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**Can Lesson Plans and Effective Teaching
Strategies Create an Inclusive Classroom?**

By Holly Blakely

An Action Research Project Submitted to Western Oregon University

In partial fulfillment of the requirements for the degree of:

Master of Arts in Teaching

June 2022



**WE, THE UNDERSIGNED MEMBERS OF THE GRADUATE FACULTY OF
WESTERN OREGON UNIVERSITY HAVE EXAMINED THE ENCLOSED**

Action Research Project Title:

Can Lesson Plans and Effective Teaching Strategies Create an Inclusive Classroom? Can Lesson Plans and Effective Teaching Strategies Create an Inclusive Classroom?

Graduate Student: Holly Blakely

Candidate for the degree of : Master of Arts in Teaching: Initial Licensure

*and hereby certify that in our opinion it is worthy of acceptance as partial fulfillment
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Abstract

The purpose of this project is to create an inclusive classroom that becomes an environment that students learn in. I am going to be looking at the InTASC standards #1 and #2 and how my teaching aligns with them. I am hoping that by analyzing my teaching and my lessons plans, my planning for an inclusive classroom will become more deliberate and also more of a second nature for me. I am also hoping that by creating this environment, I will see that disruptions in class or other behavioral issues will go down because I am using my lesson plans to work with their needs and skill abilities. I want my teaching to be more of a group lesson instead of finding myself teaching or talking at students. The research supports the need for inclusive classroom but does not touch much on how the effective teaching in the inclusive classroom can lower the disruptions or need for discipline. I am hoping to see that my work in the classroom will have a positive result. I will analyze my lesson plans, use feedback from my university supervisor and my mentor teachers and use self-reflection and journaling to see if I am creating an inclusive environment for the students in my class. I will see how I implement effective teaching styles in my inclusive classroom and how that affect possible disciplinary issues in the classroom.

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Chapter 1

INTRODUCTION

“Education is not the learning of facts, but the training of the mind to think,” said Albert Einstein. Teaching is not simply repeating things over and over again. A teacher’s job is not to speak for hours and hours on end and expect students to instantly understand what is being said. A teacher is there to lead, guide and inspire students to want to know more about what is being taught. I want students to want to come back to class the next day wondering what we are going to learn, not because they must, but because they want to.

Teaching is a gift that not all people possess. It is a skill that is honed, practiced, and improved lesson after lesson, year after year. I am still at the very beginning of my teaching career and while I feel that I have a lot to offer students, I still have so much more to learn. I might be a teacher, but I am also a student. I want my students to understand that learning never stops and that to teach, we as teachers also have to be open to learning and growing as people, students, co-worker and mentors.

Teachers need to be listeners. We need to understand that we talk a lot and while we think that what we are saying makes sense, it might not be translating very well to the class. Teachers must listen. They must listen to the state of Oregon about what standards need to be taught. They must listen to their administrators about policies, procedures and what is going on in the school. They should listen to their co-workers and collaborate to come up with lesson and ideas. They listen to parents about concerns and answer questions. But, most importantly they

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need to listen to students. They need to hear what is working and not working. They need to hear the joys and fears that the kids are experiencing. Some of this might have to do with the subject that is being taught, but it may not. A student might just want to talk about their day, their life, their experiences, and that needs to be ok. That needs to become a normal. Teachers need to be happy, excited, and sad for their students. We are not robots, and the students need to see that we have the ability to listen and comprehend what is being said and that we can grow, and change based on what is going on in the classroom, school, community and world.

“We adults often think we already know what’s getting in the kid’s way on a given problem, which may help explain why we often don’t put much energy into finding out” (Greene 2016, p.77). When you start a class, how often do you ask, “how is everyone today?” But do you actually listen to the answer, or is it just used as a segue into the lesson for the day? Listen! Listen to what is being said or not said. If I ask my class about homework, or about how they felt about the assignment, I genuinely want to know the answer. I want to engage students in a discussion. Don’t ask the question if you don’t want to know the answer. Do not waste everyone’s time just to sound concerned or interested when you really are not.

Teachers need to always continue learning. “We can’t teach what we don’t know” (Gay, 2002, p. 106). If there is one thing that I have learned through this whole journey it is that I cannot ever close off the idea that I will continue to learn. I have had to re-teach and re-learn the way math is taught. I used to think that math would never change. It was the international language. It was something that everyone everywhere could understand. However, I quickly learned that I was wrong. Math has changed. The way that we teach has changed. The way that students learn, process, and comprehend has changed. I need to learn new ways to get the lesson across to students. I want to learn how to speak to them, how to get them excited about things.

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What worked 25 years ago when I was in high school no longer applies and is no longer a tool that I can use.

I want to continue to educate myself every day. That education will not always be centered around math. The classes I take might not have anything to do with numbers or solving problems. Just because I teach math does not mean that I must only take math classes for the rest of my life. I want to be well rounded. I want to understand current events and what affects my students. I want to know what they are going through. What does a typical day look like for them? What does their home life look like? What are the demographics of my school? How did last year and COVID affect their feelings for school, their ability to learn and their ability to be social? These are all things that I am learning and will continue to learn. If I am expecting the students to come to school with an open mind and ready to conquer anything that they come across then I need to think the same way.

As a teacher, I want to make sure that I am always open-minded. I want to hear what people say and be open to their ideas or feedback. Something that has taken me awhile to understand and get used to is that fact that feedback is not a negative thing. Most feedback comes from a positive place and is only meant to make you better. This took me awhile because as a student I was constantly told when I was doing something wrong, but never when I was succeeding at something. I want to work to change that mindset. I will show the students that I am open to their ideas and suggestions and hope that by leading by example they will see that feedback is something that they should look for in school, life, and their future.

Students' lives have changed so much over the last year. COVID has turned what they used to think school was upside down. So, if I am going to expect the students to be openminded about the change and school and education, then I need to show them how it is done. I am also

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in a situation that is changing daily. We are constantly trying to improve how things are done and how lessons are being taught. I can show students that change is part of life and that being open-minded to the change and trying new things will open so many doors for them in school and in their future.

The classroom setting is also a huge part of getting students involved in class and having a productive classroom. I want a classroom that allows the students to interact with me and allows them to interact with each other when necessary. Therefore, I like the idea of individual desks for the student's vs tables. I also like the desks that the chairs are connected to the desk versus chairs that are separate because there are less things to distract students with. The desk will be one solid piece, so the chairs don't pivot, swing, recline or lean back. The students would be in rows initially and then I can move the desks into groups of three when needed.

While the idea of desks will work for many students, there are some students that need the individual desk and chair. This could be because they do not fit in the chair when it is attached to the desk, they could need the ability to fidget or move, they could need to get up and move more often than the row of desks allows them to. There will be accommodations for these students in the classroom. I also want a lounge chair in the back of the classroom to give any student the chance to take a break if they need to or to just get a little more comfortable so that they can concentrate.

High school students are at a point in their education where they come into the class with a preconceived notion of what they think math is. They either like it, or they don't like it. The ones that like math are the ones that are easy to teach. They ask questions, they sit and take notes and actively participate in activities. The ones that make me think and make teaching fun, challenging, and rewarding are the ones that push back. The ones that say this is useless because

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we will never use it. I cannot count the number of times that someone has said “when will I ever use this.” I have gotten pretty good at finding real work situations for almost every activity that I do or lesson that I teach. The real work solutions are ones that the students can relate to. Simply saying “you can be a scientist or a mathematician” does not help gain the students trust or interest.

“Children need to be able to connect formal symbolic representations to real objects, actions, and experiences-mapping back and forth between the real world and the representation of it. (Kleen, 1992)” (Taylor & Francis, 1995, p. 175). Showing them an example of a slope on a wheelchair ramp, the stairs, or the football stadium are ways to bring slopes, lines and graphs into their world or reminding them that they do deal with percentages, interest rate and loans when they are using their bank accounts or lending their friends money are real world examples that they can relate to.

“Children need to be able to connect formal symbolic representations to real objects, actions, and experiences-mapping back and forth between the real world and the representation of it. (Kleen, 1992)” (Taylor & Francis, 1995, p.175). Students, like adults, need to feel that what they are doing is relevant. They already go through life doing most things because people tell them to and not because they are interested in it or see any type of value from it. If we simply tell them that they must learn this because they have to, then we will not see the results or the buy in that we really want to see. However, by being honest with them and explaining that there are somethings that people will use daily and some things that may be used a few times, we can get their interest in the lessons that we are trying to teach them.

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I want to have a classroom that is built around the students and the community that they represent. I want them to feel welcomed in the classroom and feel like their opinion or feelings matter. I want to get their buy in on the lessons and the goals of the classroom. To do this, I have to release a little control. I need them to be able to make choices. The “what we talk about; how we talk about it; what we see, attend to, or ignore; how we think; and what we think about” (Gay, 2002, p. 110). This is going to be a huge part of teaching in the classroom and for a teacher to begin to succeed in this it goes back to the fact that they need to know their classroom.

I feel that it is important to know what the students are going through in their personal lives as well as in their school lives. If we take a genuine interest in the students, they will see that. They want to know that they are more than a score on a test or a seat in a classroom. They are people trying to navigate the struggles of daily life. We, as teachers, need to take interest in that and while we may not be able to fix or solve their problems, we can notice changes in behavior, and we can address the changes and see if there is anything that we can do to help them. Sometimes all they want is someone to listen and just take the time to care about them.

“We adults often think we already know what’s getting in the kid’s way on a given problem, which may help explain why we often don’t put much energy into finding out” (Greene, 2016, p.77). Why can’t we just ask? Why can’t we take a couple minutes each day and check in with the class. If we see someone’s behavior is different, does it really hurt to ask? Showing a little interest in the student’s well-being is free and can mean the world to someone who thinks that they are invisible.

We can take an interest in the students’ lives and show genuine concern for them, but we need to remember that we are still teachers, “and you’re not going to be trying to solve all of

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those unsolved problem at once anyway, tempting as it might be. Indeed, trying to solve all of these at once is the best way to ensure that none of them get solved at all” (Greene, p. 51). There are some things that I can’t fix in one day and I need to remember that. I am a fixer and I do want the world to be right, but sometimes that is not possible for me to do. This was also a hard thing for me to learn and put into practice. Like math, I want everything to have a solution and fit nice and neatly in a little box. With math, there is a solution to every problem. You start something and you work it until it is solved. With students, lives, school, careers, rules, procedures and policies, there are not simple solutions. There is not always a nice tidy end to every issue.

While I may not be able to solve every problem, I can still focus on the classroom environment that I want to achieve. I can help the kids focus on the task at hand and create a safe place for students to feel like they can answer questions, try new things, and get out of their comfort zone. This is achieved by spending more time on task when teaching and seeing less and less distractions in the classrooms. Because of this, I will build a community in my classroom. The students feel respected by their teacher. I will not just use standard assessments for everything. In fact, I want to find creative and different way to assess the students based on the demographic makeup of the class. I want to engage and challenge the students daily and push them to think deeper than the surface answer.

If I am going to push the students out of their comfort zone, I need to understand that there are also going to be some adverse side effects to that. Some students act out when they become uncomfortable or when they do not know the answer. In the past, acting out was a free pass to get out the class. The more disruptive you were, the less likely the teacher was to call on you or bring attention to you. That needs to change in my classroom. I was to stop focusing on the negative and find the positive in the situations. “If students know how to be successful

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independently, they would do it. But students need to be taught what to do, and that goes above and beyond teaching them what not to do” (Greene, p. 68).

Schools today focus so much on the negative aspect of behavior. Don't run, don't talk in class, don't chew gum, don't wear hats, don't be late, don't forget your homework... The list goes on and on. It has become easier for us to tell students what no to do instead of focusing on the positive and letting them know what they can do. We can tell them what behaviors are acceptable so that when they accomplish them it is a positive instead of telling them what they can't do and turning it into a negative. Students want to be good. They want to succeed. We have been learning that this whole class. They need the tools to do so. We do not expect a toddler to understand that they have to be still and listen sometimes or have good manners in a restaurant, we teach them. We model it and show them what we expect, not what we don't want to see. We are patient and we are kind, so why does that stop when students get older? It should not.

“I don't want to change your behavior. I want you to think about it before you do it.” We are going to be teaching students who will eventually be going into the real world to become productive citizens. We cannot be always there by their sides watching them and telling them what to do. We need to teach them to be in control of their choices that they make. Take a moment, take a breath, and think before you act or speak. I want my students to know that it is ok to take a moment to collect your thoughts before you react to something. Actions and words cannot be taken back and that is something that many students to not realize. They think that they have a “right” to say whatever they want without consequences. Yes, they are free to make their choices, but they also have the consequences that go along with their choices. I want them

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to know that it is ok to make mistakes or wrong choices if they learn from them and try to grow and not repeat it again.

My teaching philosophy is different from what the students are used to, and it is what I wish would have been around when I was in school. It will be an open classroom full of communication, collaboration, and toleration. It will take time. It will take patience and it will help from all the students, teachers, parents, and admin, but it is something that can be done. I am trying to make change class by class, day by day.

How My Philosophy Aligns to InTASC Standards

The InTASC standards are something that I have aligned my teaching philosophy to. I pride myself in the idea of personalized learning for diverse learners. I believe that everyone learns differently and that, as a teacher, I should be able to find the best way for them to learn. By providing different ways to solve problems and different options for completing assignments, I will hopefully be able to find the best way to teach my students. Some students want to do everything online, some students want to physically write on paper. By having handouts in class and having the assignments available online, I can let the students choose which one works best for them. When I teach the lesson, I try to find several different approaches to the same problems so that students can choose which one is better for them, or which one their understand better.

I am putting more focus on application and knowledge of skill. I am making sure that the students understand what is going on. They can show me this through our in-class assignments, and out group assignments. I don't just want to give them homework to go home and do and just turn in. This does not show me knowledge at all. Anyone can go home and google the answers

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and turn them in, but do they actually understand? Do they know what kind of real-world applications that lesson can have? I want my students to see that while some math is simply done in the classroom, there is so much more that can be done in the world around them.

While the classroom environment is really important, so is the professional environment. I enjoy working with my co-workers. I want a learning environment where I can ask questions and get different ideas on curriculum and lessons. Many of the other teachers have been there for years and know the students so well and they will have ideas that I might not have thought of. I have no problem being a new teacher. I have no problem learning from those who have been there and gone through everything I am experiencing. In my opinion, coworkers and a collaborative environment are the best way for any teacher to learn and grow and the more I am able to learn, the better my student's education will be.

Conclusion

Teaching is going to be different for everyone. Teaching math in one classroom will look different than teaching the same subject in a different classroom. There will be positives and negatives to each classroom and situation. The things that should stay constant are the way that the classrooms include the students. The curriculum in the classrooms can be altered and changed a little to allow all students with and learning differences to participate in the class if they choose to.

By looking at the different ways that someone can have an inclusive classroom, use different teaching strategies and have discipline in the classroom, a teacher can create their own classroom techniques to cultivate the environment that their students would learn in. Teachers can learn and grow from each other personally and professionally.

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I want to use these three themes in my classroom and in my everyday teaching. I want to learn from these articles, books, reviews and websites to see that there are so many options that I can take in any direction that I choose. I can choose how to have an inclusive classroom. I can choose what teaching strategies that I need to use. I can choose what type of discipline or behavioral strategies are needed in my classroom

Chapter II

LITERATURE REVIEW

Purposes and Objectives for the Literature Review

My purpose in this review of the research was to discover how teachers and researchers have looked at effective teaching and teacher growth in their discipline. I searched for research on Inclusive Education because I do not think that the solution to teaching those with different learning abilities is to send them away. Every student deserves the best education possible, and that education will not look the same for everyone. Just as people with different food allergies are not forced to sit in a special section of the restaurant, students with different learning needs should not be separated or segregated if possible either. I also searched for studies on effective instruction because I want to be able to have the tools that I need to teach students the lessons. There are so many different teaching styles and I want to have a tool belt full of them so that I can switch it up or offer several different styles within the same lesson. I understand that I learn differently than my other classmates and I don't expect my students to learn the same way that I do or understand math the same way that I do. I need to find a way to communicate or teach so that they enjoy it.. Additionally, because I would be studying my own practice and focusing on these ideas in my endorsement area, I looked for studies that indicated the kinds of instruction that are effective for disciplinary issues and methods and the effect on students learning math.

This literature review strengthens my understanding and knowledge of these themes and help me set my own goals for my classroom and teaching. These are real examples, issues and things that I will face in my school. I wanted to find articles and research that will introduce new

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effective strategies as well as strengthen the foundation that I already have built. I wanted to find research that included examples of how it can pertain to my math class and how I can use the ideas and strategies in my class because I believe that, while knowledge is power, that actual strength comes from trial and error and putting these ideas and practices to use.

Procedures for the Literature Review

I selected literature for this review based on several specific criteria. Research on was included if it contained the following descriptors: Inclusive Education in students with disabilities, Effective instructional strategies, Disciplinary Issues in education. This search yielded 300 relevant articles. In order to narrow my findings and make them more specific to this research project, I then focused my review efforts on articles that discussed high school math classes. From there, I looked for articles that supported sub-themes that emerged from the major articles in my literature review. These sub-themes are: 1) Inclusive Education in Math 2) Strategies or Effective Instruction in Math classes, and 3) Disciplinary Issues in High School and how that effects Math classes. For these sub-sections, I initially searched the *EBSCO database* for articles that met the keyword criteria listed above, along with a conducting a search for books in the data base of the Hamersly Library at Western Oregon University. After finding these books and articles, I hand-searched their reference lists as sources to find additional related articles and books.

In order to integrate the literature review, I developed a coding protocol and corresponding separation of research into the major themes: Inclusive classrooms, Teaching Strategies and Discipline and Behavioral Issues in Math Classes. I read each article to determine

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how it fit within these broad thematic categories, and then, through a process of reading and rereading for salient features of each study, I determined the subheadings in the literature review. My intent was to start with a broad treatment of each theme and then to systematically reduce broad understandings of these issues in all subjects or teaching in general to specific understanding of how these themes are present in research about how these themes fit into math classes.

Effective Teaching

High School math is a subject that brings many different feelings and thoughts to students and to teachers. Some memories are goods, and some memories can insight some bad feelings. In order to be an effective teacher, there needs to be emphasis on inclusion in the classroom, different strategies for teaching and how discipline can be incorporated in the classroom.

Effective teaching is a broad term that can envelope so many different things How one math teacher teaches and runs their classroom will be completely different than how another teacher runs their classroom. Their classroom demographics will look different and so their inclusion ideas, teaching strategies and disciplinary methods will be different. The bottom line is that even though the classes will look different, there needs to be consistency for the students and teamwork within the school.

Inclusion in the classroom is something that has gotten more and more coverage over the last years. Students with different learning abilities used to be kicked out of the classroom and sent to special classrooms where they were surrounded by peers with varying educational needs. This literature will show how these students can be incorporated into the classroom and how that

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will actually make their education better and can improve the education of these students without any educational or learning needs.

Teaching strategies are a touchy subject for many teachers. The idea that “my last teacher didn’t do it that way,” or, “I didn’t do that last year.” is one that teachers will encounter in their career. The way that a specific class is taught is overseen by state and national standards, but the way the material is presented can be up to the teacher, the school and sometimes the actual class. Teaching strategies will vary based on the grade, content and school and can vary from year to year. These articles will help show teachers that different strategies can be used to get to the same result at the end of the year.

Discipline in schools changes every year. From physical punishment, kicking kids out of school, no physical contact at all to keeping kids in class at all costs. There are different thoughts, theories and reactions from students and teachers alike. There is no specific right or wrong to any of these approaches. They can all be used in the classroom if the teacher feels like trying them. The main approach that is constant in all of the articles is that consistency is needed in the classroom, the school and the town. If the students, see that there is a united front when it comes to discipline, they will have a better chance at responding positively to whatever approach is being taken.

Every school district, school, and classroom will look a little different, but the goal is to give students a positive education experience that gets them ready for the real world.

Research Studies

This research study combined strands of complementary research literature, centered on three sub-themes. First, I discuss the idea of inclusion in math. Inclusion includes more than just

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allowing everyone to be in the same class. It allows everyone access to the same education but tailored a little more to their level. By teaching the same lesson but having the ability to challenge those who need it or show down a little more for those who need more one on one attention, I am finding the true meaning of inclusion. A child sitting in the classroom and not participating because they need different accommodations to learn it is doing yourself and the student a disservice. Math is a subject that can include everyone at every level in the same room.

Second, I consider research strategies or effective instruction in math classes because many students come into math classes already feeling defeated and broken because of their previous math experiences. Math has the ability to be taught in so many different ways that there is bound to be a way that engages the students. This means that there is going to be a chance that I will teach the same lesson several different ways to find which way is more effective for my classes. Finally, I looked at research on disciplinary issues in high school and how that effects math classes, because math is a classes that needs instruction and participation. It is not a class that is easily self-taught and not a class that looking at someone else's notes while you are going is going to be sufficient for. Many discipline issues take students away from the class for an unspecified amount of time. This is detrimental for students and teachers. The students lose interest because they are far behind, and the teachers struggle to keep them caught up or get them back on pace.

A Review of Inclusion in Math

The idea of inclusion is an idea that is talked about in all subjects, not just math (Brownlee et al., 2022). The Merriam Webster dictionary defines inclusion as “the practice or policy of providing equal access to opportunities and resources for people who might otherwise

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be excluded or marginalized, such as those who have physical or mental disabilities and members of other minority groups” (Merriam-Webster. n.d.). This does not mean treating everyone the same or teaching everyone the exact same thing and expecting them to react the same way. This is the idea that there might be several ways to teach or learn the same idea and that some student might need different accommodations in order to be successful and those should be provided to them (Doabler et al., 2016).

Albert Einstein says ‘Everybody is a genius. But, if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.’ Not everyone is good at everything and not everyone is going to succeed at everything. Inclusion does not mean that everyone has to do the same thing the exact same way. A big misconception about inclusion is that it means that you are making it easier for others because they can’t do it or they are not smart enough (Brosh et al., 2018). That is not true. Inclusion means we allow students the ability to use their tablets or PDA’s in class. We allow the students to wear headphones or listen to music during a test. We allow students to take tests in quiet room. We wear speakers for those who need to hear better, or we record our lectures for students to watch and listen to again. By having an inclusive classroom, we are welcoming and accommodating to all (Sensoy, Ö., & DiAngelo, R. 2017). Those accommodations do not have to be huge, and they do not have to be needed every day, but they are enough to show the students with intellectual and developmental disabilities (IDD) that you do care about their education, and you care about their success in your classroom (Brosh et al., 2018, Jitngernmadan et al.. 2017, Miller, S. P., & Hudson, P. J., 2006). “Mathematics is an academic content area that has the potential to produce meaningful effects on the long-term outcomes for students with IDD” (Brosh et al., 2018, p. 81). Adding more literacy terms to the math assignments can make it more relatable to some students who struggle with the

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mathematical terms but understand the literacy ideas (Browder et al., 2012). Math is a lot of number and formulas, for many students that becomes overwhelming and frustrating to see number after number on a board. Student's with some intellectual and developmental disabilities have trouble processing numbers and do not understand why $5+5=10$. They are just lines on a paper to them (Brosh et al., 2012,). Students who have trouble processing numbers can often process words very well. Many non-verbal students can read at levels far above their grade level, but cannot talk about what they see or understand and cannot do simple math. Word problems are a simple answer for these students. It is not difficult to write word problems instead of just having numbers on the paper (Browder et al., 2012, Miller & Hudson, 2006). Tests can be made with the same questions and have multiple different layouts. They can be all word problems, no word problems or half and half. These simple changes are a simple way to have a more inclusive environment in the classroom (Hart Barnett et al., 2014).

There are also other ways to bring different technologies into the classroom to include everyone. Technology, such as cell phones, computers, pads or other electronic devices are readily available in many schools (Jitngernmadan et al., 2017). Most schools pass out computers to their students. Almost all students have a cell phone that can use the schools Wi-Fi. Student who are possibly hard or hearing or have difficulty seeing or speaking might also have electronic devices that they use in class. There are numerous online tools for teachers such as Kahoot, or Desmos that allow teachers to ask questions or interact with students who are using their computers or phones or tablets and still teach the lesson that they need to teach (Vesel & Robillard 2013).

By using different tools during the same lesson, the teachers are giving students the choice on how to manage their education, but you are also allowing those who need these

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different technological ideas to feel included and not be the only ones with tablets or cell phones out during a lesson.

The same lesson can be taught to all different learning types if the teacher presented the materials that were used to engage the student in inquiry. For example, in the lesson on precipitation, the teacher presented samples of water, “snow,” or ice in a pan and asked, “What do you think it is?” The students could either initiate a verbal response or use a six-choice response board to select an answer (Browde et al., 2012, p. 30).

Another part of inclusion is making sure that students with different needs are able to be in the classroom. There are many schools that keep students with special needs self-isolated in classrooms by themselves. If students can participate in an inclusive classroom they are better off than those who separated all day long (Bouck et al., 2018, Browder et al., 2012). Those in the classroom meet people, they gain friendships they feel included in their class and in their school. Those students who are in class with them learn patience and learn to have compassion for those who do not learn the same way that they do (Duchaine et al., 2011).

While we can teach lessons many different ways, we still need to have compassion for those students who will still become overwhelmed or overstimulated by a movie on the screen or a loud group project. The number of students on the Autism Spectrum disorder (ASD) is growing daily and no two students are the same. A lesson that one student with ASD can handle could be completely different than a lesson that another student with ASD can handle (Hart Barnett et al., 2014).

Given the increase in the number of students with ASD in inclusive classrooms, these students’ documented challenges in mathematical understanding and problem solving,

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and the importance of conceptual understanding and problem solving across skill areas, teachers need practical and easily implemented evidence-based strategies to help them address such mathematical deficits (Hart Barnett et al., 2014, p. 1).

Along with these new strategies, teachers need to know when that student has been pushed to their limit and they need a minute. There is nothing wrong with seeing if the student needs a break, needs to take a walk, needs to take some time sitting in the back of the classroom. Every student will have a plan and the teacher should know what the student needs and what they do not need. Many lesson plans, notes, videos or handouts that are available in class are also available online now and so students who need to step out for a minute to collect themselves will still have access to anything that was mentioned in that class. This does not just go for people with ASD or people who need special accommodations. This goes for the student who is having a hard day, the student who did not sleep last night, the student who is overwhelmed and just needs a mental break. These resources and accommodations are available for all of them (Hart Barnett et al., 2014, Mckeithan & Sabornie 2019, Bouck et al., 2018, Browder et al., 2012, Brosh et al., 2018).

There have been many studies done on the subject of Autism and learning. The one that stood out to me was the study done by Myles, Ferguson, and Hagiwara (2007). They studied the use of a PDA in a classroom with a student with HFA (High Functioning Autism). This study looked at the use of the PDA in the classroom what the teacher was instructing students and looked at the use of the PDA for help with homework after the student had left school. This study showed that using this strategy helped the student pay attention more in class, submit assignments on time and be more independent in that classroom.

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When it comes to inclusion, there are many different categories and levels that students can be placed in or assigned to. Some students have physical impairments that make their learning experience different than others. They want to be in class, they have a desire to be in class, they just have a physical limitation that needs to be addressed and assisted to make their education as seamless as possible for them (Brosh et al., 2018). Many blind students or students with hearing impairments have a hard time understanding things conceptually. They might be able to see, or read what is being said, but they cannot get the rest of the context because it is aided by the sense that they are missing. Students who are deaf cannot hear questions asked by other students. They cannot hear you when your back is to them. They might have aids that assist them, but line or sight is huge for them and if you are walking around the room or if they are writing something down and you move on it is harder for them to keep up. Blind students cannot see hand gestures. They cannot see you pointing to something on a screen. They cannot see the process that you go through or the steps that you write on the board (Jitngernmadan et al., 2017, Maćkowski et al., 2020).

“Even if a blind student may read a mathematical expression by means of representation, he/she will experience considerable difficulty to understand its structure and meaning while a sighted student may use his/her vision to acquire an overview of a formula “at a glance”, even if it may be quite complex (Jitngernmadan et al., 2017, p. 48).

Blind students do have aids that they can use, but it is often a longer process for them to use a “cheat sheet” in class. They will need longer on tests and problems with less words or complications. A simple, straight forward test assists them more than one with a lot of words or explanation (Wongkia et al., 2012).

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There are so many efficient and professional technologies that can assist the visually impaired, blind and hearing-impaired students out on the market. Some are screen reading software, screen magnifiers, audio amplifiers, live writing braille software, live writing software, tactile displays, braille printers and speech to text application. Researchers and companies have developed programs and codes that will help blind students with the representation of math. There are “mathematical braille codes” that help blind students create complex mathematical equations by using smaller programmed keystrokes (Maćkowski, et al., 2020).

Blind people use the standard keyboard as input device. For a blind student, a keyboard is not only the input device for inputting the text, but also for commanding and navigating. Therefore, the use of his/her own keyboard is very important, in order to find and use the particular key quickly and intuitively (Jitngermdan et al., 2017, p. 51).

This will take collaboration with the students, the school and the parents to make sure that the student has the correct programs, slides or handouts needed for the class along with the technology that they need in class each day.

The needs for students with hearing impairments are a little more difficult, however they are still possible. The more advanced the math class gets, the more vocabulary the students will need to know and understand (Vesel & Robillard, 2013, Bull et al., 2018). Teachers have the ability to learn sign language and to learn the signs that are needed. That is not always an option for everyone. Many students will come with a full-time one on one aide that can sign for them in class. While this is a great tool, there are also very difficult and very specialized math terms that these aides may not know or understand.

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Students often do not know the signs for the mathematical terms they encounter or, even if they can mimic a sign, they do not understand its meaning. For this reason, teachers frequently omit many standards-based mathematics topics from their instruction because they consider them linguistically too complex for their students and, therefore, inaccessible (Vesel & Robillard, 2013, p. 362).

By giving the student and the aids a list of words, concepts or topics that we will be covering before we are covering it then they will be given the opportunity to learn the signs that they need to and understand what is going to be said in class. These small little things can make that student feel much more welcome in the class (Adamo-Villani & Wilbur, 2010, Goldin-Meadow et al., 2012).

The idea of creating an inclusive classroom is a lot of work for a teacher. The idea of creating different activities, accommodations, and difficulty levels for multiple students in multiple classes throughout the day is exhausting and some teachers get to overwhelmed at the idea of what they are being asked to do. Emphasis on teaching grade-level, standards-based curriculum to classes with multiple ability levels of students may reduce teachers' time for planning activities that encourage participation from all students. However, instructional strategies to encourage participation of students with disabilities are essential to engage students in the learning process (Duchaine et al., 2011, Riccomini & Morano, 2019)

It would be easier to just lower the level of the class to the lowest person in the class. That is not beneficial to you, as a teacher, and that is not what is best for any of your students. They all want to be challenged; they all want to learn. Students want to succeed. It just means that success will look different for each student. "Even though these curriculum documents have improved over time in their treatment of ethnic and cultural diversity, they are still not as good as

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they need to be. (Wade,1993)” (Gay, 2002, p. 108). Inclusion does not just mean including those who different learning abilities. Inclusion means making every student in the classroom feel like they are wanted and that they feel like they are part of the classroom. Inclusion also includes races, ethnicities, genders or any other difference that students might have. We cannot hide from the fact that minorities in the classroom do not often feel comfortable talking or participating in class. We have to be compassionate to the fact that current events in the local or national news might cause tensions in the classroom. As teachers we have to be aware of all of that and not be afraid to face it head on in our class (Torres-Velasquez & Lobo, 2004, Howard, 2019).

“We must include the ugly history of race and racial hierarchies in the United States in the dialogue if we are to ever move beyond race” (Howard, 2019, p. 92). The idea of racial literacy and inclusion does not mean that we do not talk about it or pretend it doesn’t exist or it did not exist in our history. We talk about it. We bring it into our discussions about the civil war, the World Wars, certain presidents’ policies on immigration. This is part of history that included horrible treatment of people of color (Howard, 2019, Griffin et al., 2020).

Institutionalized racism uses positions of power and authority to support and enact on discriminatory or racist behaviors. This is an advantage to the white and an obvious disadvantage to people of color (Howard, 2019). This racism is the “way things have always been.” People continue with racist behaviors in businesses and schools because that is the way it has always been done. Studies have shown that African Americans have higher expulsion and dropout rates. They are also incarcerated more and complete lower school levels. African Americans or people of color are denied loans, mortgages, or public assistance. There are solid facts to back this racism up, yet no one talks about it. Everyone turns a blind eye and says, “that’s the way it has always been.” Inclusion means not allowing this in your classroom. There

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is no tolerance for it in your classroom and that must be known from the very beginning (Howard, 2019, Griffin et al., 2020, Jackson et al., 2020).

There are so many different facets to inclusion. There are so many different angles and ideas that must be addressed and compensated for. The bottom line is that everyone deserves a voice, a say, an education, and the right to be seen. Everyone matters in your classroom and just because one student's education might look a little different does not mean that they are getting more or less of an education. Everyone deserves to be given every opportunity that they can to succeed in school and be set up for a successful life after high school.

A Review of Research on Teaching Strategies and Techniques

Teaching is a discipline that can change from day to day, class to class. What a teacher does in one class might not be the same thing that they do in the next class. Teachers might see that one class can work well in groups and will thrive from using technology and other classes like working alone and asking questions individually. Some classes might benefit from working in groups and doing a review before a test and other groups might like an entire class review session. It is a constant game of trial and error and being fluid and flexible as the day goes on. A teacher might have a great strategy for the day and then a fire alarm will completely change the flow of the day. There are statewide, districtwide, and schoolwide policies, procedures and expectations that also must be met when deciding what strategies to use throughout your day (Blatt et al., 2021, Kermani & Aldemir, 2015).

First and foremost, a teacher has goals and benchmarks that they must meet throughout the year (Witzel & Riccomini, 2007). They need to make sure that their students are comprehending what they are teaching and that is not going to be done by just lecturing them

day after day and hour after hour. “

Education has been the platform of many individuals in and out of politics. Often, the topic is focused on school test scores, student achievement, and the demand for highly qualified teachers in the classroom. The No Child Left Behind legislation mandates school systems to adhere to a curriculum that promotes academic growth. Therefore, teachers must incorporate strategies that will lead to increased academic performance (Douglas et al., 2008, p. 1).

There are several studies that have tried to determine what the best strategy for teaching students would be. One specific study looked at two groups of 8th graders in North Carolina. One group was taught using multiple intelligence and one group was taught using only direct instruction. **Multiple intelligences** refer to a theory describing the different ways students learn and acquire information. The 8 intelligences are broken down into 1) visual-spatial capacity, 2) bodily-kinesthetic, 3) musical- rhythmic abilities, 4) interpersonal capacities, 5) interpersonal knowledge, 6) logical-mathematical abilities, 7) verbal linguistic sensitivity, and 8) naturalistic abilities. The theory suggests that if the teacher can get an understanding of which type(s) of intelligence a student may possess can help teachers adjust learning styles and suggest certain career paths for learners (Douglas et al., 2008). Direct Instruction is a “rigorously developed, highly scripted method for teaching that is fast-paced and provides constant interaction between students and the teacher. It contains a vast number of drill and content. Unlike the versatility of MI, DI does not make allowances for diversity in hands on activities that reinforce the principles learned” (Douglas et al., 2008, p. 184).

These groups were given a pre-test to get their base level and then were taught for several months using their specific strategies. Both classes were taught the same lessons and content.

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At the end of the lessons, they were given a post test. The results of the tests showed that the group that was being taught using MI had a considerable increase in their test results over that of the class that was taught using DI. “On average, the students who received the treatment, Multiple Intelligence teaching practices, scored approximately 25.48 points higher on the pre-test than the post-test, as compared with 17.25 points for the control group” (Douglas et al., 2008, p. 187). These results show how effective multiple intelligence teaching can be and how it can improve the scores of students who were previously having trouble being taught a more traditional way.

Changing teaching strategies takes a little finesse to achieve. Many students have learned the same way their entire school life. They have been lectured and talked to for hours on end. So, changing it up a little can be confusing and challenging to them (Ertekin et al., 2009, Ardianik et al., 2020). However, there comes a point when the current styles in classroom are not working and there needs to be a change or an intervention in the math teaching process.

The key components of the mathematics intervention included (a) mathematics stories based on familiar activities, (b) a graphic organizer and manipulatives for the mathematics concept (e.g., a template for solving the linear equation), and (c) step-by-step training in a task analysis to identify and organize key facts and solve the problem stated in the written story (Browder et al., 2012, p. 29).

Teaching with the different components, using one at a time to not overload or overwhelm the students. By relating these teaching ideas to real world examples, the students with learning differences get a better understanding of what is really happening, not just having concepts repeated to them (Woolcott, 2018, Kohen & Orenstein, 2021, Doabler et al., 2016).

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While thinking of different strategies to use in the classroom, a teacher should consider that students like to see, feel, touch, and manipulate things that they are learning with (Hart Barnett et al., 2014). There are many hands-on tools that can be used in teaching. There are visual shapes that can be used when dealing with area or volume, there are tiles that can be used when teaching factoring or multiplying binomials. “Visual supports—an evidence-based practice for assisting students in understanding mathematical concepts and ideas (Strickland & Maccini, 2010)—are composed of concrete cues that provide information about an activity, routine, expectation, or skill” (Hart Barnett et al., 2014, p. 1).

The article by Abdullah & Zakaria (2012), shows the results of two test groups in a math class. One group was taught math the traditional ways, and one group was taught using visual representations. The results showed a significant difference in overall achievement and understanding of the concept of mathematical word problem solving for the treatment groups as compared to the control group.

In order to master mathematical word problem solving, they need the support of thinking strategies that will govern the interpretation and manipulation of information through language skills and visual capabilities in working memory (Geary, 2004). This is because mathematical word problems include worded items, and their structure makes them difficult to solve (Abdullah et al., 2012, p. 30).

This article showed further evidence that different teaching styles work better for different people. Some students can just be taught math using numbers and formulas, but different people learn in different ways.

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There are also many teaching strategies that do not involve hands on stimulation, they involve using visualization in a different way (Abdullah et al., 2012, Yates, 2012, Douglas, et al., 2008). Some students need to be able to see the problem. They need to talk in real world examples and ideas, not just numbers on paper. They need a different way to remember things and put formulas, concepts, or steps to memory. This goes for students with all different learning abilities. Students who are learning English as their second language, students who have hearing or vision differences, students who cannot concentrate when someone is simply talking to them (Doabler et al., 2016). Given the increase in the number of students with ASD (Autism Spectrum Disorder) in inclusive classrooms, these students' documented challenges in mathematical understanding and problem solving, and the importance of conceptual understanding and problem solving across skill areas, teachers need practical and easily implemented evidence-based strategies to help them address such mathematical deficits (Douglas et al., 2008) "When teaching students with ASD how to solve algebraic problems (e.g., $2x + 8 = 20$), an acronym that represents the steps of solving this type of mathematics problem is key. An acronym for solving one-variable linear equations is COSMIC" (Hart Barnett et al., 2014, p. 1).

COSMIC stands for 1. **Copy** down the problem, 2. **Operation** of addition or subtraction needed to isolate the variable, 3. **Subtract** or add constant from each side of the equation, 4. **Multiply** or divide to remove the coefficient of the variable, 5. **Isolate** the variable, 6. **Circle** your answer (Hart Barnett et al., 2014). This gives students with learning differences a step-by-step way to solve their algebraic problems. It breaks a larger problem down into 6 simple steps that they know and understand how to do. Smaller steps and not intimidating to students. By teaching different methods of learning, we are opening the possibilities that one of the ways or ideas will connect with students. There is no reason not to teach the same thing multiple

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different ways. Everyone's brain is different. Everyone thinks and approaches problems differently. Everyone has a different learning style and as teachers, we need to find those (Hart Barnett et al., 2014, Abdullah et al. 2012, Yates, 2012).

This idea of memorizing steps can be used to learn anything from steps to solving problems, to remembering long equations or formulas to remembering all the states in the United States.

People engage in rote learning - in everyday lingo, memorization – when they try to learn and remember something without attaching much meaning to it. One common form of rote learning is rehearsal, repeating something over and over within a short timeframe (typically a few minutes or less), either by saying it aloud or by continuously thinking about it in an unaltered, verbatim style (Ormrod, J., 2012, p. 199).

This learning style can turn any lesson into a fun way to memorize things. Even though there are times when memorization is frowned upon. However, there are fun songs to learn multiplication tables from 1 to 9. These tables are simply memorized as students go through school so why not make it fun (Ertekin et al., 2009, Witzel, & Riccomini, 2007).

Another widely supported learning style is bringing real life problems and scenarios into the classroom (Howard, 2019, Doabler et al., 2016). How many times has a teacher been asked “when will I ever use this?” It is a common question, and the research has shown that the more that teachers can relate the topic to real life or to the students, the more that they will engage and pay attention and understand what is being taught (Woolcott et al., 2021). “Engaging stories can help us understand what life is like for others and invite the reader into a new and unfamiliar world” (Howard, 2019, p. 102).

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Along with using real world examples in the classroom, another strategy that can be used is modified schema-based instruction, (MSBI).

These key features of MSBI align with the universal design for learning (UDL) framework and promote self-determination. The MSBI conceptual model promotes multiple means of representation, action and expression, and engagement, and offers options for differentiating these individual supports based on student needs, as described by Spooner et al. (2017) (Brosh, et al., p. 82).

This study sought to improve teaching efficiency by putting literacy instruction within mathematical word problem solving instruction for three elementary students with intellectual and developmental disabilities. The students were tested and questioned, and the results showed a definite relation between modified schema-based instruction (MSBI) and mathematical word problem solving. All students involved showed that they had more knowledge of nontargeted literacy skills using feedback from the teachers, and two participants showed a continual increase in their knowledge the next time they used MSBI (Brosh et al., 2018). While teachers can try to do their best engaging students and making math “fun” there are still state guidelines and national standards that are required to be met. They decide which content must be mastered at each grade level. Even though the Individuals with Disabilities Education Act and the No Child Left Behind Act mandate that students who are deaf or hard of hearing and communicate in sign language have access to this content, evidence shows that these benchmarks are still not being met by many of these students (Vesel & Robillard, 2013, Bull, R., Marschark, et al., 2018, Cooper & Dunne, 1998). “Poor achievement in mathematics demonstrated by students who are deaf or hard of hearing may be attributed to several factors, including lack of successful

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mathematics learning experiences, difficulties with language, and inadequate methods of instruction (Nunes & Moreno, 1998)” (Vesel & Robillard, 2013, p. 361).

An amazing tool that teachers have at their fingertip is the use of the Signing Math Dictionary (SMD). This is designed to help students who have hearing difficulties access the mathematics vocabulary that they need to master the content that the state has said they need to know. It also helps explain the concepts that they are studying in their math classes. “Just as mathematics instruction for hearing students in any two classrooms will not be identical, such is the case as well in classrooms for students who are deaf or hard of hearing” (Vesel & Robillard, 2013, p. 366). However, using this strategy and giving student access to everything that they can have to help them will show them that their education matters too (Vesel & Robillard, 2013).

While many teachers think of strategies for students with different learning abilities, culture is often overlooked, but many times just as important (Howard, 2019, Torres-Velasquez & Lobo, 2004). Teachers need to look at the cultures in their classroom and see how the students cultures feel about gender differences. Teachers need to educate themselves about who is in their class, where they come from and what is important to them (Torres-Velasquez & Lobo, 2004, Howard, 2019, Sensoy & DiAngelo, 2017). “We can’t teach what we don’t know” (Gay, 2002, p. 106). Every culture and ethnic group are different and has different beliefs and values. One way to show that teachers recognize the contribution that American Indians, African Americans, Asians, Pacific Islanders, or other cultures have made to math is to make sure that the bulletin boards in the classroom represents the diversity of my class as well. Teachers should also recognize that many cultures respect tasks that have meaning and purpose. Some cultures prefer group work and but pride in working together vs doing everything on their own. These students do better with group projects or assignments. Students do not want to do page after page of math

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problems that are just numbers on pages, but if they are put in a group, give them meaningful jobs within the group and a project that has a purpose they would understand that better (Gay, 2002,, Howard, 2016, Howard, 2019, Sensoy & DiAngelo, 2017, Banks, & Banks, 2019).

There are thousands of different strategies that teachers could take when teaching their classes. The main idea is that teachers need to be flexible going into each school year and each day. Every student is different, every day is going to be different and while teachers can have a general game plan going into the day and a different strategy might have to be used. If one thing does not work, try something else. Just because something did not work in the past does not mean that it will not work again in the future. Be creative, be instinctive and spend every day learning about what can be don't to make the classroom better for the students (Abdullah et al., 2012, Douglas et al., 2008, Strickland & Maccini, 2010, Yates, 2012).

A Review of Discipline and Behaviors and how it Affects Math Classes

There are numerous different theories on how to deal with behavioral issues in classes. These ideas range from kicking students out of class and having them make up the work to leaving them in the classroom and working with them to keep the disruptions down to a minimum.

One of the programs that has had positive results is Positive Behavioral Intervention and Support (PBIS). The PBIS website shows that this allows teachers to teach with minimal disruptions. It consists of different levels of accountability depending on the grade and age of the students. In general, all the students are given very clear and consistent expectations for the classroom and the community. By following or adhering to the guidelines, they are given

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positive feedback. This could be in the form of stickers, recognition, or school currency to buy things.

Hill and Flores (2014) have shown that the reason that this is shown to be a positive solution is it focuses on the good behaviors instead of recognizing the negative ones. So, instead of saying “don’t do this” the teachers focus more on “this is the correct behavior.” The students say that they enjoy it because the school is a more positive place, and the expectations are very clear and the consequences are clear too.

The schools have taken this model an additional step and have included the community and the parents. The school realizes that to see success in students, these expectations have to continue at home and around the community.

Freeman et al., have suggested that along with PBIS, a multi-tiered systems within the school has also seen positive results when dealing with discipline and behavior. They specifically looked at the tier system and how they would look in a classroom. The tiers are the different ways to match children with resources that they need. The higher the tier to more immediate support the student needs in and out of the classroom.

Tier 1 is the initial tier. This is where the teachers or administration try to match students to the resources they need to succeed. This proactive approach is used to help prevent unwanted behaviors. Each child’s needs will be a little different. Some will need almost no additional help once the expectations are clear and some will need a little more attention.

Tier 2 is the middle level of the tiers and it is for the students who the staff has determined are going to be at risk or have started showing more severe behavioral problems. This doesn’t mean that the students are always acting out or causing a problem. It could be the

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student that used to get all A's is now getting a few B's. It could be the student who had perfect attendance is now late almost every morning. The staff wants to find out what is going on in these student's lives and see what resources they can offer to get them back on track.

Tier 3 is the highest or more severe tier. This requires a more intensive and individualization or 1 on 1 help for the student. Usually when this tier is reached, they use a more formal approach that could include testing to see if there are outside factors that are influencing the student's behavior or attitude. No matter what tier is being used, the ultimate goal is to connect the student with the correct resources and set them up for success.

Ormrod suggests that the best way for these behaviors to happen in the classroom in the first place is to prevent them from being learned. The idea is that by modeling positive behavior and minimizing situations that are known to cause anxiety or frustration in the students, teachers can reduce the number of disruptions in the classroom. This will allow teachers to keep teaching more uninterrupted lessons and will allow students to learn in an environment that is safe and nourishes learning. "People can learn by observing others' behaviors and the consequences that result" (Ormrod, 2012, p. 124).

Ormrod suggests that there is research to back up the idea of nature vs. nurture. There are some early behaviorists, such as B.F. Skinner, were determinists: They proposed that if we were to have complete knowledge of an organism's inherited behaviors, past experiences, and present environmental circumstances, we would be able to predict the organism's next response with 100% accuracy. But many recently, more behaviorists have rejected the idea of complete determinism: In their view, any organism's behavior reflects a certain degree of variability that genetic heritage and stimulus-response associations alone can't explain.

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There are very differing points of view on whether choices are predetermined because of what a student has seen or done in the past. People need to ability to have free will and choose what they want. While choice might be influenced, they are not determined until the actual choice is made.

Duchaine et al., along with Ferguson & Houghton, 1992; Sutherland et al., 2002, agree that another way to handle disruptions and discipline in class are Behavior-specific praise statements (BSPS). When this is used consistently, behavior-specific praise statements are an effective teaching strategy that may positively affect classroom behavior by increasing student time on-task, responding, and correct answers. Teacher coaching with performance feedback has been effective in assisting teachers with increasing the use of BSPS, increasing student opportunities to respond (Sutherland et al., 2002), along with improving teacher communication with students (Rathel et al., 2008), and improving strategies of effective instruction.

In contrast to learning from positive reinforcement, students also experience *operant conditioning*. This occurs when a response decreases in frequency because it no longer leads to reinforcement. For example, a student who constantly disrupt class with noises or outburst because the class always laughed will slowly see that as the class stops laughing, they will stop the outbursts because are no longer getting the response that they wanted. Students who answer questions in class might be praised and so those who did not speak up in class before will see that there are benefits to participation (Ormrod, J., 2012).

Students should be able to *connect* formal symbolic representations to real objects, actions, and experiences-mapping back and forth between the real world and the representation of it.

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However, most psychologists recommend that at school, teachers use material reinforcers only as a last resort, when absolutely no other reinforcer works. Desired objects have a tendency to distract students from things they should be doing in class and thus may be counterproductive over the long run” (Ormrod, 2012, p. 57).

Students should not become accustomed to getting rewards for good behavior. They need to understand that the positive behavior is what is expected and that the “reward” is just a possible addition.

While looking inside the classroom is a great place to start when dealing with discipline and behaviors, Li et al., suggest that the actual school environment is just as important. The discipline in the school itself is thought of as a critical factor that effectively develops students' capacities for self-control. If students see that the school as a whole agrees on the discipline practices and that the administration backs the teachers, they are more likely to continue their positive behavior in other classes around the school, not just yours.

When considering discipline, behavior and the outcomes of each, the race and gender needs to be considered. As much as teachers would like to bury their head in the sand and state that all students are treated equally, Griffin et al., suggest that racial disparities between African American and Caucasian schoolchildren exist in educational opportunities and school resources, special education, referral rates and school dropout and graduation rates. Additionally, even though there are documented similar or lower levels of misbehavior, Black youth continuously experience harsher discipline outcomes, such as out-of-school suspensions and being expelled. Because of this, Black students may perceive and experience differential treatment by teachers and administrators due to institutional discrimination at school. This plays a huge role in their behavior because if they already assume they are going to get a hard punishment what is the

point of behaving better?

Discipline in Math and handling behaviors in classrooms is something that teacher will be dealing with for an unforeseeable future. Each classroom is different, and each teacher/student relationship will be different. There is not a cookie cutter answer but thinking objectively and will open eyes will be a start.

Summary

The literature reviewed here indicates that while many aspects of inclusion in schools and math classes along with learning strategies and discipline have been studied in a variety of ways, there are still many facets of inclusion and learning strategies that have not been extensively studied, particularly in the areas of how to create the inclusive classroom for a variety of learning styles. Although standards exist for testing and curriculum around the state, these do not take into account inclusive classrooms and different learning styles, testing styles and strategies. Teachers understand what they are supposed to be teaching but have not been given the tools to create the inclusive classroom. They have not been given the teaching strategies that could be used to teach to all of the different learning styles. This lack of assistance for the teachers has the possibility of creating more discipline issues in classes. Students should be in classrooms with their peers and should have access to the tools to make their learning experience better for them.

Given the findings of this literature review, the next chapter will explain the methods and procedures that I used to study inclusive classrooms in high school math classes. I will also study how teachers use different strategies to create and facilitate these classrooms. I will be

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using lesson plans, student samples, student surveys and feedback from other teachers in my professional community to explore the effect that an inclusive classroom and effective teaching strategies have on the students learning, behavior and classroom success.

CHAPTER III

RESEARCH METHODS

Overview

The methods of inquiry for this study focused on the principles and practices of action research, using self-study aligned with professional teacher standards, teacher artifacts, anecdotal research, lesson plans that I have created, student grades and progress as a class and anonymous questionnaires that I will collect, as a means of data collection. I will begin with a review of action research principles to establish the foundation for this study's method of inquiry. Second, I will review the choices and purposes of data collection that helped to highlight my instruction and means for searching for improvement. Third, I will detail my context for the study, methods of data collection protocols, maintaining credibility and trustworthiness of the data, and acknowledge my limitations as a researcher. Finally, I will present the procedures used for studying my practice, while providing data and analysis that speaks to adaptations and adjustments made to my instruction as I implanted this study.

Research Questions

My focus for this research was how I could create an inclusive classroom using effective teaching methods. Specifically, I examined how my lesson plans are being used effectively to create an inclusive classroom for students of all different abilities and how I can use effective

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teaching methods to help create and sustain my classroom. I have looked at my lessons, my student makeup, my classroom as a whole and possible discipline issues that I have had. This focus aligned with the following INTASC Standards for teacher professional development.

Interstate Teacher Assessment and Support Consortium (InTASC), focus on this in their Standard #2 (Learning Differences) and Standard #3 (Learning Environments).

Additionally, I considered how studying my own practice in line with INTASC Standards could improve my own instruction and therefore, student learning. My purpose of this study was to create better lesson plans to help influence the experience and education that all students. The research question (s) for this study were:

1. Do my lesson plans create an inclusive environment for my students?

By asking this question, I hope to take a deeper look at my lesson plans and what goes into them. I want to make sure that I am including everyone when planning my lessons.

Data gathered from a focus on this question was used to test the idea that by having an inclusive classroom, I can engage the students better and teach to their individual needs.

2. Am I using effective teaching techniques in my classroom to help provide the inclusive classroom? By asking this, I am hoping to look at not only what I am teaching with my lesson plans, but how I am introducing it to the classroom. I want to see if my teaching techniques are based on the needs of my classroom and the data that I have gathered from them.

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Data gathered from this question was used to validate that my teaching techniques can be changed and altered to accommodate anyone in my class. The more creative I am the wider range of techniques that I use can connect with students on a deeper level.

3. By creating an inclusive classroom and using effective teaching techniques can I see any change in the disruptions or needed discipline in my classrooms? By asking this question, I am hoping to see that by creating lessons that keep students involved, engaged and busy, they understand the material more and do not feel the need to act out.

Data gathered from a focus on this question was used to understand if students' behavior can be altered by changing lesson plans and keeping them in mind when creating activities and lessons.

INTASC Standards

Interstate Teacher Assessment and Support Consortium (inTASC) is a set of common standards that can be used nationwide. The intent is to make sure teachers have a model of what they should be teaching all students k-12. This is to help ensure that all students are getting the same education content in every classroom across the nation.

Interstate Teacher Assessment and Support Consortium (InTASC), focus on this in their Standard #2 (Learning Differences) and Standard #3 (Learning Environments).

Standard #2 states “The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.” I will get to know my students, their backgrounds, their abilities, their

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strengths and their weaknesses and incorporate that into lesson plans that will accommodate all of their learning styles.

Standard #3 states “The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.” I will use the knowledge that I have gained to create effective teaching strategies that will create and foster an environment where the students want to continue to learn and grow.

Methods and Procedures

Because my purpose was to describe my own teaching practice as well as how I use data to improve my own practice in line with the INTASC professional standards, it was important to choose a method that could account for both what the standards are for teachers and how I was paying attention to my own practice through data collection to improve it. Accordingly, this study was designed as an action research study.

Action research is research that is conducted by any professional with the goal to improve and reflect on what is being taught and what is being learned by the students. This can be done in any profession. Action research is what a teacher can use to improve themselves and improve the way that they get the information to their students.

I believe that this action research project is going to pave the way for my future teaching. It is going to allow me to create the foundation for inclusive teaching that will be used for all my future classes. Action Research will allow me to keep growing as my class changes. It is going

to help me find the tools that I need to succeed while allowing me to give my students the education that they deserve.

Data Collection

The basic steps in action research are 1) identify a topic or issue to study, 2) collect data related to the chosen topic or issue, 3) analyze and interpret the collected data, and 4) carry out action planning, which represents the application of the action research results. Data collection in an action research project typically is related to the topic or issues and provide answers pertinent to the research questions. As Padak and Padak observe, “Any information that can help you answer your questions is data” (1994). Therefore, I used a variety of data collection tools related to my topic to ensure the validity of my results. Furthermore, I adhered to the following four characteristics in determining the data I would collect for my study, 1) anonymity of students, 2) comparison in data collection was built in so that the results could be judged against themselves both before and after the intervention period, 3) aspects of performance to be examined were identified prior to data collection so that the information was relevant and connected to the research questions, and 4) a variety of data was collected so that different aspects of the topic could be brought to light (Padak and Padak, 1994). Finally, because I was studying my own practice while I was in the middle of said practice, I acknowledge the “spiraling nature” of data collection in action research (Padak and Padak, 1994). By focusing on data in connection to my research questions, my attention tuned to other pieces of data that emerged in relation to my questions. These emergent data pieces were included as part of the study as they had relevance to my research questions.

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Because my research questions focus on how my lesson plans can help create an inclusive classroom, I chose to collect data that would provide information about how my practice and the interventions I identified aligned with the research topic. The types of data I chose to collect are described next.

Lesson Plans

During my action research project, I am collecting my lesson plans and analyzing them to see if I am using them to create an inclusive classroom. I am going to catalog my lesson plans and they will go in order from the beginning of the year to the end.

By looking at my lesson plans, I am hoping to see that there are times when I create lessons and activities that are specific to my student's needs. I understand that some lessons will not accomplish this. I want to see that I made changes in my lesson plans as the year went on and as I learned the needs and capabilities of my students.

This ties into my first research question because the lesson plans will help me see if I am creating an inclusive classroom and it ties into my second question because I can look at my lessons to see what teaching methods, I am using to accomplish this.

Student Grades and Assessments

I will look at the students' grades, participation and understanding after formal and informal assessments. I will look at the students anonymously and just look at the grade that they received or the amount of participation that they gave.

By looking at this data, I hope to see that when my lesson plans are more inclusive, there is more participation from the students. I also hope to see that when there are several lessons in a row

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that are inclusive that the student's formal assessment grades are higher. By creating lessons that accommodate all of the students in the classroom, I hope to see that they understand the information a little better.

Observation Commentary and Feedback

During my action research project, I will be observed by my university supervisor twice and each of my mentor teachers twice, for a total of six formal observations. There will also be many informal observations by my mentor teachers as I am teaching. I will use these observations as a chance to go over my lesson plans and look for inclusive strategies and teaching techniques that I can use and improve my classes. I also will use these observations as an extra set of eyes when looking for disruptions in the classroom. My university supervisor and mentor teachers, along with my other colleagues have a wealth of ideas and knowledge and by using these observations as a time to collaborate and grow, I hope to create a better classroom environment.

Self-Reflection and Journaling

I will take the time after each lesson to go over my lesson plans and reflect on what worked and what could have been better. I will take the time to be honest with myself and my teaching. This will be a tool that can show that my expectation and what is happening in class are different. Self-Reflection is hard and as long as I stick to my practice of making notes in my journal right after the lesson it will be beneficial to my teaching and to my students.

Context of the Study

This study will take place in a large high school in the Willamette Valley. This school has students from grades 9-12. The school has over 2400 students enrolled in the school. Even with the large school, the class sizes are relatively small for the required classes and even smaller for the upper classes and electives. The classes average about 30 students right now and with COVID there are many absences and so the daily average for a class is about 21 students.

This school is organized into 5 “wings”. There is a “a” wing, which is the auditorium and the music classes, an upper “b” wing, which is the arts department and sciences, a lower “b” wing, which is for English and language classes, a “c” wing, which is the cafeteria, the offices, counselors and special needs classes, an upper “d” wing which is history and social studies, a lower “d” wing, which is math and an “e” wing which is the gyms.

The departments are located next to each other, and this makes it easier for the teachers to work well together. They can just run next door to ask a question, borrow a lesson, some white boards, calculators or just talk. There are about 10-15 teachers in each department. This school has late start on Wednesdays and this gives the teachers time to have meetings together to discuss what they are working on and what is going well and what is not going well. This is where they can talk about ideas for future lessons or how to deal with ongoing issues in their classrooms. This time has been used for teachers to mentor me and show me how I could try to take a different approach on a unit or an idea. Teachers are valued members of this school and their concerns, ideas, praises are heard and accepted by the administrative staff.

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This school has about 61% White students, 21% Hispanic students and 7 % with more than one race. All of the students are eligible for free breakfast and lunch. It is a program that the entire school district is doing. This started during COVID because they wanted to make sure that all students still had access to meals, and it has just continued as we have gone back to school.

My current classroom is in the math wing of the school. Many of my students are in my class and also an additional help class or guided study hall where they get additional lesson and assistance with their classes. The school is on an “A” day “B” day schedule. This means that the students have 4 classes one day and 4 different classes the next day. My class does have several modified diplomas, IEP’s and 504’s. I do consider these when I am creating lessons and tests. I keep the context down to a very basic level and do not dig into the deeper idea or concepts of why things are the way they are unless I feel that the kids have a great grasp and they want to know more.

Participants

Because this study was designed using an action research approach, the main participant in the study is myself, as the teacher. As my learning progressed throughout my student teaching program, I became interested in a number of ideas that would help me to improve my instruction. Ultimately, I decided to focus on the main research areas outlined in my research question. To lend credibility to the results I will share from my self-study of my practice, it is important to describe my role in the classroom where I teach. In this section I will focus on describing my own classroom and my role as the teacher.

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I have been in this school since the beginning of the 2021-2022 school year. I was in this classroom for about a month and then I was moved into a temporary full-time position in a different class for 2 months. I have been back in this classroom since November 2021. I assist in checking the students work and teaching lessons. My mentor teachers will have me do a couple examples and then they will do a couple examples. The students are comfortable asking me questions and understand my answers and how I present them. I have taken the time to get to know the students on a bit of a more personal level so I can ask them how their day is going and about school or sports or whatever activities they enjoy.

As I got to know the students more, I realized that they are vastly different and when I have had the chance to work one on one with them, I see that the way that the lesson was taught was different than the way that some of them learn. I learned that some students like loud environments, where some do not feel comfortable when the classroom gets loud. I found that some of the students understood the lessons and knew the answers but did not feel comfortable speaking out loud. I also found that the students with behavior issues wanted to learn the material and needed more focused time on some of the lessons.

The observations are what led me to my questions about inclusive teaching. Could I create an environment where these students could all thrive? Could I use different and effective teaching methods to reach all of the students? Could this environment and the teaching methods have an effect on the number of disruptions in class? These are the questions that I want to explore in my action research project.

How I Studied My Teaching

During this research project I am looking at multiple facets of me teaching and of my student's progress. I am taking about 6 months' work of lesson plans and studying them to see what is working and what I can do differently.

There will be a section of past lessons that I will look at and analyze student participation, grades, test results and how they comprehended the unit. That will be the base line for moving forward. I am then tailoring my lesson to create an inclusive environment by trying different teaching strategies. We are doing more activities in the classroom. Some of them will be in groups and some will be working alone or with just one other person. I will see how the students work better

I am also focusing on my teaching methods, and I am looking at teaching and having the students write notes, giving them half of the notes and letting them fill in the answers or giving them all of the notes. I am looking for the most involvement from the class that results in the best comprehension.

There are numerous students in the class on IEP's, 504's and modified diplomas. I want my class to include them and while I will have to modify some things when it comes to tests or other accommodations, I do not want it to be an obvious difference for the students. I am planning my lessons with all of the students in mind.

At the end of my project, I have planned a meeting with the other math teachers to share what I have learned and to explain how small changes could have a big impact in the classroom. I am hoping that the information that I am able to learn from this project will be something that

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they will be excited to try in their classrooms next year. I am hoping to show them that this concept is possible with some planning, effort and determination.

Chapter IV

DATA ANALYSIS

Overview

In this chapter I will present and discuss the information that I found while collecting data for my action research project. I will be looking at the findings and analyzing them to see if I can make a conclusion, either positive or negative, about the questions that I have been asking. The data that I have been looking at is directly related to my three original questions which are,

1. Do my lesson plans create an inclusive environment for my students?
2. Am I using effective teaching techniques in my classroom to help provide the inclusive classroom?
3. By creating an inclusive classroom and using effective teaching techniques can I see any change in the disruptions or needed discipline in my classrooms?

The main purpose of this action research project was to try to answer my questions by looking at my own teaching practices and strategies, and how they relate to my goals and questions. For this project I collected, looked at and analyzed data in several different ways. I looked at my lesson plans for my class, observations from my mentor teacher and my advisor at Wester Oregon University, formal and informal assessments that I gave my class, notes and journaling that I did as a reflection on my teaching and lessons and students responses and engagement. I have looked through my data to determine if I was successful in determining if an

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inclusive classroom along with scaffolding and correct teaching techniques in my classrooms can create a better learning environment for the students and the staff. During this action research project, I focused on collecting data from my own actions and not the data from individual students. I understand that by limiting my data I am narrowing the conclusions that I can make and will not be getting a complete answer to my questions.

When I was planning my action research project, I wanted to focus on questions that looked at items that I could control and data that I could collect. I was getting to know my students and learned that there were several IEP's and 504's in the classroom along with numerous different learning styles and personalities. The students were still adjusting to being back into school due to the pandemic and the learning environment felt very strained. I observed that the students had forgotten how to be in a classroom, forgotten how to interact with each other, forgotten how to interact with the teacher and forgotten how to learn in a live environment that did not include a computer screen.

In order to get started with my research project I looked at all the data that I had collected and then placed them in categories that aligned with my three questions. I looked at my data from my lesson plans for my class, observations from my mentor teacher and my advisor at Wester Oregon University, formal and informal assessments that I gave my class, notes and journaling that I did as a reflection on my teaching and lessons and students responses and engagement.

Data Analysis for Question #1

My first question asked, do my lesson plans create an inclusive environment for my students? This was important to me because I was seeing such a disconnect in the classroom

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between students. They were not participating with me as a teacher and were not interacting with each other. This was leading to behavioral issues in the classroom and multiple disruptions from all of the students. Not only did I want to look at the students' behaviors, but I wanted to see if I could create an environment that was inclusive regarding educational needs, emotional and social needs. I want to make sure that I am including everyone when planning my lessons.

When I started this action research project, I had several misconceptions of what an inclusive classroom meant. I initially thought that inclusion just meant teaching to everyone and including everyone by just making eye contact or communicating with them. As this project went on, I adjusted my strategies to make sure that my idea of inclusion was not only inclusive of everyone socially, but I also wanted to incorporate everyone's academic abilities, backgrounds, home life and cultures into my lessons.

Another issue that I started to run into during this project was that I was having trouble finding the ability to quantify how the class and the students were being affected, positive or negative, by my teachings and lessons. I started to look deeper at my lesson plans to see if there are more opportunities to use inclusion or different ways to try to see the results that I was trying to find and how to represent that as data that I, or other teachers could use.

Lesson Plans

During this research project, the majority of my lessons and units that I was teaching was dealing with factoring polynomial equations using the box and diamond and the quadratic equation, graphing them, using double distribution to check the answers. I knew that this would be a very lengthy unit that takes up most of our second term. This unit is the foundation of

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Algebra I and the student's success in future math classes can depend on how confident they are in their factoring and graphing abilities.

While making lesson plans for these lessons, I wanted to make sure that they aligned with the Interstate Teacher Assessment and Support Consortium (InTASC), focus on this in their Standard #2 (Learning Differences) and Standard #3 (Learning Environments).

Standard #2 states "The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards." I will get to know my students, their backgrounds, their abilities, their strengths and their weaknesses and incorporate that into lesson plans that will accommodate all their learning styles.

Standard #3 states "The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation." I will use the knowledge that I have gained to create effective teaching strategies that will create and foster an environment where the students want to continue to learn and grow.

My lesson plans had been cultivated and worked on during my time in the MAT program at Western Oregon University. These lesson plans were used for my EdTPA along with formal and informal observations during the semester. There was a total of 18 lesson plans for this unit. I printed out each lesson before it was taught and then printed them out again after I taught. I reviewed each lesson thoroughly 3 times. The first time was before I taught it. I looked over it and highlighted the areas that I felt I was being intentionally inclusive and trying different strategies to involve everyone in the classroom. I used a yellow highlighter for these markings. I then reviewed the lesson plans with my mentor teachers and got their feedback on the lessons. I

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highlighted their thoughts in green and wrote notes on the margins of the lessons. The third review was after I taught the lesson. I wrote down and changes that I made and highlighted things in pink.

The lessons for this unit tried different things such as individual work, group work, stations, group projects, activity stations, tiered activities, small presentations, in-class activities, homework, in-class discussions, team quizzes and the unit test.

When I looked at inclusion for my classroom, I looked at the individuals in the classroom and looked at their strengths, weaknesses, school involvement, background and personality. I tried to make lesson that incorporated all of these in different ways.

After the lessons were taught and I was looking at the data, the participation, and the understanding from the students I noticed that some ideas worked better than others. I noticed that the group work allowed students to interact together better than just giving them in-class work and telling them that they can work with other students if they choose. I also found that putting students in groups myself was a better option than having them choose groups themselves. This gave me to opportunity to group same level students together or different level students together depending on the activity.

As I continued to gather and review the lesson plans I edited the future ones based on what the lessons the days before had showed me. I also found that my lesson plans could not cover every scenario, but that I did have the ability to plan for group work and then work one on one with a student if working in a group was not the best choice for them that day.

By looking at my lesson plans during this time, I was able to create an environment that was both predicable and stable for the students as they entered the class. I found that something as simple as planning the seating arrangement in the class for the day set the tone for what was

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going to be done. If the seats were in rows, we were doing individual work. If the seats were spread out significantly, we were taking a test, quiz or individual assessment of some sort. If the seats were in groups, we were doing group work. The students became familiar with this and could get a sense of what was happening in class that day without having to ask me first.

Another part of my lesson plans that made the students feel like they were part of the class was my learning goals and targets. When I started my lesson plans, I did not have them on the board, I just would talk about them at the beginning of the class. I noticed that even though I would tell the students, I would still get asked “what are we doing today.” I started writing them on the board for the students to see. However, a mistake that I made was that I made the learning targets too wordy and academic. I saw some of the students reading the learning targets and then saw them get a look of defeat on their face before I even started the lesson. I started writing the learning targets in very simple language that was to the point and that was positive. Instead of “today we are going to use the box and diamond to factory a quadratic expression and then find the roots and graph them.” I started to write, “I can use the box and diamond to factor and graph equations.” That small little change, allowed every student to see what we were doing, understand what to expect and have a positive outlook on the class period. By using more student friendly language, the students can relate to each other and to the lesson that we are about to do. When I used too much academic language, many students became standoffish because they did not understand the word and did not want to contribute to the lesson or the discussion because they were uncomfortable. The language and presentation used in the lesson are very important to making students feel part of the inclusive environment.

The other part that I looked at when I was looking over my lesson plans was am I accommodating the different levels academically in my classroom with the same lesson? As my

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evaluation and project went on, I had to make some significant changes to my lesson plans and the way that I approached them. While I was making sure that all the students who needed accommodations in my classroom were getting them, I did not teach to them and make sure that they were understanding. Initially, I was just teaching a lesson at a mid-level and some understood and some did not. Some had questions and some were bored. I did not find that to be an effective way to try to build an inclusive classroom. I decided that there were always going to be some that needed more challenging questions and some students that needed very basic questions. I began using challenge questions in my in-class activity for those students that wanted to get a deeper understanding of the lesson. I also started my in-class activities with the very basic questions and then went up to the mid-line questions or problems. By doing this, those students who needed additional help could get it on the first couple questions that were very basic and could be walked through the steps of factoring. The students who were comfortable with the basic factoring could move on to slightly more challenging ones, but still ones that were in their level of learning.

Making this slight change to the order that I put the problems into the in-class assignments was very small but had a large effect on the students. Those students who made it through the whole assignment could challenge themselves, and those who were not at that level could take their time and work through the questions that increased with difficulty as they completed them. I do not have the students turn in the in-class assignments, I check them off and we go over them in class. By doing this, I can check them off and see how much they completed to get a feel of the ability of the class and then I can tailor my next lesson plan based on that. If most of the class has finished the assignment correctly and some did the challenge questions, then I can feel confident moving on to the next part of the lesson. The other positive of making

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this slight change was that many of the students who are on an IEP, 504 or modified diploma also have a double blocked “help” class with another teacher, and they can take their in-class assignment with them to continue working on it the next day.

The lesson plans that I examined included a quiz and a test on two different days. When in the past, I would write one test and then those students needed accommodations would go somewhere else to take the test. The students who were in the “extra” blocked math class would take it there and so it was obvious who was getting different accommodations or modifications and who was not. As I was writing these plans and thinking about inclusivity, I wanted to try something different. For these lesson plans, I wrote my quiz and test and then used the same quiz or test and made the modifications to it. I handed out the full test to those who took that test and the ones with modifications to those students who needed different tests. They all took the test at the same time and unless their accommodations stated that they were to go to another place. While this did take a little more time in preparation for the tests and handing them out in a way that the students did not see that other students’ tests were different, I did see a difference in the completion of the tests. The students who normally would go somewhere else, sat and took their tests and completed their tests just like the other students did. There were not any complaints about taking the test in the classroom and no one asked to go somewhere else.

Overall, my analysis of my lesson plans has shown that changes, amendments and modifications can be made to create an environment that is more inclusive of the students. While there are so many more facets that I can look at and discover, and will continue to change and experiment with, the slight changes that I made were met with positive results when it came to participation, attitude, attendance and grades in the classroom.

Observations from University Supervisor and Mentors

During this action research project, I also participated in six formal observations, two by my university supervisor at Western Oregon University and four by two mentor teachers at the school that I am teaching at. These observations were a time where we could sit down together and go over the lesson that I had just taught. These observations also gave me an “outsiders’ perspective on the lessons and the changes that I had made and an additional pair of eyes in the classroom to see how the students were responding to my ideas and lessons.

Observation #1 was towards the beginning of the project, and it was with one of my mentor teachers. This teacher and I talked about the challenges in the classroom and the perfect world scenarios where everyone felt included all the time. This teacher and I went over the student’s needs and how they need to be accommodated or what modifications need to be made for them. We also looked at grades, attendance, cultural differences, living situations and behaviors as a baseline. This teacher and I made some slight modifications to some of the lesson plans based on what that teacher saw during this class. This teacher noticed that the students who were sitting alone in the back of the room were more likely to start losing focus on what I was teaching. This teacher also noticed that a couple of students in the front of the class, who were confident in the material, were the ones answering all the questions. This mentor stated that “participation is not always a sign of inclusion, it is a sign that certain students understand the material better than others.” This led to the modification of grouping students in the classroom and calling on students when I knew that their answers were correct and giving them a chance to speak up.

Observation #2 was a week later with a different mentor teacher. I met with this mentor teacher after I taught the lesson to go over the observations and feedback. This mentor teacher

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pointed out that while my learning targets were listed on my lesson plan in detail, they were barely touched on during the lesson. This mentor teacher and I talked about how having the same structure in class each day can build an environment for learning. This mentor teacher and I talked about how sometimes “more is less.” Meaning that I can get the same learning target stated with fewer words and it would possibly have more meaning than writing a paragraph on the board and not referencing it during class. This feedback was very helpful in trying to make more direct learning targets and introducing them at the beginning of class and coming back to them a couple of times during the class. If I am not going to use the learning targets to create a better environment for the student’s, then why even have them on the board?

Observation #3 was during week 3 of the second semester. This observation was the first one of the semester with my university supervisor. During this lesson we were doing a group activity that involved factoring using the box and diamond. After the lesson, my supervisor observed that several of the students were using their phones to try to factor things. This was frustrating to some of the students who did not have phones. My supervisor reminded me that “inclusion is not just about teaching to everyone, but also getting rid of economic differences and giving everyone the same opportunity to learn.” The university supervisor and I talked about ways to create equality in the classroom for those who have access to technology and those who do not. I have a classroom set of calculators in the classroom for students to use, but they rarely use them. We worked together and decided that I was just going to tell every group or person that they needed to grab a calculator and the beginning of the class and get the class used to that routine. This way, those who needed a calculator would have one at their desk already, all the calculators are the same and there would be no one singled out. I also decided to create a factor sheet for the factors from 1 – 100. This way, the students could reference it if needed and it

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would be one more tool for them to have that would make them feel more included. I understand that some students will not need to know the factors for numbers, but if everyone has the sheet and I remind everyone to take it out while they are working, then all levels of ability will have access to it.

My 4th observation was with the same mentor as my first observation. Before I taught the lesson we talked about my feedback from the previous lessons and the changes that I had made to the lessons to create a more inclusive environment. We discussed what I specifically did for this lesson to create inclusion and how I would like my mentor to watch for participation within the groups and see if the groups are working with everyone. This lesson was using the zero-product property and finding the x and y-intercepts. At the beginning of the lesson, I went through zero product property and then I placed people into groups and had stations set up around the room. I had different colored cards at each station. I told the groups that the green was the same as what we did in our examples, the yellow was a bit more difficult, and the red was a harder challenge. I told the groups that I wanted them to start on green at each station and after the first station they could choose their next color depending on their comfort level. I walked around to the different stations and checked on the groups as they worked. After the lesson the mentor teacher said that the groups worked well during the first station. During the second station, the groups that had the lower-level learners wanted to do a green one again, but there were people in their group that wanted to try a red one. This caused a little bit of a divide and the lower learners stopped participating in that station. We discussed ways to create a more inclusive activity. We talked about me assigning groups based on their skill and so the higher learners would be together pushing each other. We also discussed how I could have just told

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them to all do the green one at every station and then if they finish that first they then could challenge themselves.

Observation #5 was with the same mentor as observation #2. We talked before the lesson, and I shared what I had been looking at and changing as the semester and lesson went on. This lesson was introducing the quadratic formula. After the lesson we discussed the observations that the mentor teacher made. They stated that it was very clear that the students were more comfortable with each other than they were 3 weeks ago. The idea of telling everyone to get a calculator and get their notes and factor sheets out helped a lot. The mentor teacher said that during the lesson it was not obvious who was using those tools and who was not. The mentor teacher also noticed that by putting students in groups that had different learning levels in them, those who were confident with the lesson were helping those who were not as comfortable. We talked about the idea of changing the groups up and we decided that it has taken the students a couple weeks to get to a point where they can interact very well together and if I was to change their groups around, it might undo the work that had been done.

Observation #6 was the second one of the semester with my university supervisor. Before my lesson, I sat with my supervisor and discussed the changes that I have tried and what has worked and what has not. This lesson was a group assignment that brought together all the lessons on factoring and graphing polynomial equations. After the lesson my supervisor made the comment “All of the groups were working very well together.” We discussed how I grouped people together that had different strengths and gave each person at the table a specific task that they needed to complete to add to their group project. The supervisor said that they observed that the students who had not been participating in the last observation were giving their opinion and talking through things and asking questions of others in their groups.

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The observations during these lessons were very helpful with making changes into the way that I conducted the class, created the seating, taught the lessons and even arranged the assignments and tests. The feedback that was received from my mentor teachers and my supervisor was used to make these changes and to help me see what was working and what was not working in my lessons.

Self-Reflections and Journaling

After listening to my mentors, co-workers, university supervisors and students, I took the time to do some personal reflections on the lessons and how my attempts to create an inclusive classroom were successful and how they were not successful. After I created my lessons, I began journaling and taking notes after each lesson on what worked, what did not work and what could have been done differently. I also made notes on how the changes in my lesson plans effected the classroom and the individual students. I documented the attendance each day as well as any outstanding situations such as fire drills, student's announcements, state testing and extra-curricular activities that would keep students out of class for the period.

Starting with my first lesson, I took a hard look at myself as a teacher and my thoughts about what I was trying to accomplish. I looked at what was working in the classroom before I started these lessons, what was not working and what could be done better. In this classroom of mixed abilities, I wanted to see if it was possible to create a space where everyone felt that they had a voice and that they were being taught to their ability. I wanted a classroom where students did not have to be pulled out or need to go someone where else. As I wrote my lessons, I did not know if this was possible. I knew when starting this action research project that it was going to

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be a challenge to try to teach to the range of learning abilities that were in my classroom, but it was not impossible.

During journaling, I had to be very honest with myself. I tried somethings that did not work and something that, if continued, would have further separated the students. That was what I did not want to happen. As I was journaling, I used a red pen to circle my lesson plan in areas that did not work had the opposite effect. I used a green pen for things that went well and had the positive effect that I wanted. I used a blue pen to make notes on what could have worked but needed to be changed a little. By doing this I could visually see a pattern as my lessons went on.

I saw that individual activities or in-class assignments has a lot of red notes around them. The notes showed that there was limited participation within the classroom. The students who did not understand, would not ask questions and would just stare at their paper. The classroom was very quiet, which was also a sign that something was not being done correctly. There were also a lot of red notes when I tried seating in rows instead of in groups. Again, students were hesitant to raise their hands and ask questions if they did not understand because they were on their own. They did not have the comfort or support of their group and they did not have classmates to ask questions to.

I noticed that there was a lot of green marks and comments on the lessons that I was doing group activities or group in-class assignments in. These comments were things like “lots of on-task chatter among the groups,” and “students of different learning abilities were working together.” The students who understood the lesson were helping those that did not understand the lesson and were answering their questions. There were also green marks and comments when I changed my in-class assignments to start with easier questions and then move to harder or more complex ones as the in-class assignment went on. These comments were “the students who

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understood the lesson worked through the whole assignment,” and “those who were on a lower learning level, still tried the first couple questions and did not get frustrated by the difficulty.”

Even though some lessons or ideas had green comments, there were also blue comments near them so that I could think about changing things or doing them better. For the initial group activities, I let the students pick their groups, some of my notes were that “groups of different abilities might be better.” I noticed that the students were not making the best choices when they were allowed to pick their own groups and so when I picked them for them, the communication about the activity increased significantly.

As my lessons evolved throughout this project, I noticed that my journaling became more positive. There was more green and blue notes than there was red. I had been putting my ideas into practice and was getting more positive results. The classroom was becoming a warmer and more inviting place for students to learn. I want to continue creating lesson plans that are beginning to create an inclusive environment for everyone in my class.

Data Analysis for Question #2

My second questions asked, am I using effective teaching techniques in my classroom to help provide the inclusive classroom? This question is important because I want to look at not only what my lesson plans say I need to do, but how am I introducing it to the classroom. I want to see if my teaching techniques are based on the needs of my classroom and are working together with the lesson plans to create an inclusive environment. I was finding that I could create lesson plans, but I wanted to know if I was teaching using the best methods for the

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students in my classroom. Each student learns differently and has different strengths and weaknesses when it comes to learning. It is up to me, as a teacher to use as many of the tools that I can to set up the best possibility and classroom for the students.

Lesson Plans

While looking at question #2, I wanted to look at my lesson plans. I did not look at the content of the lesson plans, but the different ways that I chose to teach the lessons that I was teaching. I wanted to see if I am choosing the best techniques for the classroom and the students and were those techniques the most effective way to teach the content that I was teaching. I also wanted to look at my use of scaffolding and building from the previous lessons to teach the students new information.

My lesson plans included several different techniques such as individual work, group work, group quizzes, group projects, individual homework, group and individual in-class assignments and an individual unit test.

When looking at the teaching techniques, I printed out my lesson plans again and looked at the teaching techniques that I was using, not the content that I was teaching. I highlighted the ones that were effective in yellow and the ones that needed improvement in orange. After each lesson I evaluated the plans and adjusted for the next lesson.

My first week of lessons I had the students working a lot on their own. When I was teaching, it was a lot of direct instruction and not a lot of interaction. I learned that, while direct instruction is beneficial, it was not the best teaching technique when looking for inclusivity. The

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students appeared to be singled out and individualized as opposed as belonging and working together.

For the next week, I changed my lessons to include more group in-class assignments. I found that the students worked better together, but it still was not quite the result that I wanted. There were still students who chose to sit by themselves and students who did not participate together even though they were sitting in a group. This showed me that while, just putting them in groups is a better teaching technique, there is still much more room for improvement in my classroom.

By the third week, I chose a combination of group work and direct instruction, along with one group project that had them moving around the classroom. These results were a little more along the lines of what I was looking for. The students were talking with each other more and working together as a group. I could not tell which students were at higher learning levels and lower learning levels based on just looking at the classroom. I did find room for improvement when it came to the group activity. The students who had a solid grasp on what was being taught were taking the lead, which was good, but they were also doing a lot of the work while the other students just socialized with each other.

The next week I wanted to focus on teaching my lesson plans with techniques that addressed the issues that I had seen the week before. This week, my class stayed in groups, however, I assigned to groups. My lesson plans included some in-class assignments and some homework. I found that by putting students with lower learning levels in groups with higher learning levels was beneficial to all students. While I was teaching, the students quietly asked each other questions and talked about things in their groups if there was clarification needed. This was a positive of trying to use this method, but there were also a couple instances where I

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had to ask the groups to be quiet because the talking became too loud and a couple times where it was a question that would have benefitted the entire class. The biggest positive out of this week was that there was a higher percentage of students who completed their homework than there had been in the past. I asked one student who usually did not complete their homework, why they completed their homework this week. They said, “I started it in class as was able to get help from my group, so it was easy to finish at home.” That was a good thing to hear.

During the next week, I wanted to do another group project. I knew that previously this had not created an inclusive environment for each group had me trying to come up with ideas that would allow for the group project, but also keep fostering the environment that I had been working towards. I decided that I would try to change the group project a little bit. I gave the class their group project and put them in their groups. I also gave everyone an assignment within the group. One person had to factor, one person had to use zero product property to find the roots, one person had to graph it and the final person had to present it to the class. I randomly assigned the tasks and told the groups to get started. It took the groups a little while to get started if the person at a lower learning level was assigned the first part, but I noticed that the groups work together. I did not see any one person taking over the group. I did see a lot of students who had a better understanding helping those who needed it. I even saw one person go to another group and answer a question because the other group was confused. When it was time to present, the student clapped for each other after each presentation without being prompted or asked to.

Throughout the unit, I changed the lesson plans to try different learning styles, some were effective, and some were not. Some gave me positive results, and some took a couple steps

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back. I found things that were positive for this class and will continue to use those learning styles as well as keep trying new things to improve the inclusivity of the classroom.

Observations from University Supervisor and Mentors

I used the same 6 observations to look at my teaching techniques that I did for my lesson plans. I met with my two mentor teachers at the school I am teaching with and my university supervisor. During these observations, we met before the lesson to discuss what my plan was for the lesson and for the classroom and then we met after to discuss things that they had seen and things that I felt went well, not so well, and what teaching techniques I could try to improve on for the next lessons.

For the first two observations my mentor teachers both made comments about how I was using too much direct instruction for this classroom and these students. The mentors mentioned that the students started out trying to pay attention and then as the time went on, the students stopped paying attention, got distracted and were putting their attention elsewhere such as talking to each other or causing distractions. While the direct instruction was good for some of the students, it was not a way to include all learning styles in the classroom.

We talked about different ways to include all learning styles, learning levels and personalities in the classroom. My mentor teacher stated, “there is not one style that will be good for everyone.” We talked about how it is similar to going out to dinner, everyone’s goal is to find something to eat, but everyone is going to order differently based on their likes, tastes and desire at that moment. It is the same for a math class. The goal is to teach the students the lesson, but how we achieve that will be different for each student and it can be different depending on the

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day. So, what works for the class one day might not be the best idea for the next day. It is better to mix up the teaching techniques to try to reach as many students as you can. My mentor teachers and I talked about how to incorporate multiple techniques into one lesson. Maybe there can be group work and individual work, stations that incorporate the in-class assignment. They stressed that getting students up and moving around the room will help keep them more focused on what they are doing then just having them sit in their seats and listen.

We worked through different ways and activities to get the students out of their seats that I would try for the next weeks lessons. The mentor teachers said that they observed that many of the students do pay attention for the first 10-15 minutes and are actively taking notes and so that would be a beneficial time for direct teaching if I needed to review something or teach something new before moving to the activity for the day.

My third observation was with my university supervisor. This observation was halfway through the unit. I had changed the way that I had arranged my lessons and had been trying different teaching techniques. One the day of their observation, I was doing a group tiered station activity. I spent the first 10 minutes of the class reviewing what would be done during the activity and going over an example with the class so that they would have it fresh in their notes. The groups then started at different stations and spent 10 minutes at each station and then moved onto the next station. After the groups had finished all of the stations, they went back to their seats, and we talked about the answers as a class.

My university supervisor had some great observations and notes about the teaching techniques that had been used and their effect on the classroom. My supervisor noted that the choice of limiting the direct instruction was great and by doing a small review before it put everyone back on the same page and allowed those who needed another example the chance to

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write it down without having to ask for help. They also noticed that moving the groups around the stations kept them engaged and interacting together. My supervisor did notice that in every group there seemed to be a “leader” that did take over during certain points and do a lot of the problem themselves without the help of the rest of the group. We talked about possible changes or different techniques that could have been used to change that up a little. If I would have walked around and asked certain group members questions or asked a challenge question at each station while I was there observing, I could have encouraged more group interactions. I walked around to each group during their stations and wasn’t really with each group more than a couple minutes, and so while I was there, the groups worked well together. I should have spent more time with each group maybe picking one station to stay at the entire activity so that each group would have to come to me and complete the whole station with me working with them.

My supervisor also noticed that when we went back to the desks to talk about the answers, there was not as much participation from multiple people. The same people kept talking or giving the answers. This would have been a great time to point to certain students or give each group a station that they were responsible for explaining to the class and then had the groups come to the front to explain their answers. While I was trying new learning techniques with the classes and some were effective, there were still times where the techniques I was using was not creating the environment that I was hoping for. My supervisor reminded me that “what doesn’t work one day during one lesson does not mean it will not work on a different day for a different lesson.”

I had one more observation with each of my mentor teacher and my university supervisor during this research project. During each of those observations, I asked them to watch for the participation of the students and if changing my techniques during the class or lesson changed

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the participation in the class. During these observations, I noticed that the students came in very positive and ready to go, and then about 20 minutes into the class I started to lose the interest of the class. That is when I began to change things up, I would try things like having the students come to the board and do the example, I would let them work in their groups for a couple problems and then we would talk about it, I would have them get up and walk around the room and look at the problems that I had taped on the wall around the room. Whatever it was, I found that that it was a much more inclusive environment when I was leading them and giving them new tasks every 20 minutes or so.

The observations were very insightful when it came to seeing that the teaching techniques that I chose to use to affect the classroom and how the students interact with each other and with me. The observations allowed me to get the feedback I needed when I tried different techniques. Some of the feedback was positive and some of the feedback showed me that not all of my efforts were successful, and I needed to try other ideas.

Self-Reflection and Journaling

Teaching techniques are something that take practice and time to get skilled at. As a teacher, I can have the tools and the knowledge, but if my skills are not there, my lesson and efforts will be completely lost. As I was journaling after each lesson, I had to take a deep look at my teaching styles. I could not focus on the students. I could not focus on the classroom. I had to focus and reflect on the techniques that I had chosen and the impact that had, good or bad on the students.

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After the first several lesson, I looked back at my notes and noticed that there was a common thread coming through. I had written “kids look bored,” and “they are getting off task easily,” several times during that first week of lessons. While I was teaching, I thought that I had planned lessons that would get the students attention, but as I looked back on it, that first week was a lot of direct teaching and that was not having the desired effect. Direct teaching was not a teaching technique that was bringing students together, in fact it was doing the opposite.

As the weeks went on, and I took out a lot of the direct teaching and moved more into group collaboration, I again began to see the same notes popping up in my journaling and on my lesson plans after I taught. “Students start out on task, but lose focus,” and “students are interacting together, but it is not always math related.” So even though the group focused activities were working better, it was still not the ideal results that I was hoping to see.

Towards the end of the unit, my notes on my lesson plans and in my journal were more positive. I had notes such as “the students were engaged the whole time,” and “the students worked with students they normally do not work with.” There were still some notes that showed me I could improve on things such as “students complained that the questions were too hard.” When I looked back at the lesson plans, I realized that I did not just use one teaching technique in these lessons that were productive and showed positive results. I used several different techniques throughout the class to keep the students engaged with me and with each other.

After looking at these notes and comments I made when I was journaling about my lessons, I reflected on what I thought was done correctly, incorrectly and what could have done better. I looked at my lesson plans and how they were set up to create an inclusive environment and I also looked at my teaching abilities. If I had perfect lesson plans, was I presenting them in

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a way that was beneficial to the students? Was I doing everything I could to create a positive space for the students?

After I looked at some of the videos of myself teaching, I realized that there were several occasions where I would not push the students to think deeper. A question would be asked and instead of asking the class to think about it, or seeing what the students thought, I would just give a simple yes or no question. I saw that this did not further the thinking in the classroom and there could have been students who had similar questions or would have involved themselves in the discussion if I would have started on or asked a few more questions.

I also noticed that there were different lessons where I would ask the class for input or help on answering the examples and the same students would answer the questions. I would allow the same students to contribute and would not push those quieter students, or those students who were less confident to contribute to the discussion. This was something that I noticed in the first couple of lessons, and I had to push myself to find a way to include those who do not want to talk in a way that was making them comfortable, but also in a way that was furthering their math and those in the room as well. I slowly found ways such as telling the student that I am going to ask them for the answer in a couple of minutes so that they had a chance to ask me, or other students some questions. I also checked their work before calling on them to make sure it was correct. I did not want to have students speak up in class just for the sake of making them talk, I wanted to make them comfortable and included, not scared and singled out.

Using different teaching techniques throughout this unit was a learning experience. Some things had positive results and created a more inclusive environment, and some techniques further pushed the student away from each other and from me.

Data Analysis for Question #3

My third question asked, by creating an inclusive classroom and using effective teaching techniques can I see any change in disruptions or needed discipline in my classroom? This question was important to me because I wanted to see if I was able to create lessons and successfully implement them in a way that created an inclusive environment and by keeping students involved, engaged and busy, they will understand the material better and not feel the need to act out.

In order to see if my lesson plans or teaching techniques had any impact on the classroom behavior, I had to look at the disruptions that had been happening in the classroom in the past. This class included several students on the spectrum, a couple students where English is not their home language, students with 504's and IEP's. In order to look at the full aspect of the disruptions and discipline issues I met with my mentor teachers, and we went over the incidents that they could remember from the beginning of the school year until now. We came up with 21 disruptions where the teachers had to stop what they were doing to focus on an individual and re-direct teaching. There were about 47 incidents where there were outbursts in class or students talking over the teacher and distracting other students. There were incidents where a student was asked to leave the room for awhile and 1 incident where a student was escorted out of the classroom because of behavior.

After sitting down with my mentor teachers, I sat down with the principal of the school to discuss discipline and disruptions in the school. We did not discuss specific students or events, we just looked at the number of incidents and whether students were removed for a

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period of the day or just out of the room for a couple minutes. I was told that do far, in the 2021-2022 school year we had 53 incidents where students were escorted out of the classroom for causing a disruption. These 53 incidents resulted in students being out of school for at least the remainder of the day. I was told that there had been over 200 incidents of students being asked to leave their classroom for a couple minutes or for the remainder of that class period and then able to resume their school day as normal. There had also been 3 incidents this year that required an entire room to be evacuated because of unsafe behavior by a student. We looked at the subject area where these students were causing disruptions. Most of these incidents happened in English, writing or math classes. There were very few disruptions in classes such as PE, art, science or foreign languages.

Lesson Plans

When looking over my lesson plans for this question, I was not really looking at the content of what was being taught, but rather how I was teaching it and how my teaching controlled the classroom. When we think of math class, no one really gets excited about it. Students usually do not say that math is their favorite subject or that they cannot wait to get to math class. However, when students do talk about the class it is usually complaining because it is too hard or too boring. The math classes do not keep students' attention for long period of time. It is a lot of information to take in at once.

During the first couple weeks of the unit, I saw the normal number of disruptions in class. I used my lesson plans to look at what, or if, I was doing anything differently to try to create an environment that had less disruptions in it. I highlighted the new ideas that I was trying in yellow

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and highlighted the ideas that were the same as before in orange. I also made notes on my lesson plans as the disruption occurred so I could see if it was a specific time in the class or a specific learning style that was allowing these behaviors.

My lesson plans for the first couple weeks included a lot of direct instruction. There was not a lot of yellow highlighter on the lessons. It was a lot of “orange” or things they had done before and it was a lot of individual work. During these lessons we had students yelling across the room at each other, getting up what they were supposed to be working and going over to other students to talk about non-math related things, and at one point a student just got up and walked out and did not return. I noticed that these opportunities occurred when I had the students sitting in rows and asked them to work on an in-class activity after I had just taught them for 30 minutes straight. I started to see that my choice of lesson and teaching techniques could be creating an environment for students to act out because they don’t know what else to do to express their frustration.

The next couple weeks, I saw that my lesson plans had much more “yellow” on them. I was trying to teach in different ways or break up the class more to see if keeping them busy while still doing math tasks could affect the number of disruptions in the classroom. These weeks we did more group work and less, just sitting in the seat and writing down notes or doing work on a piece of paper. I was looking over my lesson plans, I noticed that while we were doing the group activities there was only 1 outburst, and it was from a student on the spectrum who was having a hard day when they entered the classroom. During the direct instruction portion of the class there were about half of the disruptions than I had had the week before. I noticed that how I teach my lessons does influence how the students behave in the classroom. If

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I am keeping them busy and involved with each other, they are less tempted to disrupt the other students because they are enjoying or concentrating on what they are doing.

For the next couple of weeks, I put more group activities in my lesson plans. I had activities where I chose the groups, they had to walk around the classroom, they had to complete tasks together and present to the class. In each of these group activities, each person had a role in the group and had something that they were responsible. The idea of sitting on the sidelines and not participating was not an option because their group depended on them. They were needed for the group's success.

My lesson plans were almost all "yellow." I was trying new ideas and keeping the direct instruction to a minimum. During these weeks I did not have a single outburst where I had to stop what I was doing to address the needs of that student or the rest of the class. The students stayed on task. The only disruptions I had was one group yelling over to another group when they had a question or got stuck and wanted help. I just reminded those groups that they can all work together if needed, just walk over to each other to talk instead of yelling across the room.

Looking over my lesson plans was essential in figuring out what I could do differently to try to create a classroom that was a safe and positive environment for the students. I understood that there was no way to eliminate all the outbursts and disruptions, and I cannot eliminate direction instruction or individual work and tests from the classroom. However, these lesson plans showed me that there were changes that I can make or ways that I can structure my classroom that can benefit the students.

Observations from University Supervisor and Mentors

During my observations, I met with my mentor teachers and my university supervisor twice each. For this part of the project, we talked about the discipline that they had seen within their classrooms and within the school in general. While they were doing my observations, I asked them to look at outburst and categorize them as a 1, 2 or 3 and then note the times that it happened. We decided that a 1, would be just getting off task, talking to a neighbor or something that involved distracting other students. A 2 would be something that required me to stop my teaching to address, something that effected the whole class, but calmed down after addressed and a 3 would be those incidents where a student needed to leave the classroom. I wanted to see if there were distractions, mainly #1's that I was missing and if it was happening during the same point in the class. I wanted to get another's point of view on the effectiveness or not, of the changes that I was making.

During the first two weeks I had observations with my mentor teachers. They both noted that there were a lot of small of 1's going on and they saw 3 instances of #2's. They pointed out things that I had not noticed. There were times that I did stop teaching and addressed a student and did not even realize I was doing it. On one of those occasions, my mentor teachers said that the student didn't even really need to be addressed, but I jumped the gun and addressed it before he really was disrupting anyone. By doing that, I unintentionally accused him of something and disrupted the classroom. We talked about how it is a novel idea to try to stop them before they start, but that can be done with a look or a touch on the shoulder or something that does not pull the attention away from teaching. They also told me that while my lesson was very well put together, there was a lot of seat time without a break. We talked about how students can focus for about 20 minutes at most before they need to have some sort of stimulation. That can be a

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class activity, it can be a stretch break, a music break, a technology break or 5 minutes to talk with friends about whatever they want. By giving them that time, you are allowing them to get some energy out and talk to people in the class as opposed to doing it when you are trying to instruct.

My first observation with my university supervisor was the first one where I started to see results from changing up the way that I was arranging my lessons. I ask the university supervisor to make the same observations about the disruptions in the classroom and the times that they occur. I also met with my university supervisor ahead of time to discuss the changes that I had made to the lesson plans and how I have restructured the class. The content is till the same, but I had added more breaks and more group work so that the students had less down time to get distracted. After the lesson, the university supervisor said that there were 3 disruptions that occurred in the beginning of the class when I was doing the direct instruction. We talked about how the disruptions were coming from students who understood the material I was teaching and that I could have given them a challenge problem to do while I was doing the review. During the group activities there was one loud disruption that I had to go over and address, but it was a student who was frustrated and did not like the group responsibility they were given. This is a disruption that just took some talking to and this student does get frustrated when they don't get exactly what they want, and my university supervisor and I talked about how there will be times that this will happen no matter how well my lessons are planned.

The next couple of weeks, I had observations with my mentor teachers. They were surprised that there were less disruptions in the classroom. There were no #2's that required me to stop and there were only 2 #1's and they happened at the end of the classroom when the groups were finishing up and we were coming back together as a class. My mentor teachers said

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that the way I had the lesson laid out was very beneficial to this group of students. We talked about how I did a review and direct instruction for the first 15 minutes. If it was a review, I also had a challenge question that students could turn in instead of doing the review problems. If it was new material, I checked the students' notebooks after the lesson to give the credit for taking notes and paying attention. This made the students accountable for their own learning and their grades. I then gave them a little brain break that I changed up a little, depending on the day and then we did the main class or group activity for the day. My mentor teachers said that they wanted to try using that structure in their class for awhile and see if they noticed any changes as well. They said that keeping the students on task and busy was giving them less down time to disrupt the class.

My last observation with my mentor teacher was towards the end of the unit. I met with them ahead of time and went over the changes that I had made to the lesson plans. I showed them my initial lesson plan and then the one that I was going to be teaching that day. The content was the same, but I had added a "fun" involved group activity and not a lot of down time in their seats. I also had 2 brain breaks and started using a wheel to choose what they do for the brain break. It is a spinner that lands on either, technology, music break, stretching break, 10 random facts or free choice. These were ideas that the class and I came up with together so they had some buy-in on what they wanted to do for their breaks, and we will change in monthly. During this observation, my university supervisor saw students talking to each other, but did not call any of them a disruption or distraction. The university supervisor said that the students were on task and they were talking about the assignment. The classroom got loud, but it was on task and talking about the work that they were doing. My supervisor said that it was interesting how much

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response he saw from just changing around the assignments and the arrangements of the lesson plans.

Self-Reflection and Journaling

This part of my project was more difficult for me. Other than just counting disruptions in the classroom, it was difficult to get data for. The students did not understand what they were doing and for some of the students it was an involuntary response and that did not have control over it.

After each of the lesson, I did some journaling to see how I felt about the lesson and how I felt about the interruptions and disruptions that were occurring in the classroom. At the beginning of the unit, I was very frustrated by the disruptions, I had not really paid attention to them and then when I started looking at them and counting them, I felt overwhelmed. I made notes such as “what can I do better,” and “the other students are losing math time because of it.” As the unit went on, the journaling that I did became more positive. I noticed that my comments were “the students seemed to enjoy the lesson,” and “the outburst today only effected 1 other student.”

This part of the project was harder because there are some outbursts and discipline issues that I can affect and control and there are some that I have no control over, and I had to remind myself of that. I had to remember that some students are having a bad day before they came into my class and there is nothing, I can do about it. Some students are triggered by another student, and I have no control over that. When I was reflecting on my lessons and what could be done better and what could be changed, I had to remember that there were some circumstances that nothing I could have done would have changed the outcome. I could have taught a perfect lesson

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and there still would have been disruptions. That was my biggest outcome of this question. I do not have control over everything in my classroom. I can create an environment that students can flourish in, but sometimes that does not happen.

Summary

This action research project has allowed me to collect data, look over my lesson plans and my teaching techniques and make changes and adjustments to not only benefit the classroom and the students, but to make me a better teacher, and colleague. Studying my lesson plans and analyzing them, changing them, updating them with the help of student feedback and feedback from my mentor teachers and university supervisor has helped me see that it is possible to use lesson plans to create an inclusive classroom. My analysis has shown me what worked for my classroom and what did not work for my classroom. While, direct instruction and individual task will always have to be a part of learning, I am now focusing on ways and activities that do not isolate students, but instead bring them together to share their strengths that they have and hopefully work on any weaker areas that they have in the lessons or the units that are being taught. By making lesson plans that are more flexible and fluid, I have the opportunity to change my teaching techniques mid-class if I need to. I can start my lesson using a certain technique and see that the class isn't feeling it that day and I can change it and try something different, but still teach the same content. Working alongside my mentor teachers and getting their feedback and thoughts on my lesson plans and activities has helped me understand that what works with the class one day, might not work with the class another day. I must keep an open mind when teaching and understand that every day is going to be a little bit different. My self-reflections and journaling helped me get a deeper insight into how I was feeling about the lessons and the classes that day. When I took notes or journaled right away, I could just let myself write and

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then go over it later and analyze it. This gave me a much clearer picture of what happened in class that day as opposed to waiting until the end of the week to re-cap. By recording some of my lessons, I was able to go back and watch them and see the disruptions in class that I had missed and try to find the link between that, my lesson plans and my teaching techniques. While I understand that my classroom is one of many in my school, my district and my state, I am now more clearly able to see the connection between lesson plans, teaching techniques, inclusive classrooms and disruptions in the classroom. I can see the relevance that this has on my teaching practices, as well as any subject matter, and how this can benefit students of all ages. I am thankful to have had the opportunity to find these connections within my teachings as well as grow significantly as a teacher and colleague.

Chapter V

CONCLUSION

Overview

When I started my action research project, I did not really know what to expect or find when I started collecting data. I did not know if I was skilled enough as a teacher to change my lesson plans and adapt as a teacher to create this inclusive environment for my students. I also did not know what, if any, relationship my lesson plans and course outline and structure would have on the students and their disruptions in class. I was excited to sit down and go through my lesson plans over and over to see what changes, if any I could make to create an inclusive learning environment for the students and to try to discover what learning techniques will aid in this task. Throughout this project, I did learn how to create lesson plans and incorporate different teaching strategies to try to create an inclusive classroom. However, the most important things that I learned and worked in throughout this action research project was the skill of self-analysis and the ability to ask for and accept feedback, critiques, and ideas from not only myself, but my mentor teachers, my university supervisor, and the students in my classes.

This chapter will look at the research that I have collected and how it has answered the research questions that I have asked. I will look at the implications that this can have in the classroom and the limitations that my research and results have.

Results

My first question asked Do my lesson plans create an inclusive environment for my students? When initially creating my lesson plans, I thought that I was doing a good job reaching and including everyone. As I taught and analyzed them, I found that there is a difference between creating an inclusive environment and just teaching to everyone. My initial lesson plans did not create an inclusive environment. In fact, I was a bit discouraged after my first week of teaching and analyzing, receiving feedback and going over my lessons and notes. I was doing the best I thought I could, but I was falling short.

As the weeks went on and I adjusted my lesson plans I noticed that there was more participation. The students who usually did not interact with each other had less trouble working together. The students with emotional and social differences were getting more comfortable talking with people in their groups. I noticed a change in the dynamic of the classroom. As I continued to change the way my lesson plans were arranged and delivered, I continued to see improvement.

By the end of this project, I was very pleasantly surprised to see the results that had occurred. The class average on the test was up 5%, which was a big jump from the last unit test. The students greeted me and each other at the door and as they walked into the classroom. The students had no problems working together and in fact, often asked if they could do their work in a group or with another student. One of my students had a one-on-one aid that came to class every day with that student because of behavioral issues. That one-on-one aid was not required during the last week of my lessons. The student did not have any behavioral issues in my class for the entire week.

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Not only did I see changes in my classroom, I noticed them around the school. I saw students in my class interacting with each other outside of class. I saw them say hi to each other in the halls. I saw some of them that normally did not socialize talking about the dance that was coming up.

This action research project showed me that my lesson plans can be written and delivered in a way that creates an inclusive environment for the students in the classroom. It took a lot of work and a lot of time studying what I was doing, but it can be done for my math class, and I believe that it can be done for other classes as well.

Question #2 asked Am I using effective teaching techniques in my classroom to help provide the inclusive classroom? If I was to just take the first 2 weeks of lesson plans that I studied for this project the answer would be “no.” I was not using effective teaching techniques for this classroom. Yes, I was using good techniques as a teacher, but they were very generic and not tailored to the class that I was teaching. Each class is made up on a different set of individuals and each class is going to have a different dynamic. While generic teaching techniques area great starting point to look at when trying to teach a class, they are not the end all be all.

I quickly learned that this class does not benefit from a lot of direct instruction. There are other math classes where this approach would be great. I see it working in the college level classes where they are going to be used to a lecture and then a study group once a week. I need to understand that even though my initial teaching techniques did not help provide an inclusive classroom, I did not have to stick to them. I could change the way I was teaching just like I was able to change the flow of my lesson plans. I am not changing the content of what is being taught, just the way that it was presented.

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Once I wrapped my head around that idea, I worked with my mentor teachers and university supervisor to come up with teaching techniques that not only helped foster the inclusive environment that I was looking for, but also fit in with the lessons that I was teaching. After I tried, unsuccessfully, several times, I found teaching techniques that worked with my classroom and the individuals in it.

As I look at this question on a broader scale, I believe that it is possible to incorporate the proper lesson plans and teaching techniques into any classroom. This does not mean that they will be the same as the ones that I used, because again, each classroom is made up of different individuals who have different needs and expectations when it comes to learning.

My third question was, by creating an inclusive classroom and using effective teaching techniques can I see any change in the disruptions or needed discipline in my classrooms? This question took a lot of self-reflecting and analyzing. When I initially wrote the question, I had this vision of creating this perfect learning environment without any disruptions or distractions by the students or myself. As I started to look deeper into the roots of the disruptions, I had to remember that I am only responsible for what I can change. I can create the best environment that is inclusive, and students will still have bad days. Something can happen right before class that effects their mood or behavior in a way that I cannot change.

So, as I changed the way that I was analyzing my progress I was able to see that the students were no longer acting out because they were bored. They were not acting out because they were lost and were frustrated. They were talking with each other at the appropriate times and were participating in the lessons and group assignments as expected. Were there still times that a student with behavioral issues had an outburst? Yes, there was, but it was short lived and

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we were able to move on as opposed to having it disrupt the rest of the class and all of the other students.

The number of distractions and disruptions went down noticeably. They will never be completely gone, but students were showing up on time, not 10-15 minutes late. Students were ready for class ready to learn. Students were more compassionate to those who were having a hard day and were able to overlook the disruptions and keep focusing on what they were doing at the time.

Conclusion

As I stated before, the main thing that I was able to take away from this action research project was the ability to analyze and reflect on my own teaching and take feedback from my mentor teachers, university supervisor and students.

When I look at the three questions that I asked I think that my answers are “yes.” Yes, my lesson plans can be used to create an inclusive environment in my classroom. Yes, I can use those lesson plans and effective teaching techniques to foster my inclusive learning environment. Yes, by creating an inclusive classroom I was able to see a significant reduction in the number of disruptions that were occurring in my classroom.

This action research project showed me that I can create the environment and classroom that I would like to have, but also showed me that even with the best preparation there is still not a sure-fire way to ensure that everything goes as planned. A plan is just a plan until something happens and changes it. This project has shown me that even though I think I am planning the

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lessons correctly, I need to look at how the students are receiving and watch their body language, participation and other clues that they are giving me to show that something is not working.

Teaching is an ever-changing career. No two days will ever be the same. No two periods will be the same. Every teacher teaches a little bit differently and has their own strengths and weaknesses. My lesson plans are not an absolute when it comes to teaching, they are a road map or a guide to show that it is possible to create an inclusive classroom and by creating that environment it can affect the students in a positive way.

We are all here for the same reason. We want to teach; we want students to learn, and we never want to stop learning ourselves. This project was a positive example of how taking the time to learn about yourself and analyze and grow can change the outlook, behavior and participation of the students in your classroom. It takes hard work and dedication, but as teachers, we owe it to our students to never stop striving for success.

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