

Four critical trends emerged from the teacher surveys as well. The four trends that emerged are related to each other, and all have to do with the types of instruction that the teachers use regularly. The first trend dealt with visual learning and how every teacher

surveyed stated that they use visual learning tools such as pictures and videos to aid in student learning. This trend shows that students are not only hearing what they are being taught but being shown concrete examples as well. The second trend focused on auditory learning, and the surveys revealed that less than half of the teachers surveyed used tools like songs, chants, and oral assessments to gauge student mastery. The third trend dealt with kinesthetic learners and almost 80% of teachers surveyed said that they use hands-on activities that appeal to kinesthetic learners. The final trend focused on grouping and survey results showed that 63% of teachers use intentional grouping which is one way that teachers can differentiate activities by placing students into groups where they will be completing the same work as their group members even if they are not doing the same activity as everyone else in the class.

The interview portion of the study also revealed four significant trends. I took the patterns that I noticed from conducting the student surveys and dove deeper into those by asking students more in-depth questions. The first trend that I saw from the interviews was that 71% of students stated that it was easy to focus in their classroom while the other 29% said that it was occasionally hard for them to focus in their classroom. As I dug deeper, I found that the common reason that the students gave for why it was challenging for them to concentrate was because of students who were “being bad and getting fussed at” rather than environmental factors. Their answers revealed that behavior problems could also be a roadblock for differentiation.

The second trend dove deeper into auditory versus kinesthetic learning since those are the two areas where some teachers reported struggles with differentiation. According to the students surveyed, 79% of them stated that it is easier for them to learn something if they are

practicing it themselves rather than listening to the teacher explain it. This trend went nicely with the patterns discovered in the teacher interviews because more teachers reported using kinesthetic approaches compared to auditory methods. One student did state that, “sometimes my teacher likes to talk too much, and I want to ask her to let me try, but I don’t want to be disrespectful, so I just listen while she talks and talks and then it is time to go.”

The third trend relates to a pattern that I noticed when conducting student surveys. I asked the students interviewed if their learning is affected when something happens at home to make them sad or upset. Ninety-three percent of students interviewed said that their education is affected because “it is hard to forget when something bad happens because it just keeps playing in my head even when I’m trying to turn it off and put something new in my brain.” This further explains why it is essential that teachers know what is going on at home because it directly affects a student’s performance at school.

The fourth and final trend that came from the interviews came from asking students what they would change about their classroom. Over half of the students interviewed stated they would make school more fun by letting kids do more fun stuff like making things instead of writing so much and taking tests. This goes back to kinesthetic learning approaches and the desire for students to have more hands-on activities in the classroom which is an example of differentiation.

Conclusion

The results that came from this study confirmed that students report a significant difference in comfort level when differentiation is present. However, the results did not show whether or not a student performs better academically in a classroom where the teacher is

comfortable with differentiation compared to a classroom where a teacher is not. The trends show that teachers should be mindful of how students best learn as well as how things are going in their life outside of school to get a full picture of what the teacher needs to do to help the student succeed academically.

Recommendations

1. Future research should include surveys and interview questions regarding academic performance to gain better insight into whether students' grades are affected positively when differentiation is implemented.
2. Future research should include a larger sample size from various school settings to gain a better picture of how differentiation works in other schools and to gauge whether the environment has an impact on the success of differentiation.
3. Future research should include in-depth studies of older students as well as younger students to map how differentiation changes as students get older and their schoolwork becomes more complicated.
4. Future research should include a component of research where control groups are created to track the progress of a classroom that uses differentiation compared to a classroom that does not over a more extended period.

Implications

1. All students should feel comfortable in their learning environment and should have positive impacts when it comes to the instruction that they receive in the classroom.

2. All teachers should be aware that every child learns in different ways and that what works for one child may not work the same for another. Differentiation is in place to fit the mold of each child; each child is not supposed to fit into a specific mold for differentiation.

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Appendices

Appendix A
Student Survey

K- 2nd Student Survey

1. My teacher makes me feel smart.  
2. When I am confused I can ask my teacher for help.  
3. My teacher shows me pictures to help me learn.  
4. My teacher cares about me.  
5. My teacher knows some of my favorite things and uses them to teach me.  
6. My teacher shows me videos to help me learn.  
7. My teacher makes learning fun.  
8. My teacher expects me to try my best.  
9. My teacher knows about my life at home.  
10. My teacher cares about my learning.  

Appendix B

Teacher Survey

Kindergarten- 2nd Grade Teacher Survey

Please circle each of the methods that you use **REGULARLY** in your classroom.

Pictures

Videos

Songs

Chants

Hands-on activities

Online learning resources (ex. games and interactive learning on iPads)

Oral assessments

Written assessments

Ability groups

Groups where struggling students are paired with successful students

Written response (drawing or writing)

Independent work

Appendix C

Student Interview Questions

K- 2nd Student Interview Questions

1. Is it easy to focus on your work in your classroom?
 - a. If yes, “what do you like best about your classroom?”
 - b. If no, “why is it hard to focus in your classroom?”
2. Is it easier for you to learn by listening to the teacher explain the lesson to you or would you rather be able to work with your hands and practice what you are learning?
3. How does it make you feel when your teacher spends a long time teaching you and talking instead of letting you practice?
4. When something happens at home to make you sad or upset does that effect your day at school?
5. What would you change about your classroom if you could change anything?