

**THE ROLE OF DIFFERENTIATION STRATEGIES AND THEIR IMPACT IN THE
LEARNING PERFORMANCE OF EARLY YEARS' LEARNERS**



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Submitted in partial fulfillment of the requirements for the award of the degree of
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DEDICATION

With profound appreciation, I dedicate this Master's thesis to my cherished family, a source of unwavering support, love, and encouragement throughout the arduous journey of my academic pursuits. My gratitude extends to my esteemed parents, my dedicated husband, Dr. Muhammad Iftikhar Ali, and my precious children, Tashfeen Saleha, Hooriya Iram, and Fareed Gohar.

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ABSTRACT

Differentiated instruction is a technique of teaching in which learners are provided with learning opportunities according to their specific needs, interests, and abilities that employs multiple learning modalities to appeal to the diverse interests of students while providing individualized instruction. This quantitative study aims to compare whole-group instruction and differentiated instruction in order to see which of the teaching-strategies is most effective for boosting low achievement in a classroom of early-year learners. The study was be guided by a framework of constructivism, multiple intelligence theory, and learning style theory. The goal of this study was to answer whether there was a statistically significant difference in pre- and post-test scores of students of early years learners, i.e. KG class, who received whole-class instruction versus those who received differentiated instruction. The research employed a non-equivalent, quasi-experimental design with a convenience sample of forty students. To examine the effect of differentiated instruction, the data was analyzed using both paired and independent t-tests. In order to make the education system more inclusive, reliable strategies and learning styles must be investigated. This study also validated the quantitative results by taking input from experts in the field through 12 in-depth interviews. The analysis of both results concluded with the five dimensions of differentiation strategies and prioritized rank as well. This study demonstrated ways in which different instructional strategies can improve early-grade students' academics.

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1. INTRODUCTION

“True differentiation requires that we look at all the characteristics of the learner in addition to achievement level.” Joseph Renzulli (2018).

For the last few decades, there has been a significant change in how learning and teaching takes place and knowledge is disseminated, including a greater awareness of diversity in classrooms (Tomlinson, 2014). Learners exhibit diverse developmental phases, pre-existing knowledge, skill sets, educational requirements, and areas of interest. They also originate from a range of cultural, racial, and/or ethnic backgrounds. Moreover, educators in conventional classrooms encounter the challenging responsibility of catering to the educational requirements of students with varying levels of readiness and academic accomplishments. Failure to consider student differences could interfere with learning (Belfi et al., 2012). Teachers should set out to differentiate pedagogical instruction based on the needs of their students. An appropriate curriculum meets the unique learning needs of students and includes both challenging and teachable content (George, 2005). Adapting instruction is even described as "a cornerstone of effective instruction" and "considered the gold standard teachers should strive for" by Parsons et al. (2018). As a result, teachers are expected to meet the needs of all students in their classrooms by utilizing differentiated instructional strategies (Tomlinson, 2014; Belfi et al., 2012).

The teacher is the most active stakeholder; therefore, differentiated instruction is primarily associated with teachers being professionals (Wright, 2018). Teachers who understand the needs in the classroom and take steps to address them will succeed. Only teachers who know how to identify and address the multitude of different learning styles and approaches can be considered effective. Tomlinson (2000) suggests that the success of students is contingent upon the strategy employed by teachers to instruct and engage them while keeping in mind their interests, readiness,

and learning profile. Therefore, teacher preparation in understanding and dealing with diversity is essential to the success of students. The recent emphasis on diversity and differentiated instruction is reflected in global educational policy and standards for teacher preparation. For instance, the United States has several standards that declare developing learning environments that take individual differences into account. The need for inclusive and differentiated learning environments that take individual differences into account is also reflected in the Teacher Preparation Standards in Gifted and Talented Education (2013). Additionally, a number of European educational systems are moving toward greater inclusion, which inevitably calls for greater differentiation within classrooms (Belfi et al., 2012; Coubergs et al., 2017; OECD, 2016; Roiha, 2014). Educators frequently face challenges when incorporating differentiation, and it is a concept that is often overlooked (Al-Lawati & Hunsaker, 2007; Belfi et al., 2012; Latz et al., 2008; Reis & Renzulli, 2010). This tendency may stem from some teachers having a limited understanding of differentiation, perceiving it as inconsequential (Roiha, 2014). Furthermore, the extent to which teachers utilize differentiation is linked to their confidence in their ability to implement varied instruction methods and their perceived significance of this instructional approach (Suprayogi et al., 2017).

1.1 Background:

The National Education Policy of 2017 defines inclusive education as a process of attending to and meeting the varied needs of all children. It also emphasizes breaking down any barriers that keep them out of reach and excluded in order to increase their participation in the community and at school. The policy reaffirms that regular schools are in charge of establishing inclusive educational programs. According to federal definition of inclusive education, it is the duty of regular schools to ensure that all students can access learning and instruction. A nearby

school known as an inclusive school is one where all students have the same access to a good education and a supportive learning environment (Manzoor, 2018). Another study by Iqbal et al. (2020) revealed that most teachers in the nation use differentiated instruction but are not aware of it. The majority of teachers in the nation show different levels of commitment to teaching some students and not others. It implies that they are utilizing a variety of flexible teaching techniques that fall under the category of differentiated instruction, but they are unable to disclose this. Furthermore, employing these techniques at the primary level might be more crucial (Uzair-ul et al., 2019).

1.2 Research Gap

Lavania & Nor (2020) after exploring the challenges faced by the teacher in using differentiation strategies suggested further exploration of their role in students' performance. No doubt, in Pakistan teachers are trying to use differentiation instruction strategies in terms of inclusive education according to the national education policy (2017) but the teachers are not aware of its importance which needs to be explored and reported in future studies (Manzoor, Nawaz & Munir, 2022).

1.3 Problem Statement:

Preschoolers and early years' learners come from a variety of cultural, racial, ethnic backgrounds, and their development, prior knowledge, ability, learning needs, and interests differ as well. Furthermore, most classroom teachers face the challenge of meeting the needs of learners with varying levels of readiness and achievement in the same classroom. Failure to account for student differences may impede student learning (Belfi et al., 2012). Teachers could use instructional methods designed to reach multiple types of learners as a potential solution.

Differentiated instruction is one method that could benefit teachers and allow their students to learn more content.

1.4 Objectives:

Following are the objectives of the study:

1. To highlight the importance of differentiation strategies in early years' learners.
2. To find out the performance difference between the groups of early year learners.
3. To investigate the role of differentiation strategies in enhancing the performance of early years' learners.

1.5 Research Questions:

RQ1: What is the importance of differentiation strategies in early years' learners?

RQ2: What is the performance difference between the groups of early year learners?

RQ3: How do differentiating instruction learning strategies contribute to the learning performance of students?

1.6 Significance of the Study:

This study enabled junior teachers, academic practitioners and school administration to apply differentiation instruction strategies for imparting knowledge to the early school learners in a way that students can have enhanced performance level. The study gives recommendations to the Pakistani school teachers, academic curriculum developers and policy makers for considering the importance of differentiation instruction strategies so that the performance of early years' learners could be enhanced. This study is important because it helped educators recognize the true potential of adopting instructional strategies that are tailored to different learning styles.

2. LITERATURE REVIEW

According to Tomlinson and Kalbfleisch (1998), differentiating instruction strategy is used when students require more repetitions, more guidance, more time, and more monitoring, that is called differentiating instruction strategy. Differentiating instruction is a teaching strategy that employs a variety of instructional methods to teach a concept. Differentiating instruction helps break down the barriers among students with varying cognitive abilities in a mixed-ability classroom. Teachers should vary their teaching methods in order to teach mandated curriculum (Richardson, 2011). This differentiation does not imply individualization; rather, it refers to understanding the needs of all learners, as they vary (Tomlinson, 2001).

The educational system is subject to periodic modification and revision since new benchmarks are introduced on an irregular basis. When it comes to the curriculum that they are required to teach, teachers are often required to be adaptable. However, instructing a wide variety of students within the context of a single class is a substantial barrier. As a result of the emphasis placed on ensuring that all students satisfy the standards of national test scores, there is pressure placed on instructors to employ the finest methods in the classroom in order to guarantee that their students will retain the information. As a consequence of this, a large number of educators are unsure of the type of pedagogical approach that yields the best results. It can be challenging for teachers to adapt their math lessons to the varying levels of mathematical proficiency seen in their students (Ysseldyke et al., 2004). This means if teachers give students a variety of assignments to complete, they should be able to differentiate the instruction that they provide in order to ensure students understand it (Fenner et al., 2010). Students have varying learning preferences, and they learn best when they're being taught in diverse ways that also accommodate their learning rates (Levy, 2008). The phrase "new and recently popularized" may be fresh, yet the idea of distinction has been around for a long time. In point of fact, the concept of distinction has been floated around

for quite some time. On the other hand, the appropriate methods to carry it out have not been as crystal obvious (Westby, 2009). In addition, teachers have been making efforts, for a long time now, to meet a wide variety of pupils' talents and requirements at the same time. Each student in a school contains their own unique qualities and has a unique set of educational requirements. As a consequence of this, teachers are required to take action and investigate new methods of instruction, such as differentiation, in order to meet the individualities and requirements of their students. A teacher's intentional efforts to increase learning for children in mixed-ability classrooms through a variety of learning tactics is what is meant by the term "differentiation" in the context of a classroom setting (Campbell, 2008). The primary goal and objective of differentiated education is to increase academic performance across a broad spectrum of students by catering to their individual requirements.

The research that has been done on the differentiated instruction technique has produced literature that details the many approaches that instructors might use to differentiate their education in the classroom. The study of differentiated teaching is mostly based on research carried out by Tomlinson in the late 1990s and early 2000s. Tomlinson provided an explanation of many aspects of the classroom that are typically used as key examples of things a teacher might distinguish. According to Tomlinson et al. (2009), one of the steps in the process of differentiating instruction is providing students with a non-judgmental atmosphere in which they are free to express themselves and feel comfortable enough to generate higher levels of thought. Tomlinson et al. (2009) reported that to provide additional support for a learner who is having difficulty, or to make it easier for a learner to advance in their development, we vary the amount of time it takes for students to complete tasks (Tomlinson et al., 2009).

Additionally, Tomlinson also suggested that instructors should provide students with a variety of opportunities to demonstrate for instance, you may encourage inquiry, investigation, and

discovery by asking open-ended questions to the people you talk to. According to Kobelin (2009), it is necessary for students to have some choice in the assignments they do so that they may push themselves and take responsibility for their own education.

Tomlinson is of the opinion that a successful differentiated classroom requires the teacher to assume the role of a facilitator. This is one of his other core beliefs. The voyage and the discovery are both facilitated by the teachers in the classroom. As a consequence of this, the role of the instructor will be to function in the capacity of a facilitator for the many activities that are taking place all at once. Students who take on this kind of role in their education have a sense of ownership over their education, which in turn fosters the development of independent thought and reflection (Tomlinson, 1995).

Tomlinson provided a long number of tactics that may be used to effectively manage the many levels of learning and types of learning that are present in the classroom. Tomlinson provided a number of various examples of alternative ways that education might be varied without causing more, repeated work for those students who are already doing well and giving less work to those students who are having difficulty. Students are able to comprehend the manner in which they take pleasure in learning and are the most successful because of this. In order for them to have a comprehensive understanding of what does and does not work for them, it will be necessary for them to engage in self-reflection, just as the instructor must. Some students may require additional time to ponder, while others may benefit more from engaging in collaborative conversations with their classmates in order to be motivated to take action. In order for a teacher to successfully address the requirements of all of their students, differentiated teaching is required in the classroom. Differentiated teaching may simply be characterized as the process by which educators can adapt the three fundamentals of the curriculum outlined by Tomlinson to cater the need of diverse learning styles and requirements of their students. Therefore, the general conclusion of the

body of work that Tomlinson has produced on the subject of this instructional method is that differentiated instruction is required in the classroom if a teacher expects to satisfy the requirements of all students.

A wide variety of academic backgrounds are represented in today's classrooms, a trend that is expected to continue (Bosier, 2007). As a result of teachers trying to accommodate the requirements of a diverse student body, a wide ability gap is becoming an issue in classrooms across the country (Ellis et al., 2007). If there has been a shift in the mathematical abilities of students in today's classrooms, it may be time for teachers to adjust their ways of thinking about how to organize and plan activities to accommodate this shift. If we take into consideration the concept of revamping the educational system, then differentiation in the area of mathematics instruction may offer a way out of this jam. Differentiated instruction is a bit of a paradigm shift because it fundamentally changes the way teachers teach across the school curriculum. This is why it is sometimes referred to as a shift in the educational system.

2.1 Different Points of View on Differentiation

Differentiated instruction methods are made of classroom practices that vary the way teachers teach students; multiple techniques in conjunction with a nonjudgmental environment is the best practices. Research by Tomlinson, Brimijoin and Narvaez in the late 1990s and early 2000s supports this, explaining their descriptions for differentiated classrooms. One important element of teaching is having varying lengths for assignments to have a tailored learning experience for any given student--an example can include open-ended questions to stimulate inquiry, exploration, and discovery. Differentiating materials from assignments to students gives them the opportunity to take ownership over their learning and spur interest in a topic in greater depth.

For a teacher, differentiation can be difficult because your students may have different learning preferences and learning profiles. Tomlinson broke down three types of readiness to help teachers better prepare their students for the different types of teaching challenges they will face: (1) Learning Potential, (2) Interest and (3) Learning Profile. Some groups of students may be ready for conceptual learning in certain topics or skills, while others may excel in activities such as graphic organizers and group discussions. A multiple intelligence survey can help with diagnosis too. Teachers should offer a range of instruction from conceptual to practical, including tiered centers which allow progression at a variety of levels and encourage independent thought for every student.

Tomlinson's belief is that the teacher should play a facilitator role in a successfully differentiated classroom. This essay focuses on two of those strategies - how teachers guide the journey and exploration in the classroom, and how teachers will proceed to be the so-called "facilitators" of multiple activities while also promoting independent growth in thought, reflection and action. An analysis of Tomlinson's statement outlines how instruction can be differentiated without creating additional, repetitive work for those who are ahead, less work to those who are struggling, and allows students to understand the way they enjoy learning voluntarily or with assistance. One thing is for sure, there are lots of similarities between Tomlinson's (2005) and Berger's (1991) writings. Both authors emphasized the need for differentiation for the top achieving students - though they wrote different things about it. Tomlinson and Berger both wrote about both the content and process of their curriculum being recreated to be more intellectually challenging in order to meet the needs of gifted students. Basically, they focused on creating a comfortable climate that encourages gifted learners to use creative thinking skills. Lastly, Berger (1991) further postulated that gifted students learn best in a nonjudgmental, student-centered

environment that encourages thoughtful analysis and independence, contains variety of materials and manipulatives that allow connections with real world examples, makes connections with material content, has complicated objectives to reach varied types of learners, and includes a variety of ways to modify it with the use of acceleration and flexibility while still catering to all types because they believe that all students need academics modifications in order to flourish in a fair classroom where all groups are not left behind.

Students are often accustomed to the same type of product expectations when it comes to learning curriculum, but this prevents teachers from coordinating with those students' interests and differences. At different points in their education, some students would want a curriculum that is more accelerated than others, but not every student might be able to reach all content areas at the same pace and through different avenues of learning. If a student were to be taught based on their individual strengths and weaknesses as opposed to what meets all student needs, then both teachers and students could enjoy a more invigorating student-teacher relationship.

There are many benefits of differentiation in the education system. Differentiation is something that can assist teachers in meeting all students' needs and learning styles. The content taught is long-term, in order to help students learn multiple skills and acquire new knowledge over an extended period of time. Assessment not only helps teachers know where students are on a particular skill or task but also helps them determine how best to meet students' needs through differentiated teaching practices. In order to create an effective environment for all learners, periodic assessment should be implemented and practiced regularly throughout instruction. Students, working together, create new knowledge and develop it into a "product." Feeling less pressured to always do the same thing due to pre-assessment can serve as a confidence booster for learners in classrooms with diverse learners.

2.2 Goals and Beliefs of Differentiation

Some standards change constantly, and educators have to be flexible. However, teaching a diverse group of learners can still be challenging (Maes, 2010). As long as they're teaching to the state level minimum standard, there is pressure for teachers to use their best practices in the classroom. Because the teacher is only one aspect of the equation, differentiation needs to occur. Teachers have difficulties matching important mathematical concepts with different levels of proficiency in classrooms (Ysseldyke et al., 2004). Differentiation means that students have varying learning profiles, and these learning profiles are based on their individual interests and rates of instruction (Fenner et al., 2010).

2.3 Components of Differentiation

In recent history, the practice of differentiation has grown in popularity (Levy, 2008). While the phrasing may be new and currently popularized, the idea of differentiation is not new. It's been a popular concept for quite some time now, but academics remain unclear about the correct ways to accomplish it -- both for learners and educators (Westby, 2009). Furthermore, teachers have long tried to address a variety of student's needs simultaneously to create effective instruction. Every student in a classroom is different and has their own individualities and needs that must be addressed (Ayebo, 2010). To do this effectively, teachers must utilize various instructional strategies such as differentiation to meet these different needs. Learning strategies like differentiation are a form of differentiated instruction that aims to improve learning for students of varying ability levels in mixed-ability classrooms by providing them with engaging opportunities that comply with their need level (Campbell, 2008).

It's not enough to just know the information, you also need skills for how to apply what you know. So when you are working on differentiating instruction, there are multiple ways in which this can be accomplished. One way is to use different materials aimed towards various learning styles in order to help students acquire knowledge and ultimately practice new skills. For example, if a student is struggling with something, they may do a comprehension activity while other students participate in tasting or listening activities that expose them to new perspectives on the content being discussed.

To provide a differentiated process of instruction, guidance is provided for each student through the selection of instructional activities and materials. The teaching process can be shaped around these teaching materials to address different learning styles by including tiered activities through which all learners proceed with the same understandings, skills, and support levels that are appropriate for them. Additionally, the activities a teacher develops in one unit may be restructured so that higher-level responses are expected from the students. The process then incorporates how teachers plan and develop instructional materials while allowing students' creativity to flourish. Academic performance doesn't have to come down to a fixed-style teaching style. Teachers should use many different methods that give learners added stimulation, as well as help them manage their own learning throughout the semester. When teachers vary their instruction and provide enough variety, students are able to succeed academically (Pierce et al., 2011). Methods such as jigsaw, varying homework, creating open-ended questions, hands-on experiments, partnered learning, group work and project-based learning are examples of ways a teacher can differentiate in the classroom.

Each student is unique in the way they learn, the knowledge they retain, and how they process information. To do effective differentiation, researchers need to assess both students and teachers. This enables to personalize instruction. A significant pretest or assessment is needed to

provide effective differentiation for students at their individual levels of need for specific types of material.

Assessment can be formal or informal, and the methods vary significantly. Students should have varying expectations of their teacher based on each student's many strengths. Product development in the classroom is key for teaching students to reach their own success as it indicates that teachers are constantly adapting to each student's individuality and trying to incorporate what makes them different from others into the curriculum. Differentiated instruction is one approach that educators use to meet a wide range of student readiness levels as well as individual interests. A big part of what makes students unique (and the uniqueness they can show) is their work in class; teachers need to recognize creativity and reflect on what they've learned. Finally, products are an opportunity for students' learning to be shown outside the classroom so that other learners can get a sense of what students have learned and seen through their eyes. "A good product causes students to rethink what they know, apply what they know, extend their understanding and skill, and become involved in both critical and creative thinking" (Tomlinson, 2000).

2.4 Five dimensions of differentiation

Three components of successful differentiation are: curriculum, instruction, and product. The curriculum or content is what is being taught; instruction or process is how it's being taught; and the student product (or tangible results) are based on a student's interests and abilities. (Reis, S. M., & Renzulli, 2018). The Five Dimensions of Differentiation encompass various facets of teaching and learning. Differentiating content involves modifying what is being taught to accommodate diverse student needs. This may include adjusting the depth, complexity, or breadth of the curriculum. For example, advanced students might explore topics in greater detail, while additional support may be provided for those who need more foundational knowledge (Renzulli,

2009). *Instructional Strategies* focuses on varying instructional methods to address diverse learning styles and preferences. Educators employ a range of strategies to present information, allowing students to engage with the material in ways that suit their individual strengths and preferences (Tomlinson, 2001). In the product dimension, students are encouraged to demonstrate their understanding through diverse outcomes. This may involve offering choices in how they express their learning, promoting creativity and individual expression. Examples include projects, presentations, or written assignments (Renzulli & Reis, 2011). *Learning Environment (Classroom Organization)* Differentiating the learning environment involves organizing the classroom to support various learning needs. This includes creating flexible seating arrangements, providing resources that cater to different learning styles, and fostering a supportive atmosphere that values diversity (Tomlinson, 2017). The teacher plays a crucial role in implementing differentiation. Educators need to be flexible, responsive, and skilled in recognizing and addressing individual student needs. This dimension emphasizes ongoing professional development to enhance teachers' ability to create inclusive and effective learning experiences (Sternberg, 2009). More recently Joseph Renzulli expanded these components in the “Five Dimensions of Differentiation”, to explain five ways to integrate differentiation into teaching practices.

2.4.1 Content:

Students have a wide range of academic abilities and interests. A teacher's responsibility is to tailor the content that most effectively engages their students. Some students may need a more challenging level of material, while others may need material that is simpler and more appropriate for their reading level. Each lesson should be organized in such a way that each student is provided with different type of content

2.4.2 Instructional Strategies:

Additionally, students come with their own unique approaches to learning. Some people are more productive when working in a group, while others are more productive when working alone; some people learn best when doing projects, while others learn best when having discussions. Differentiation in the classroom can be accomplished through the use of a variety of instructional strategies that are tailored to the interests of specific individuals or groups of students.

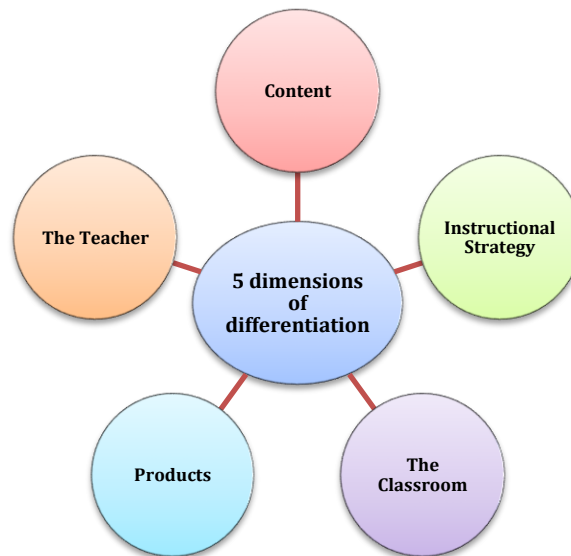


Fig 0.1: Five dimensions of differentiation strategies

2.4.3 The Classroom:

The learning environment itself, as well as the manner in which the instructor manages it, can be differentiated. Students can have the opportunity to work in groups with other students who are similar to themselves; students can also work in groups in which every student has the opportunity to explain their own unique style; alternatively, you can bring in new guest speakers or techniques; alternatively, the teacher can bring her/his class into new environments such as the computer room, the reading room, or a field trip.

2.4.4 Products:

Different students are better at expressing what they have learned through different modes of communication; for example, some students prefer to express themselves through writing, while other students are more adept at communicating through social action, technology, or visual means. It is possible for educators to differentiate students' final products by providing them with options to choose their own modes of expression in order to demonstrate what they have learned, whenever this is feasible.

2.4.5 The Teacher:

Because it is difficult to imagine that teachers could differentiate each and every lesson, differentiation refers to the decisions and choices that teachers make regarding how to distinguish the curriculum for a variety of students. Since it is hard to believe that teachers could differentiate each and every class, differentiation refers to the decisions and selections that teachers make. Teachers are obligated to differentiate their instruction in the classroom by taking into account the various learning styles, interests, and abilities of their students. Furthermore, they must be willing to exercise freedom, flexibility, and creativity in order to successfully implement differentiation strategies.

2.5 Theoretical Framework

The research is guided by a Bruner's (1966) constructivist theory (originally developed by Piaget), and Gardner's (1993) multiple intelligence theory framework. Constructivism is the theory that learners could perhaps actively construct knowledge rather than passively digest it.

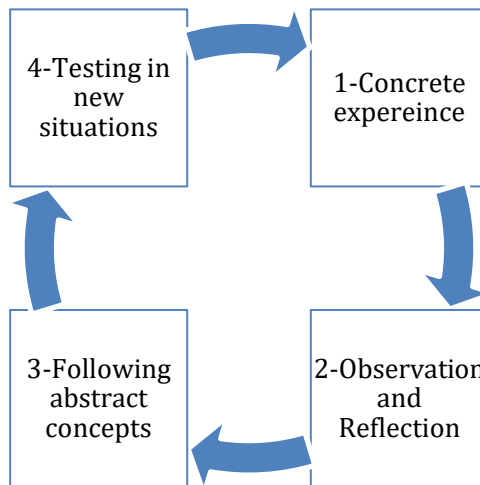


Fig 0.2 Bruner's (1966) constructivist theory

Constructivism is essentially an observation- and science-based theory regarding how people learn. A fundamental principle of the constructivist approach posits that individuals construct their own comprehension and knowledge of the world through personal experiences and reflection (Bereiter, 1994). When confronted with novel information, individuals engage in a process of reconciling it with their existing ideas and experiences, which may lead to the modification of beliefs or the dismissal of the new information as irrelevant. In either case, individuals actively generate their own knowledge. Learning while in context is a key component in the constructivists' approach to education. Students are taught to think critically and demonstrate problem-solving skills. This implies that learners must be taught using a differentiated method of instruction. Constructivism promotes learning contexts in which students actively participate in their learning. Bruner was one of the constructivist theory's founding fathers, explaining how people use their experiences to select information, form hypotheses, make decisions, and arrange these factors in carrying out specific tasks. One of the leading theories that inspired numerous methods used to encourage students to apply learned knowledge and skills in newly presented

information is constructivism (Bruner, 1966; Vygotsky, 1978). Because students learn on an individual basis, this theory is embedded in differentiation.

Feature	Traditional Classroom	Constructivist Classroom
Objective	Provide accurate answers	Encourage discussion and ideas
Working Style	Students work independently	Students work independently, in groups, or with partners
Decision-Making	Instructors have the final say	Shared between teacher and students
Assessments	Assessments are part of the examination; they are separate from learning tasks.	Conferences, daily work, portfolios, and assignments
Study Material	Workbooks, worksheets, and basic readers.	Books, real-world scenarios, journals, and workshop methodology.

Table 0.1 Comparison of Traditional Classroom and Constructivist Classroom

Similarly, according to Gardner's (1983) theory of multiple intelligence, each individual employs distinct learning styles and intelligences in their daily lives. In contrast, learning styles theories attempted to characterize individuals based on how they learn, individual strengths, personal preferences, and other variables.



3. RESEARCH METHODOLOGY

3.1 Research Epistemology

In crafting the epistemological framework for my experimental study, the foundational principles of empiricism and objectivity stand as guiding pillars. Rooted in the belief that knowledge is best derived from observable, measurable evidence, this study prioritizes the collection of empirical data through controlled experiments. Drawing upon deductive reasoning, the hypotheses crafted from existing theories serve as the bedrock upon which the experimental design is constructed (Clark, 1969). The controlled manipulation of variables and rigorous control over extraneous influences aim to establish clear cause-and-effect relationships, underlining the core tenet of this epistemological approach. Utilizing quantitative data collection methods and employing statistical analyses, this study aims not only to validate hypotheses but also to discern significant effects and generalize findings where appropriate. Ultimately, this approach seeks to enhance our understanding by dissecting complex phenomena into manageable elements, fostering a robust epistemological foundation for drawing valid conclusions within the realm of experimental inquiry.

3.2 Research Approach

In approaching my research with an experimental lens, I aimed to delve into causality and relationships between variables through controlled studies. Embracing experimentation involves setting up structured tests to manipulate and observe specific factors, aiming to establish clear cause-and-effect connections (Thambiraja et al., 2009). Concurrently, this study incorporated abduction into research approach, recognizing the importance of inference and generating hypotheses based on observed patterns or anomalies. Abduction encourages exploration and

creativity, allowing us to hypothesize potential explanations for observed phenomena. By combining the rigor of experimentation with the open-mindedness of abduction, we aspired to not only validate existing theories but also to uncover new insights and innovative explanations, fostering a comprehensive understanding within this field of study of anthropology.

3.3 Research Strategy

Experimental-Control group teaching with traditional manners while experimental groups are deal with lesson plans which are available in annexure. My research strategy revolves around an experimental approach, focusing on controlled investigations to uncover causal relationships between variables (Saunders et al., 2009). By systematically manipulating specific factors under controlled conditions, I aim to meticulously observe their effects on the outcomes of interest. This strategy allows for a rigorous examination of cause-and-effect relationships, fostering a deeper understanding of the phenomena under study. Embracing a structured methodology, I plan to design and implement experiments that adhere to scientific principles, ensuring reliability, replicability, and the ability to draw valid conclusions from the gathered empirical data. The experimental strategy forms the cornerstone of my research, providing a systematic framework to test hypotheses, validate theories, and contribute substantively to the existing body of knowledge within my field.

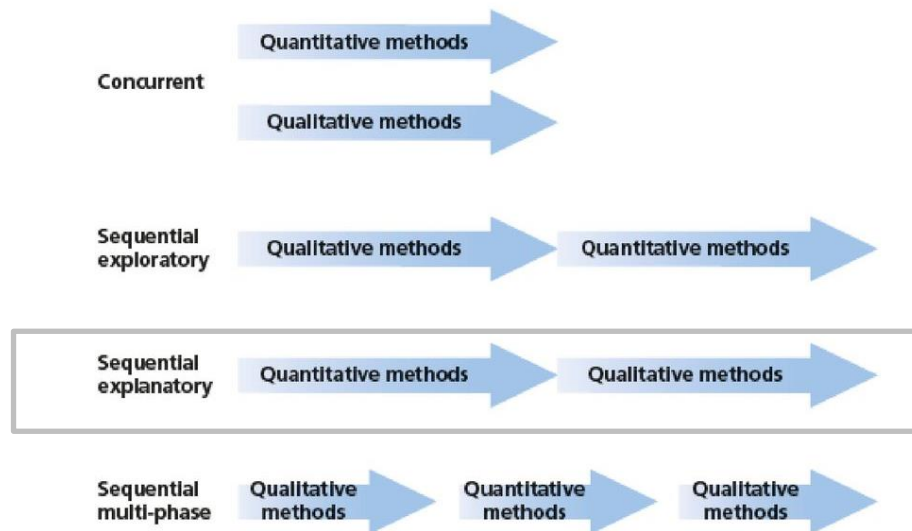


Fig 0.1 Sequential Explanatory research method (Saunders et al., 2009)

3.4 Population and Sampling

This involves selecting participants from a population randomly, ensuring that each member of the population has an equal chance of being chosen. Random sampling helps in minimizing bias and ensuring the generalizability of results.

Matching pair technique was used to distribute students in equal sized experimental and control group having 20 students in each. In both groups students were selected by using matched pair technique. In both groups students had the same abilities as both groups involved twelve high achievers, twelve low achievers, and six average students.

The experimental group in this study is the group that received differentiated instruction. The initial phase of quantitative data collection in the study, which include pretests, provided an understanding of the students' initial abilities. The researcher compared the effectiveness of whole-class and differentiated instruction groups on playgroup students. This study focused on comparing learning achievement attained through differentiation teaching methods. This study included 40 students as participants. Students were chosen from the classrooms of teachers who agreed to take part in the study. The researcher was present throughout the study to develop differentiated and

whole group lessons, create pre- and post-assessments, and record all quantitative data. The research was conducted during the Sep-Oct 2023. The research employed a non-equivalent, quasi-experimental design with a convenience sample of forty students. To examine the effect of differentiated instruction, the data was analyzed using both paired and independent t-tests. The study adopted sequential explanatory mixed method.

The terms are defined in the following paragraphs:

3.5 Terms of study

3.5.1 Control Group:

This refers to the group of students who were taught in the traditional manner. Similarly, the control group is chosen by drawing a number assigned to it.

3.5.2 Instructional Differentiation:

It refers to teaching in a variety of formats such as dance drama, song interpretation, writing, and so on. It entails tailoring instruction to meet the needs of each individual. It is done when students work on the product differently based on their intelligence.

3.5.3 Experimental Group:

This is the group of students who were taught using differentiated instruction. The group is chosen by drawing a number to determine which section will be assigned to the experimental group.

3.5.4 Performance:

This refers to the overall outcome of the teaching. This is demonstrated by the students' grades. It addresses students' competencies. The researcher used two main sets of instruments to determine the effect of differentiated instruction on early years' learners' performance. The cognitive domain test and the literary test was used.

3.6 Data Analysis and Data Collection

To collect the data, teacher made test was used. The test included coloring, matching, items recognition. The test included choice based question. Same test was used for pretest and posttest. Pre-test and Post-test results, the samples are available at annexure. Pretest-posttest designs are an expansion of the posttest only design with nonequivalent groups, one of the simplest methods of testing the effectiveness of an intervention. Experimental data are gathered through deliberate interventions by the researcher to induce and measure changes or create distinctions when manipulating a variable. This type of data enables the researcher to establish a causal relationship and is generally applicable to a broader population. In total 12 in-depth interviews from the teachers of early learners were conducted. The qualitative data was analyzed in order to validate the quantitative results. The qualitative data collection comprised of following three questions from the respondents:

1. What is the role of differentials strategies in the performance enhancement of the early years' learners?
2. Do agree with the five dimensions of the differential strategies i.e. content, instructional strategies, class room, products and the teacher and their role in enhancement of early year learners' performance.
3. Please rank the five dimensions of the differentials strategies and also support each ranked strategy.

3.6.1 Data Analysis Techniques

To analyze the quantitative data t-test (paired sample t-test and independent sample t-test) was used through SPSS. The study had qualitative data collected from in-depth interviews, was analyzed by thematic analysis in order to validate the quantitative results.

3.7 Research Ethics

Ethical considerations in research encompass a set of principles that provide guidance for research designs and practices. These fundamental principles include ensuring voluntary participation, obtaining informed consent, maintaining anonymity, upholding confidentiality, assessing potential harm, and responsibly communicating research results. The researcher investigated the differences between differentiated instruction and a whole group setting of play group learners in this nonequivalent, quantitative study. A nonequivalent (pretest and posttest) control group design is a popular approach to a quasi-experimental design, according to Creswell (2003). This is a nonequivalent study because both the students chosen for the study and those assigned to the experimental and control groups were chosen at random. Creswell's guidelines guided the selection of this specific design. The design of this study includes an experimental group and a control group. Only the experimental group receives treatment after taking a pretest and a posttest (Creswell, 2003).

4. Data Analysis, Results and Findings

This chapter consists of an analysis and a discussion on the relationship between Differentiation Strategies and their Impact on the Learning Performance.

4.1 Descriptive and demographic analysis

4.1.1 Pre-Test Results

The detailed result sheet is place on annexure. In this section results of pre-test of both groups including control group and experimental group are presented. The results showed that both the groups are at same level of learning and intellect. Before applying any intervention on the subject this is recommended that both groups of control and subject should be on the same threshold in order to avoid biasness in the experiment.

Table 0.1 Control Group Pre-Test Results

Subject Code	Name	Pre-Test Score %	Subject Code	Name	Pre-Test Score %
CG1	Mohammad Faris	41	CG21	Ahsan Latif	41
CG2	Ayaz Ali	42	CG22	Muhammad Anees Satti	42
CG3	Hammad Umar	41	CG23	Qurat-ul-ain Akram	41
CG4	Mahnoor Zia	44	CG24	Shayan Tariq	44
CG5	Mohsin Ali Khan	43	CG25	Taimur Babar	43
CG6	Rehan Abdul Hameed	45	CG26	Badar Shahzad	45
CG7	Syed Karam Hussain	44	CG27	Muhammad Ali Sajid	44
CG8	Syeda Farwa Qamar	43	CG28	Muhammad Hamza	43
CG9	Usman Arshad	45	CG29	Rehan Qamar	45
CG10	Zainab	45	CG30	Shiza Daud	45
CG11	Mirha Khan	45	CG31	Salman Alam Khan	45

CG12	Ali Imran Shami	43	CG32	Danyal Abbas	43
CG13	Hafsa Murtaza	43	CG33	Usman Saleem	43
CG14	Hamad Mubbashar	42	CG34	Hamza Shahbaz Butt	42
CG15	Izza Tanveer	46	CG35	Muhammad Waleed	46
CG16	Komal Zehra	45	CG36	Nayab Aqeel	45
CG17	Rana Hassaan Tayyab	41	CG37	Saqib Zahid	41
CG18	Sadia Qazi	42	CG38	Saif-ur-Rehman	42
CG19	Saud Ahmad Bhatti	41	CG39	Danish Abbas Awan	41
CG20	Muhammad Zaid Ashfaq	46	CG40	Muhammad Taimoor Ali	46

Table 0.2 Experiment Group Pre-Test Result

Subject Code	Name	Pre-Test Score %	Subject Code	Name	Pre-Test Score %
EG1	Abdullah Zaheer	41	EG21	Kashaf Mateen	41
EG2	Zohair Khalid	42	EG22	Majid Kaleem	42
EG3	Rameez Tahir	41	EG23	Shania Kareem	41
EG4	Wajiha Manzoor	44	EG24	Fakiha Latif	44
EG5	Zamin Shah	43	EG25	Mahnoor Fatima	43
EG6	Raja Moiz	45	EG26	Faheem Rashid	45
EG7	Syed Waseem	44	EG27	Muhammad Ali	44
EG8	Syeda Wania	43	EG28	Muhammad Rafiq	43
EG9	Osman Bin Saleem	45	EG29	Romila Qamar	45
EG10	Yahya Khan	45	EG30	Ibrahim Khan	45
EG11	Umer Babar	45	EG31	Junia Saleem	45
EG12	Eman Fatima	43	EG32	Garidha Shah	43

EG13	Kasmila Sohaib	43	EG33	Wadina Tareen	43
EG14	Mustafa Shah	42	EG34	Babar Sohail	42
EG15	Qamar Syed	46	EG35	Paras Sadia	46
EG16	Naila Rohail	45	EG36	Kamran Shahid	45
EG17	Abdul Latif	41	EG37	Yousaf Rehman	41
EG18	Qudsia Mehreen	42	EG38	Abbas Talib	42
EG19	Taimur Rehman	41	EG39	Farooq Ayaz	41
EG20	Hania Raja	46	EG40	Nabigha Saeed	46

4.1.2 Post-Test Results

4.1 Performance Difference (Objective b)

The differentiation strategies enhancing the performance of the early age students. Below is the Pre and post test results (Wessels et al., 2021).

Table 0.3 Pre-test

Group	N	Mean	SD	t	P
Control Group	40	19.13	7.5	0.07	0.94
Experimental group	40	19	7.18		

Table 0.4 Control Group Post Test Results

Subject Code	Subject Name	Post-Test Score %	Subject Code	Subject Name	Post-Test Score %
CG1	Mohammad Faris	41	CG21	Ahsan Latif	41
CG2	Ayaz Ali	42	CG22	Muhammad Anees Satti	42

CG3	Hammad Umar	41	CG23	Qurat-ul-ain Akram	41
CG4	Mahnoor Zia	44	CG24	Shayan Tariq	44
CG5	Mohsin Ali Khan	43	CG25	Taimur Babar	43
CG6	Rehan Abdul Hameed	45	CG26	Badar Shahzad	45
CG7	Syed Karam Hussain	44	CG27	Muhammad Ali Sajid	44
CG8	Syeda Farwa Qamar	43	CG28	Muhammad Hamza	43
CG9	Usman Arshad	45	CG29	Rehan Qamar	45
CG10	Zainab	45	CG30	Shiza Daud	45
CG11	Mirha Khan	45	CG31	Salman Alam Khan	45
CG12	Ali Imran Shami	43	CG32	Danyal Abbas	43
CG13	Hafsa Murtaza	43	CG33	Usman Saleem	43
CG14	Hamad Mubbashar	42	CG34	Hamza Shahbaz Butt	42
CG15	Izza Tanveer	46	CG35	Muhammad Waleed	46
CG16	Komal Zehra	45	CG36	Nayab Aqeel	45
CG17	Rana Hassaan Tayyab	41	CG37	Saqib Zahid	41
CG18	Sadia Qazi	42	CG38	Saif-ur-Rehman	42
CG19	Saud Ahmad Bhatti	41	CG39	Danish Abbas Awan	41
CG20	Muhammad Zaid Ashfaq	46	CG40	Muhammad Taimoor Ali	46

Table 0.5 Experimental Group Post Test Results

Subject Code	Name	Pre-Test Score %	Subject Code	Name	Post-Test Score %
EG1	Abdullah Zaheer	71	EG21	Kashaf Mateen	71
EG2	Zohair Khalid	77	EG22	Majid Kaleem	82
EG3	Rameez Tahir	81	EG23	Shania Kareem	85

EG4	Wajiha Manzoor	74	EG24	Fakiha Latif	84
EG5	Zamin Shah	73	EG25	Mahnoor Fatima	83
EG6	Raja Moiz	85	EG26	Faheem Rashid	75
EG7	Syed Waseem	84	EG27	Muhammad Ali	84
EG8	Syeda Wania	73	EG28	Muhammad Rafiq	73
EG9	Osman Bin Saleem	85	EG29	Romila Qamar	85
EG10	Yahya Khan	75	EG30	Ibrahim Khan	85
EG11	Umer Babar	85	EG31	Junia Saleem	85
EG12	Eman Fatima	83	EG32	Garidha Shah	73
EG13	Kasmila Sohaib	73	EG33	Wadina Tareen	83
EG14	Mustafa Shah	72	EG34	Babar Sohail	72
EG15	Qamar Syed	86	EG35	Paras Sadia	76
EG16	Naila Rohail	75	EG36	Kamran Shahid	85
EG17	Abdul Latif	61	EG37	Yousaf Rehman	71
EG18	Qudsia Mehreen	82	EG38	Abbas Talib	82
EG19	Taimur Rehman	71	EG39	Farooq Ayaz	71
EG20	Hania Raja	86	EG40	Nabigha Saeed	76

Table 0.6 Pre and Post test

Group	N	Mean	SD	t	P
Control Group	40	24.07	7.27	4.164	0
Experimental group	40	33.47	10.007		

4.2 Differentiation Strategies (Objective c)

4.2.1 Content

Students have a wide range of academic abilities and interests. A teacher's responsibility is to tailor the content that most effectively engages their students. Some students may need a more challenging level of material, while others may need material that is simpler and more appropriate for their reading level. Each lesson should be organized in such a way that each student is provided with different type of content.

Considering the age group of the students, the graphical contents are provided to the experiment group. the pre and post test results are mentioned below. it shows the significant difference in the performance of the experiment group as compared to the control group.

The first differentiation technique is applied to the experiment group and it shows the effective improvement in the experiment group which is shown in the below tables and in the Figure 1.

Table 0.7 Content - Pre-test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	19.15	7.5	0.07	0.94
Experimental group	40	19.01	7.18		

Table 0.8 Content - Post test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	24.09	7.27	4.164	0.005
Experimental group	40	34.04	10.007		

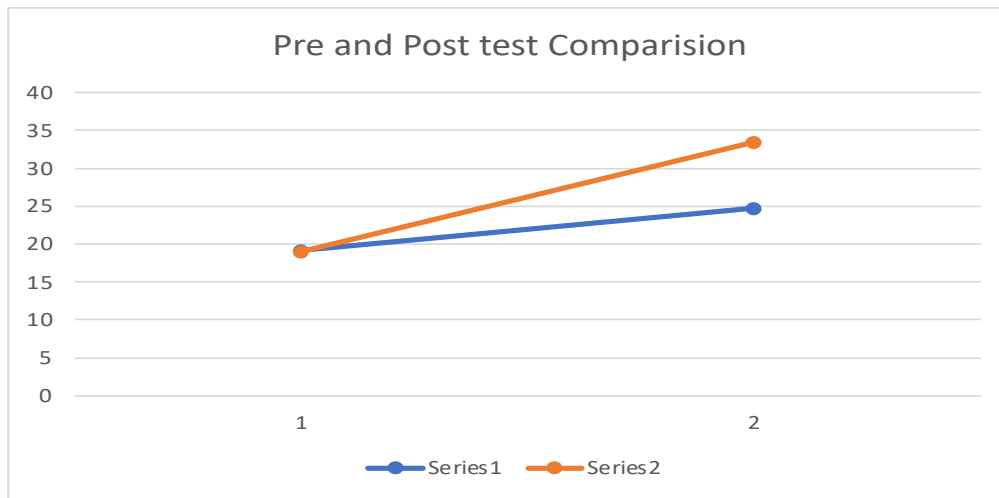


Fig 0.1 Content - Series 1 represents Control Group, Series 2 represents Experiment Group

4.2.2 Instructional Strategies

Additionally, students come with their own unique approaches to learning. Some people are more productive when working in a group, while others are more productive when working alone; some people learn best when doing projects, while others learn best when having discussions. Differentiation in the classroom can be accomplished through the use of a variety of instructional strategies that are tailored to the interests of specific individuals or groups of students.

Considering the age group of the students, the multiple instrumental strategies are used in the class. The pre and post test results are mentioned below. It shows the significant difference in the performance of the experiment group as compared to the control group. The first instrumental strategies are applied to the experiment group and it shows the effective improvement in the experiment group which is shown in the below tables and in the Figure.

Table 0.9 Instructional Strategies Pre-test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	19.16	7.5	0.07	0.94
Experimental group	40	19.02	7.18		

Table 0.10 Instructional Strategies Post test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	25.01	7.27	4.164	0.005
Experimental group	40	34.05	10.007		

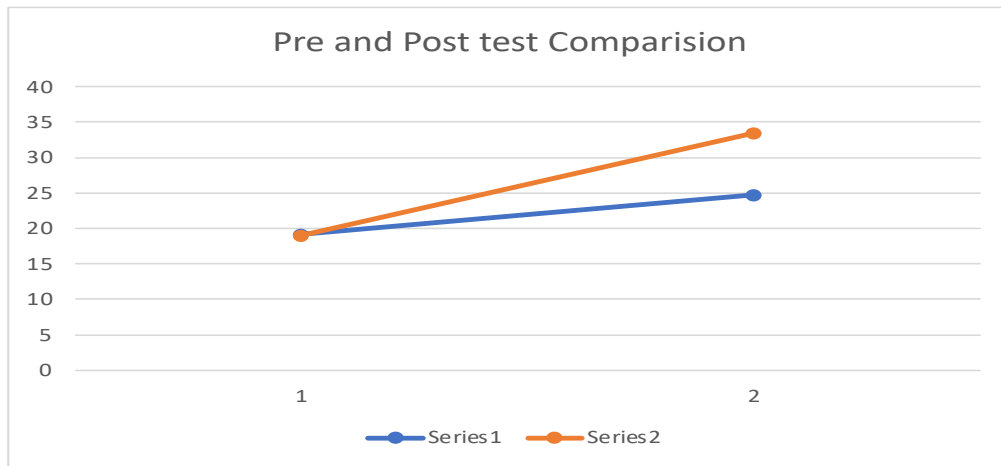


Fig 0.2 Series 1 represents Control Group, Series 2 represents Experiment Group

4.2.3 The Classroom

The learning environment itself, as well as the manner in which the instructor manages it, can be differentiated. Students can have the opportunity to work in groups with other students who are similar to themselves; students can also work in groups in which every student has the opportunity to explain their own unique style; alternatively, you can bring in new guest speakers or techniques; alternatively, the teacher can bring her/his class into new environments such as the computer room, the reading room, or a field trip.

Considering the age group of the students, the multiple classroom techniques are applied to the experiment group including outside the class room technique. The pre and post test results are mentioned below. It shows the significant difference in the performance of the experiment group as compared to the control group.

The first differentiation technique is applied to the experiment group and it shows the effective improvement in the experiment group which is shown in the below tables and in the Figure.

Table 0.11 Classroom Pre-test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	19.17	7.5	0.07	0.94
Experimental group	40	19.14	7.18		

Table 0.12 Classroom Post test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	25.01	7.27	4.164	0.005
Experimental group	40	34.07	10.007		

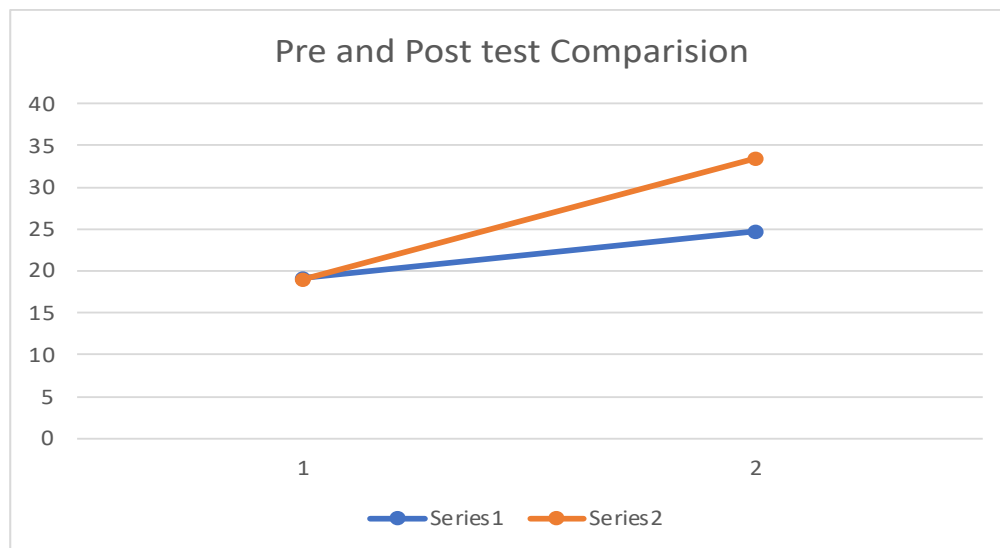


Fig 0.3 Series 1 represents Control Group, Series 2 represents Experiment Group

4.2.4 Products

Different students are better at expressing what they have learned through different modes of communication; for example, some students prefer to express themselves through writing, while other students are more adept at communicating through social action, technology, or visual means. It is possible for educators to differentiate students' final products by providing them with options to choose their own modes of expression in order to demonstrate what they have learned, whenever this is feasible.

Considering the age group of the students, there are multiple modes of communication are used and applied to the experiment group including the social action, technology and visual means. The pre and post test results are mentioned below. It shows the significant difference in the performance of the experiment group as compared to the control group.

The first differentiation technique is applied to the experiment group and it shows the effective improvement in the experiment group which is shown in the below tables and in the Figure.

Table 0.13 Products - Pre-test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	19.16	7.5	0.07	0.94
Experimental group	40	19.11	7.18		

Table 0.14 Products - Post test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	25.07	7.27	4.164	0.005
Experimental group	40	33.49	10.007		

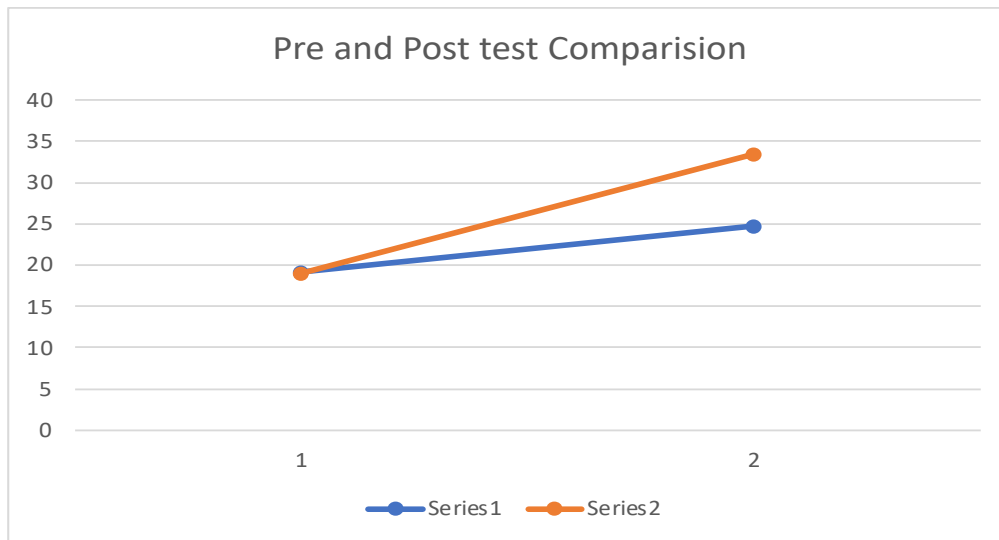


Fig 0.4 Series 1 represents Control Group, Series 2 represents Experiment Group

4.2.5 The Teacher

Because it is difficult to imagine that teachers could differentiate each and every lesson, differentiation refers to the decisions and choices that teachers make regarding how to distinguish the curriculum for a variety of students. Since it is hard to believe that teachers could differentiate each and every class, differentiation refers to the decisions and selections that teachers make. Teachers are obligated to differentiate their instruction in the classroom by taking into account the various learning styles, interests, and abilities of their students. Furthermore, they must be willing to exercise freedom, flexibility, and creativity in order to successfully implement differentiation strategies.

Considering the age group of the students, the role of a teacher in the class room is constantly adopted to change with the experiment group considering the experiment objective. The pre and post test results are mentioned below. it shows the significant difference in the performance of the experiment group as compared to the control group.

The first differentiation technique is applied to the experiment group and it shows the effective improvement in the experiment group which is shown in the below tables and in the Figure.

Table 0.15 Teacher - Pre-test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	19.11	7.5	0.07	0.94
Experimental group	40	19.12	7.18		

Table 0.16 Teacher - Post test CG and EG

Group	N	Mean	SD	t	P
Control Group	40	24.09	7.27	4.164	0.005
Experimental group	40	34.11	10.007		

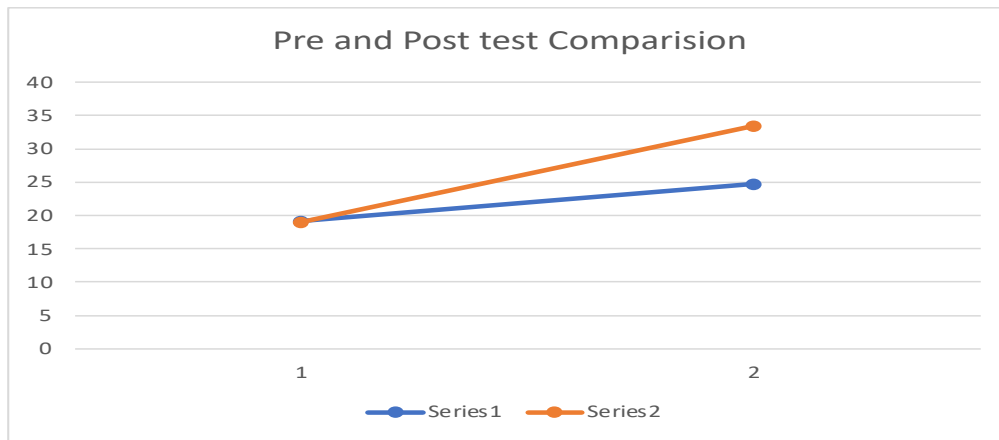


Fig 0.5 Series 1 represents Control Group, Series 2 represents Experiment Group

4.3 Recommend framework of differentiation strategies (Objective d)

Out of five differentiation strategies below is the hierarchy of these based on the pretest and post test result conducted in this study.

Table 0.17 Ranking of dimensions of Differentiation Strategies

Ranking	Variables	N	Mean	SD	t	p
1	Content	40	33.47	10	4.16	0.005
2	Instructional	40	31.47	9	3.9	0.005
3	The Teacher	40	29.47	8	3.5	0.005
4	Product	40	28.47	7	3.2	0.005
5	The classroom	40	26.47	6	3	0.005

Creating a hierarchical structure among these five teaching differentiation strategies can be approached by considering their centrality and influence in the learning process:

Content: This remains fundamental as it forms the basis of what is taught. Adapting content to suit students' readiness levels, interests, and learning profiles is the initial step. It establishes the substance and goals of the learning experience.

Instructional: Once content is established, the instructional strategies come into play. This involves the methods, techniques, and approaches employed by the teacher to deliver the content effectively, catering to diverse learning styles and preferences.

The Teacher: The role of the teacher is pivotal throughout the differentiation process. The ability of the teacher to adapt, assess, guide, and support students within an inclusive environment significantly impacts the success of differentiation strategies.

Products: Allowing students to demonstrate their learning in varied ways follows after content and instructional strategies. Providing diverse options for assignments, assessments, or projects enables students to showcase their understanding and skills according to their strengths and preferences.

The classroom: The physical and emotional learning environment is important for facilitating differentiated instruction. Creating a conducive space that supports collaboration, inclusivity, and resource availability enhances the effectiveness of the aforementioned strategies.

Table 0.18 Overall Ranking

Ranking	Variables	Percentage
1	Content	100
2	Instructional	80
3	The Teacher	60
4	Product	40
5	The Classroom	20

This hierarchy suggests a progression from the foundational aspects of content to the instructional methods and the teacher's role, followed by students' expression through varied products and, finally, the influence of the classroom environment. However, it's essential to remember that these elements are interconnected and continually interact during the teaching and learning process.

4.4 Qualitative section:

In this part, the results of the collected data on the following three questions are analyzed using the responses for thematic analysis:

1. What is the role of differentials strategies in the performance enhancement of the early years' learners?
2. Do agree with the five dimensions of the differential strategies i.e. content, instructional strategies, class room, products and the teacher and their role in enhancement of early year learners' performance.
3. Please rank the five dimensions of the differentials strategies and also support each ranked strategy.

4.4.1 Question-wise responses:

Question No. 1: "What is the role of differentiation strategies in the performance enhancement of early years' learners?"

Teacher 1: *Differentiation strategies serve as crucial tools to cater to the diverse learning needs of early years learners. By tailoring instruction, content, and assessments to individual capabilities, we create an inclusive environment that fosters optimal learning and development.*

Teacher 2: *The role of differentiation strategies is paramount in ensuring that each early years learner is engaged and challenged at their unique level. These strategies enable us to address various learning styles, ensuring a more personalized and effective educational experience.*

Teacher 3: *Differentiation strategies act as a catalyst for unlocking the potential of early years learners. By adapting teaching methods and materials to accommodate diverse abilities and interests, we create an environment that promotes both academic and social growth.*

Teacher 4: *In the early years, differentiation is the key to nurturing a love for learning. By recognizing and addressing individual strengths and weaknesses, we can provide targeted support, fostering a positive and conducive atmosphere for academic progress.*

Teacher 5: *The role of differentiation strategies lies in recognizing that early years learners are unique individuals with varying learning needs. Through flexible teaching methods, we can create a dynamic classroom where each child feels valued and supported in their learning journey.*

Teacher 6: *Differentiation strategies empower us to meet the diverse cognitive and emotional needs of early years learners. By tailoring instruction and activities, we can create a scaffolded learning environment that promotes not only academic achievement but also the development of essential skills.*

Teacher 7: *In the early years, differentiation is the linchpin for fostering a positive attitude toward education. By tailoring content and activities to match individual readiness levels, we create an environment that is both challenging and supportive, laying the foundation for lifelong learning.*

Teacher 8: *The role of differentiation strategies in early years education is to ensure that every child's unique abilities and challenges are acknowledged. Through personalized approaches, we can create an atmosphere that instills confidence and a sense of accomplishment in each learner.*

Teacher 9: *Differentiation strategies are instrumental in addressing the developmental disparities among early years learners. By adapting teaching methods and materials, we can create an inclusive learning environment that fosters growth across cognitive, social, and emotional domains.*

Teacher 10: *The role of differentiation strategies in early childhood education is to recognize and celebrate the diversity of learners. Through personalized approaches, we can create a classroom where each child's strengths are amplified, contributing to a positive and enriching educational experience.*

Teacher 11: *Differentiation strategies are indispensable in early years education as they enable us to cater to the varied learning paces and styles of each child. By tailoring instruction, we create an environment that maximizes engagement and ensures that every learner can thrive.*

Teacher 12: *The pivotal role of differentiation strategies in early years learning lies in their ability to address the unique needs and potential of each child. By offering tailored support and challenges, we create an atmosphere that fosters a love for learning and sets the stage for future academic success.*

Question No. 2: **"Do you agree with the five dimensions of differentiation strategies, i.e., content, instructional strategies, classroom, products, and the teacher, and their role in the enhancement of early years learners' performance?"**

Teacher 1: *Absolutely, I concur with the five dimensions of differentiation strategies. Each dimension plays a crucial role in shaping the learning environment for early years learners, ensuring that instruction, materials, and the classroom setting are tailored to meet their diverse needs.*

Teacher 2: *I wholeheartedly agree with the identified dimensions of differentiation strategies. Content, instructional strategies, classroom setup, products, and the teacher collectively contribute to a holistic approach that caters to the varied learning styles and abilities of early years learners.*

Teacher 3: *Yes, I agree with the five dimensions. They form a comprehensive framework that guides effective differentiation. Recognizing the importance of content, instructional methods, classroom dynamics, learning products, and the teacher's role is pivotal in optimizing early years learners' performance.*

Teacher 4: *Without a doubt, I support the five dimensions of differentiation strategies. They provide a well-rounded approach to enhancing early years learners' performance by addressing key aspects such as content, instructional strategies, classroom environment, products, and the teacher's role.*

Teacher 5: *I am in agreement with the five dimensions of differentiation strategies. Each dimension contributes uniquely to the learning experience, ensuring that early years learners receive tailored support and challenges in terms of content, instruction, classroom setup, products, and teacher involvement.*

Teacher 6: *Yes, I agree with the identified dimensions of differentiation strategies. They serve as a comprehensive guide for effective teaching and learning in early years education, acknowledging the multifaceted role that content, instructional strategies, classroom dynamics, products, and teachers play.*

Teacher 7: *Certainly, I support the five dimensions of differentiation strategies. They encapsulate the key elements necessary for optimizing the learning environment for early years learners, emphasizing the importance of content, instructional strategies, classroom arrangement, products, and the teacher's role.*

Teacher 8: *I agree with the five dimensions of differentiation strategies as they collectively contribute to a well-rounded educational experience for early years learners. Recognizing the importance of content, instructional methods, classroom setup, products, and the teacher ensures a tailored and effective learning journey.*

Teacher 9: *Absolutely, I agree with the identified dimensions of differentiation strategies. They provide a comprehensive framework for addressing the diverse needs of early years learners, ensuring that content, instructional strategies, classroom dynamics, products, and the teacher collectively contribute to enhanced performance.*

Teacher 10: *Yes, I agree with the five dimensions of differentiation strategies. They offer a holistic approach to shaping the learning environment for early years learners, taking into account the*

pivotal roles played by content, instructional strategies, classroom arrangements, products, and teacher involvement.

Teacher 11: *Without a doubt, I support the five dimensions of differentiation strategies. They form a cohesive framework that addresses the multifaceted aspects of early years education, encompassing content, instructional strategies, classroom dynamics, products, and the crucial role of the teacher.*

Teacher 12: *I fully agree with the five dimensions of differentiation strategies. They provide a comprehensive roadmap for tailoring education to the unique needs of early years learners, emphasizing the significance of content, instructional strategies, classroom setup, products, and the teacher's role in fostering performance enhancement.*

Question No. 3: *"Please rank the five dimensions of differentiation strategies and also support each ranked strategy"*

Teacher 1: *I would rank instructional strategies as the most critical dimension, as they directly influence how content is delivered and adapted to meet individual needs. Effective teaching methods lay the foundation for a successful learning experience in the early years.*

Teacher 2: *Content holds the top spot in my ranking. It serves as the core of education, and tailoring content to individual readiness levels ensures that early years learners are appropriately challenged while building a strong foundation for future learning.*

Teacher 3: *Classroom setup is my top-ranked dimension. The physical environment significantly impacts the learning experience. An organized and stimulating classroom fosters engagement, collaboration, and a positive attitude toward learning in early years.*

Teacher 4: *The teacher holds the highest rank in my assessment. A skilled and responsive teacher is the linchpin of differentiation. Their ability to understand and meet individual needs, adapt instruction, and provide meaningful feedback directly influences early years learners' success.*

Teacher 5: *Products, in my view, are crucial for reinforcing learning. Whether it's educational games, projects, or assessments, well-designed products support the application of knowledge, providing a tangible and interactive dimension to early years education.*

Teacher 6: *Instructional strategies take precedence in my ranking. Effective teaching methods ensure that the learning content is accessible and meaningful to all early years learners, laying the groundwork for successful comprehension and application.*

Teacher 7: *I prioritize content as the most important dimension. Adapting content to diverse needs ensures that early years learners receive a tailored education, addressing various learning styles and readiness levels.*

Teacher 8: *My top-ranked dimension is the teacher. A skilled and empathetic teacher has the power to create a supportive learning environment, fostering a positive attitude toward education and enhancing the overall performance of early years learners.*

Teacher 9: *Classroom setup is my highest-ranked dimension. A well-organized and conducive learning environment establishes the groundwork for effective teaching and learning in the early years, promoting engagement and positive behavior.*

Teacher 10: *Products are at the top of my ranking. They serve as tangible reinforcements of learning, providing early years' learners with opportunities to apply and showcase their understanding, contributing to a more holistic educational experience.*

Teacher 11: My top-ranked dimension is instructional strategies. Effective teaching methods are essential for engaging early years' learners and facilitating their understanding, setting the stage for successful learning experiences.

Teacher 12: I place the teacher as the highest-ranked dimension. A skilled teacher who understands and responds to the diverse needs of early years learners is instrumental in creating a supportive and effective learning environment, positively influencing performance outcomes.

Table 0.19 Summary of Responses from Interviews

Respondents	Role of differentiation strategies in the performance enhancement of early years' learners	Do you agree with the five dimensions of the differential strategies and their role	Rank the five dimensions of the differentials strategies
T1	We create an inclusive environment that fosters optimal learning and development	I concur with the five dimensions of differentiation strategies	I would rank instructional strategies as the most critical dimension
T2	Enable us to address various learning styles	a holistic approach that caters to the varied learning styles	Content holds the top spot in my ranking.
T3	Promotes both academic and social growth	comprehensive framework that guides effective differentiation	Classroom setup is my top-ranked dimension
T4	a positive and conducive atmosphere for academic progress	well-rounded approach to enhancing early years learners' performance	The teacher holds the highest rank in my assessment

T5	<i>each child feels valued and supported in their learning journey</i>	<i>I am in agreement with the five dimensions of differentiation strategies</i>	<i>Products, in my view, are crucial for reinforcing learning</i>
T6	<i>promotes not only academic achievement but also the development of essential skills</i>	<i>comprehensive guide for effective teaching and learning</i>	<i>Instructional strategies take precedence in my ranking</i>
T7	<i>, laying the foundation for lifelong learning</i>	<i>I support the five dimensions of differentiation strategies</i>	<i>I prioritize content as the most important dimension</i>
T8	<i>instills confidence and a sense of accomplishment in each learner</i>	<i>collectively contribute to a well-rounded educational experience</i>	<i>My top-ranked dimension is the teacher</i>
T9	<i>fosters growth across cognitive, social, and emotional domains</i>	<i>comprehensive framework for addressing the diverse needs of early years learners</i>	<i>Classroom setup is my highest-ranked dimension</i>
T10	<i>contributing to a positive and enriching educational experience.</i>	<i>I agree with the five dimensions of differentiation strategies</i>	<i>Products are at the top of my ranking</i>
T11	<i>maximizes engagement and ensures that every learner can thrive</i>	<i>cohesive framework that addresses the multifaceted aspects of early years education</i>	<i>My top-ranked dimension is instructional strategies</i>
T12	<i>fosters a love for learning and sets the stage for future academic success</i>	<i>comprehensive roadmap for tailoring education to the unique needs</i>	<i>I place the teacher as the highest-ranked dimension</i>

4.4.2 Thematic Analysis for Question 1:

This thematic analysis provides a nuanced understanding of teachers' perspectives on differentiation strategies, emphasizing the multifaceted nature of their role in early years education (Braun and Clarke, 2012).

Question 1: What is the role of differentiation strategies in the performance enhancement of early years learners?

Recognition of Diverse Learning Needs:

Teachers consistently emphasized the pivotal role of differentiation strategies in recognizing and addressing the diverse learning needs of early years learners. Tailoring instruction and content emerged as fundamental for enhancing performance.

Personalized Learning Experience:

A recurring theme was the creation of a personalized learning experience. Differentiation strategies were perceived as tools to tailor education to individual capabilities, ensuring that each child is engaged and challenged at their unique level.

Catalyst for Academic and Social Growth:

Teachers highlighted the role of differentiation in fostering both academic and social growth. By adapting teaching methods, educators create an inclusive environment that promotes holistic development in the early years.

Foundation for a Positive Attitude toward Learning:

The responses consistently underscored that differentiation strategies lay the foundation for a positive attitude toward learning. Recognizing and addressing individual strengths and weaknesses contribute to a supportive and conducive atmosphere.



Fig 0.6 Analysis of Question 1

4.4.3 Thematic Analysis for Question 2:

Question 2: Do you agree with the five dimensions of differentiation strategies, i.e., content, instructional strategies, classroom, products, and the teacher, and their role in the enhancement of early years learners' performance?

Unanimous Agreement:

A unanimous agreement was observed among teachers regarding the importance of the five dimensions of differentiation strategies. Content, instructional strategies, classroom setup, products, and the teacher were acknowledged as integral components contributing to enhanced performance.

Holistic Approach:

Teachers consistently expressed that the five dimensions collectively provide a holistic approach to education (Goh and Burns, 2012). Each dimension was seen as playing a unique and essential role in shaping the learning environment for early years learners.

Recognition of Interconnectedness:

Responses highlighted an understanding of the interconnectedness of the dimensions. Teachers recognized that effective differentiation involves the seamless integration of content, instructional strategies, classroom dynamics, products, and teacher involvement.

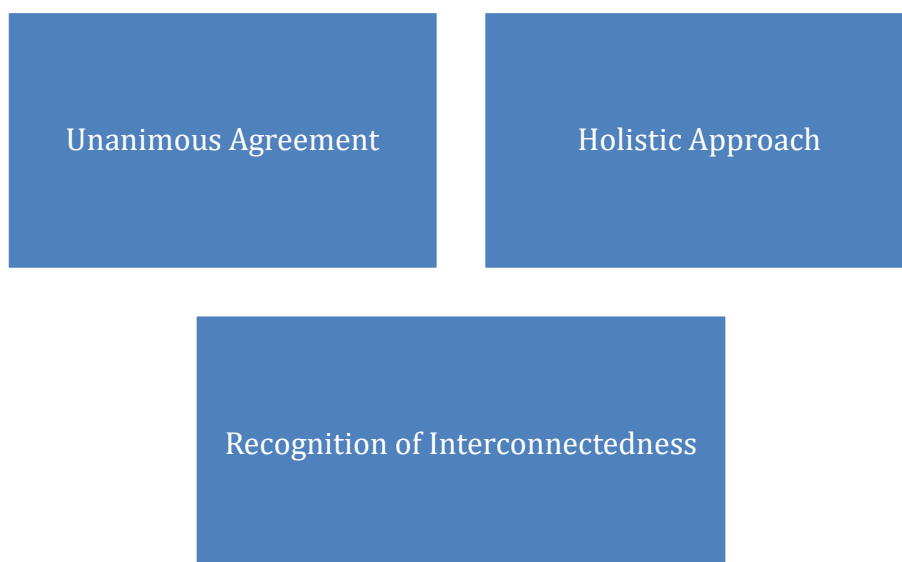


Fig 0.7 Analysis of Question 2

4.4.3 Thematic Analysis for Question 3:

Question 3: Please rank the five dimensions of differentiation strategies and also support each ranked strategy.

Instructional Strategies as Top Priority:

Several teachers prioritized instructional strategies, citing their direct influence on content delivery and adaptation. Effective teaching methods were deemed crucial for a successful learning experience in the early years.

Content as the Core Dimension:

Content emerged as a top-ranked dimension, with teachers emphasizing its centrality to education. Tailoring content to individual readiness levels was seen as essential for appropriately challenging early years learners.

Classroom Setup Impacting Learning Environment:

Classroom setup was frequently ranked highly, reflecting the recognition of its impact on the learning environment. An organized and stimulating classroom was considered instrumental in fostering engagement and positive attitudes toward learning.

Teacher's Role as a Key player:

A significant number of teachers ranked the teacher as the highest dimension. A skilled and responsive teacher was perceived as the linchpin of differentiation, directly influencing the success of early years learners through understanding and adaptation.

Products Reinforcing Learning:

Products were often ranked last but were still recognized for their importance. Teachers highlighted their role in reinforcing learning, providing tangible and interactive dimensions to early years education.

5 Discussion and Conclusion

In the culmination of this thesis, the exploration of differentiated instruction takes center stage as a pivotal technique in addressing the diverse needs, interests, and abilities of early-year learners. Through the lens of constructivism, multiple intelligence theory, and learning style theory (Morgan, 1996), this quantitative study meticulously compares the efficacy of whole-group instruction and differentiated instruction. The primary objective is to discern the most effective teaching strategy for elevating academic performance among early-year learners facing challenges. Focused on the KG class, the research rigorously examines whether a statistically significant difference exists in pre- and post-test scores between students subjected to whole-class instruction and those exposed to differentiated instruction.

Guided by a non-equivalent, quasi-experimental design and utilizing a convenient sample of forty students, this study delves into the impact of differentiated instruction through comprehensive data analysis employing both paired and independent t-tests. Beyond the statistical comparisons, the broader implications resonate with the necessity of cultivating inclusive educational environments. By scrutinizing reliable strategies and learning styles, this research contributes to the ongoing discourse on reshaping the educational landscape to better serve the diverse student population. The findings not only underscore the significance of differentiated instruction but also illuminate pathways to enhance early grade students' academic achievements, thereby fostering a more inclusive and effective education system.

5.1 Discussion

The significance of differentiation strategies in the context of early years' learners is underscored by the first research question, which sought to explore their importance. The findings of this study align with previous research that emphasizes the pivotal role of differentiation in addressing the diverse needs, interests, and abilities of young learners. According to Tomlinson (2001), differentiation is crucial in fostering a learning environment that caters to individual students, allowing them to progress at their own pace. The current study reinforces this perspective by demonstrating that differentiation strategies contribute significantly to creating a more inclusive educational setting for early years' learners. The alignment of these results with Tomlinson's assertions highlights the enduring importance of differentiation in early childhood education. The ensuing paragraphs present discussion in terms of research questions of the study.

RQ 1: What is the importance of differentiation strategies in early years' learners?

The first research question delves into the significance of differentiation strategies in early years' learners. The results of this study align with Tomlinson's (2001) emphasis on the crucial role of differentiation in creating a learning environment tailored to individual students. Tomlinson's work has asserted that differentiation allows students to progress at their own pace, aligning with the current study's demonstration that differentiation strategies significantly contribute to establishing a more inclusive educational setting for early years' learners. The parallel findings reinforce the enduring importance of differentiation in early childhood education, as acknowledged by Tomlinson.

RQ 2: What is the performance difference between the groups of early-year learners?

The exploration of performance differences between groups of early-year learners aligns with Guskey's (2001) perspective on assessing the effectiveness of instructional strategies and their impact on student performance. The study's results corroborate Guskey's premise, revealing a notable performance difference between groups subjected to whole-class instruction and those exposed to differentiated instruction. This concurrence strengthens Guskey's argument, highlighting that differentiation strategies play a vital role in enhancing the academic performance of early-year learners. The alignment with Guskey's research contributes to the existing body of knowledge on the relationship between instructional strategies and student performance.

RQ 3: How do differentiating instruction learning strategies contribute to the learning performance of students?

Addressing the third research question, the study's outcomes align with Hall's (2012) findings, emphasizing the positive correlation between differentiated instruction and improved learning outcomes. The research supports Hall's assertion by demonstrating that students exposed to differentiated instruction exhibit enhanced learning performance compared to those who experienced whole-class instruction. This alignment underscores the efficacy of differentiation in positively influencing student learning outcomes, reinforcing the argument for the integration of differentiation strategies in educational practices. The study's results complement and extend Hall's research, providing further insights into the contributions of differentiated instruction to student learning performance.

In conclusion, each research question yields findings that align with and contribute to existing research, collectively reinforcing the importance of differentiation strategies in early years'

education. The demonstrated performance differences and positive contributions of differentiated instruction to learning outcomes underscore its significance in fostering an inclusive and effective educational environment for young learners. The integration of differentiation strategies emerges as not only a pedagogical necessity but also a pathway to optimizing teaching practices for the benefit of early years' students.

In next paragraphs, thematic analysis discussion question wise is added:

Thematic Analysis for Question 1:

A prevalent theme in responses to Question 1 was the recognition and acknowledgment of the diverse learning needs of early years learners. Teachers consistently highlighted differentiation strategies as essential tools for identifying and addressing these diverse needs. The theme underscores the importance of tailoring instruction and content to create an inclusive learning environment that accommodates individual capabilities, ensuring that each child receives the support they require.

Teachers consistently emphasized the creation of a personalized learning experience as a key outcome of effective differentiation strategies. This theme emphasizes that differentiation goes beyond adapting materials; it involves tailoring the entire educational experience. By doing so, educators ensure that each child is not only engaged but also appropriately challenged at their unique level, promoting a deeper and more meaningful understanding of the curriculum.

Another significant theme in responses to Question 1 was the recognition of differentiation strategies as catalysts for both academic and social growth in early years learners. Teachers acknowledged that by adapting teaching methods and content, differentiation contributes not only to academic success but also to the development of essential social skills.

Thematic Analysis for Question 2:

A unanimous agreement was observed among teachers regarding the importance of the five dimensions of differentiation strategies. Content, instructional strategies, classroom setup, products, and the teacher were acknowledged as integral components contributing to enhanced performance. Teachers consistently expressed that the five dimensions collectively provide a holistic approach to education. Each dimension was seen as playing a unique and essential role in shaping the learning environment for early years learners.

Responses highlighted an understanding of the interconnectedness of the dimensions. Teachers recognized that effective differentiation involves the seamless integration of content, instructional strategies, classroom dynamics, products, and teacher involvement.

Thematic Analysis for Question 3:

Several teachers prioritized instructional strategies, citing their direct influence on content delivery and adaptation. Effective teaching methods were deemed crucial for a successful learning experience in the early years. Content emerged as a top-ranked dimension, with teachers emphasizing its centrality to education. Tailoring content to individual readiness levels was seen as essential for appropriately challenging early years learners.

Classroom setup was frequently ranked highly, reflecting the recognition of its impact on the learning environment. An organized and stimulating classroom was considered instrumental in fostering engagement and positive attitudes toward learning.

A significant number of teachers ranked the teacher as the highest dimension. A skilled and responsive teacher was perceived as the linchpin of differentiation, directly influencing the success of early years learners through understanding and adaptation.

Products were often ranked last but were still recognized for their importance. Teachers highlighted their role in reinforcing learning, providing tangible and interactive dimensions to early years education.

This thematic analysis provides a nuanced understanding of teachers' perspectives on differentiation strategies, emphasizing the multifaceted nature of their role in early years education.

5.2 Recommendations and Implication of Study

5.2.1 Theoretical Implications

The theoretical implications of this study extend the existing body of knowledge in the field of education, particularly in the context of early childhood learning. By affirming the significance of differentiation strategies, the study reinforces and enriches educational theories such as constructivism, multiple intelligence theory, and learning style theory. The findings contribute to the theoretical understanding of how these pedagogical approaches can be effectively implemented to address the diverse needs, interests, and abilities of early years' learners. Additionally, the study offers insights into the theoretical underpinnings of how differentiation positively influences student learning outcomes, thereby advancing the theoretical discourse on effective instructional strategies.

5.2.2 Practical Implications

From a practical standpoint, the study provides valuable insights for educators, curriculum developers, and educational practitioners involved in the design and implementation of early childhood education programs. The demonstrated effectiveness of differentiation strategies highlights their practical utility in optimizing teaching practices for diverse learners. Educators can use these findings to inform their instructional methods, tailoring approaches to individual students' needs and fostering a more inclusive learning environment. Practical implications also extend to teacher training programs, where the integration of differentiation strategies can be emphasized to enhance the pedagogical skills of early childhood educators.

5.2.3 Policy Implications

The policy implications of this study are significant for educational policymakers and institutions. The demonstrated positive impact of differentiation on early years' learners suggests that policies should be formulated to encourage the integration of differentiation strategies into educational frameworks. Policymakers can consider incorporating professional development opportunities for teachers to enhance their skills in implementing differentiation strategies effectively. Additionally, the study advocates for the recognition of the diverse needs of early years' learners in policy formulation, emphasizing the importance of creating inclusive learning environments that cater to individual differences. These policy recommendations aim to promote a more student-centric and effective early childhood education system.

5.3 limitations of Study

This study, while contributing valuable insights to the realm of early childhood education, is not without its limitations. The use of a convenience sample comprising only forty students restricts the generalizability of the findings, cautioning against broad extrapolation to a more diverse population. Additionally, the study's contextual specificity raises concerns about external validity, as the outcomes may be influenced by factors unique to the particular educational setting in which the research was conducted.

The relatively short duration of the study poses a limitation, as it may not fully capture the long-term effects of differentiation strategies on early years' learners. A more protracted investigation could offer a more comprehensive understanding of the sustained impact of these strategies on academic performance. Furthermore, the reliance on pre- and post-test scores as

primary indicators of learning performance may oversimplify the evaluation, neglecting other dimensions of development such as socio-emotional skills or creativity.

The study's susceptibility to teacher variability introduces another layer of complexity, as the effectiveness of differentiation strategies may be influenced by individual teacher characteristics and instructional practices. This raises questions about the consistency of strategy implementation among different educators and the potential impact on study results. Additionally, the absence of qualitative data in the research design overlooks the nuanced experiences and perceptions of both teachers and students regarding differentiation strategies.

Finally, the potential for bias in self-reported data poses a concern, particularly in assessing the effectiveness of differentiation strategies. Participants may exhibit social desirability bias, influencing the accuracy of reported outcomes. Recognizing these limitations is imperative for a nuanced interpretation of the study's findings and serves as a foundation for refining research approaches in future endeavors, thereby enhancing the validity and applicability of outcomes in the field of early childhood education.

5.4 Future Research Directions

The identified limitations of this study pave the way for several promising avenues for future research in the field of early childhood education. First and foremost, researchers should prioritize investigations with larger and more diverse samples to enhance the external validity and generalizability of findings. Examining the impact of differentiation strategies across various educational contexts and cultural settings can provide a more comprehensive understanding of their effectiveness.

Future research endeavors could also address the temporal aspect by conducting longitudinal studies to capture the sustained effects of differentiation strategies on early years'

learners. This longitudinal approach would shed light on the long-term academic and developmental outcomes, providing educators and policymakers with valuable insights into the enduring impact of these strategies.

In response to the teacher variability limitation, future research could delve deeper into understanding the role of individual teacher characteristics and instructional practices in the successful implementation of differentiation strategies. Exploring how teacher training programs can better equip educators to effectively employ these strategies would contribute to the professional development of early childhood educators.

To overcome the reliance on quantitative measures, future studies should incorporate qualitative data to gain a more holistic understanding of the experiences and perceptions of both teachers and students. Qualitative insights can offer nuanced perspectives on the dynamics of implementing differentiation strategies in the classroom, potentially uncovering factors that contribute to or hinder their success.

Additionally, researchers should explore alternative or complementary measures beyond traditional pre- and post-test scores to assess the multifaceted impact of differentiation strategies. This might involve examining socio-emotional development, creativity, or other dimensions that contribute to a comprehensive evaluation of students' overall growth.

Finally, future research could employ more sophisticated research designs to mitigate potential biases associated with self-reported data. Combining quantitative and qualitative methodologies, employing observational methods, or implementing experimental designs with control groups may enhance the robustness of data collection and analysis.

In essence, future research directions should aim to address the identified limitations systematically, fostering a more nuanced and comprehensive understanding of the role and effectiveness of differentiation strategies in early childhood education.

5.5 Conclusion

In conclusion, this research has endeavored to contribute to the understanding of the role and impact of differentiation strategies in early childhood education. Through a quantitative study comparing whole-group instruction with differentiated instruction, the research sought to address three critical questions: the importance of differentiation strategies in early years' learners, the performance differences between instructional groups, and the contributions of differentiating instruction strategies to learning performance.

The findings of this study underscore the significance of differentiation strategies in catering to the diverse needs, interests, and abilities of early years' learners. The demonstrated performance differences between groups, with students exposed to differentiated instruction outperforming their counterparts in whole-group instruction, affirm the positive impact of differentiation on academic achievement. This aligns with existing research in education, notably supporting the assertions of scholars like Tomlinson, Guskey, and Hall.

However, the study is not without its limitations, including a relatively small sample size, contextual specificity, and a reliance on quantitative measures. These limitations provide fertile ground for future research directions that could enhance the external validity, longitudinal understanding, and nuanced exploration of differentiation strategies in early childhood education.

In the practical realm, the study implies that educators and policymakers should consider the integration of differentiation strategies as a cornerstone of effective teaching practices. Theoretical implications resonate with constructs such as constructivism, multiple intelligence theory, and learning style theory, emphasizing the need for a student-centric and inclusive approach to education.

In light of the policy implications, recommendations include the development of policies that support professional development opportunities for teachers to enhance their skills in

implementing differentiation strategies. Additionally, a recognition of the diverse needs of early years' learners is crucial for creating policies that foster inclusive learning environments.

In essence, this research contributes to the ongoing discourse on optimizing instructional strategies in early childhood education. By affirming the importance of differentiation and uncovering its positive impact on learning outcomes, the study provides valuable insights for educators, policymakers, and researchers alike, striving towards a more inclusive and effective educational landscape for young learners.

In conclusion, the findings of qualitative analysis also affirm the significance of differentiation strategies in early childhood education, shedding light on the multi-faceted ways in which educators navigate and prioritize various dimensions to optimize the performance and development of their students. This comprehensive understanding serves as a valuable foundation for educators, policymakers, and researchers aiming to enhance the quality of early years education through thoughtful and tailored instructional practices.

REFERENCES

- Al-Lawati, F. A., & Hunsaker, S. L. (2007). Differentiation for the gifted in American Islamic schools. *Journal for the Education of the Gifted*, 30(4), 500-518.
- Ayebo, A. (2010). *Teachers' perspectives on teaching mathematics to gifted/talented students* (Doctoral dissertation).
- Belfi, B., Goos, M., De Fraine, B., & Van Damme, J. (2012). The effect of class composition by gender and ability on secondary school students' school well-being and academic self-concept: A literature review. *Educational Research Review*, 7(1), 62–74.
- Bereiter, C. (1994). Constructivism, socioculturalism, and Popper's World 3. *Educational Researcher*, 23 (7), 21-23
- Berger, J. B. (2014). The influence of the organizational structures of colleges and universities on college student learning. In *Influences on College Student Learning* (pp. 40-59). Routledge.
- Bosier, C. S. (2007). *The effects of teacher perception of differentiated mathematical instruction on student achievement* (Doctoral dissertation, Capella University).
- Braun, V., & Clarke, V. (2012). *Thematic analysis*. American Psychological Association.
- Bruner, J. S. (1966). *Toward a theory of instruction* (Vol. 59). Harvard University Press.
- Campbell, B. (2008). *Handbook of differentiated instruction using the multiple intelligences: Lesson plans and more*. Allyn & Bacon.
- Clark, H. H. (1969). Linguistic processes in deductive reasoning. *Psychological review*, 76(4), 387.
- Coubergs, C., Struyven, K., Vanthournout, G., & Engels, N. (2017). Measuring teachers' perceptions about differentiated instruction: The DI-Quest instrument and model. *Studies in Educational Evaluation*, 53, 41-54.

- Creswell, J. W. (2003). A framework for design. *Research design: Qualitative, quantitative, and mixed methods approaches*, 9-11.
- Ellis, D. K., Ellis, K. A., Huemann, L. J., & Stolarik, E. A. (2007). Improving Mathematics Skills Using Differentiated Instruction with Primary and High School Students. *Online Submission*.
- Fenner, D., Mansour, S. K., & Sydor, N. (2010). The Effects of Differentiation and Motivation on Students' Performance. *Online Submission*.
- Gardner, H. (1983). *Frames of Mind*. New York: Basic Books
- Gardner, J. (1993). *On leadership*. Simon and Schuster.
- George, P. S. (2005). A rationale for differentiating instruction in the regular classroom. *Theory into practice*, 44(3), 185-193.
- Goh, C. C., & Burns, A. (2012). *Teaching speaking: A holistic approach*. Cambridge University Press.
- Guskey, T. R. (2002). Does it make a difference? Evaluating professional development. *Educational leadership*, 59(6), 45-51.
- Heacox, D. (2009). *Making differentiation a habit: How to ensure success in academically diverse classrooms*. Free Spirit Publishing.
- Iqbal, M. M., Abid, I., Hussain, S., Shahzad, N., Waqas, M. S., & Iqbal, M. J. (2020). The effects of regional climatic condition on the spread of COVID-19 at global scale. *Science of The Total Environment*, 739, 140101.
- Kobelin, M. (2009). Multi-age made me do it: A teacher tackles differentiation in math instruction. *Schools*, 6(1), 10-22.

- Latz, A. O., Speirs Neumeister, K. L., Adams, C. M., & Pierce, R. L. (2008). Peer coaching to improve classroom differentiation: Perspectives from Project CLUE. *Roeper review*, 31(1), 27-39.
- Lavania, M., & Nor, F. B. M. (2020). Barriers in differentiated instruction: A systematic review of the literature. *Journal of Critical Reviews*, 7(6), 293-297.
- Levy, H. M. (2008). Meeting the needs of all students through differentiated instruction: Helping every child reach and exceed standards. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 81(4), 161-164.
- Maes, I. (2010). Alexandre Lamfalussy and the origins of the BIS macro-prudential approach to financial stability. *PSL Quarterly Review*, 63(254), 263-290.
- Manzoor, A. (2018). A Child on Crossroad of Two Isolated Worlds. *UMT Education Review*, 1(2), 1-18.
- Manzoor, A., Nawaz, G., & Munir, H. (2022). Use of Differentiated Instructions for the Inclusion of All Learners: Insights from the Prospective Teachers in Pakistan. *Global Educational Studies Review*, VII.
- MOFEPT. (2017). *National Education Policy*. Ministry of Federal Education and Professional Training. Retrieved November 23, 2022, from <http://www.mofept.gov.pk/Policies>
- Morgan, H. (1996). An analysis of Gardner's theory of multiple intelligence. *Roeper Review*, 18(4), 263-269.
- Organization for Economic Co-operation and Development. (2016). *PISA 2015 results: Policies and practices for successful schools, PISA* (Vol. 2). OECD Publishing.

- Parsons, S. A., Vaughn, M., Scales, R. Q., Gallagher, M. A., Parsons, A. W., Davis, S. G., ... & Allen, M. (2018). Teachers' instructional adaptations: A research synthesis. *Review of Educational Research, 88*(2), 205-242.
- Pearce, J., & Morrison, C. (2011). Teacher identity and early career resilience: exploring the links. *Australian Journal of Teacher Education, 36*(1), 48-59.
- Reis, S. M., & Renzulli, J. S. (2010). Is there still a need for gifted education? An examination of current research. *Learning and individual differences, 20*(4), 308-317.
- Reis, S. M., & Renzulli, J. S. (2018). The Five Dimensions of Differentiation. *International Journal for Talent Development and Creativity, 6*, 87-94.
- Renzulli, J. S. (2009). The three-ring conception of giftedness: A developmental model for promoting creative productivity. In L. Shavinina (Ed.), *International Handbook on Giftedness* (pp. 75-87). Springer.
- Renzulli, J. S., & Reis, S. M. (2014). *The schoolwide enrichment model: A comprehensive plan for educational excellence*. Prufrock Press.
- Richardson, J. (2011). Tune in to what the new generation of teachers can do. *Phi Delta Kappan, 92*(8), 14-19.
- Roiha, A. S. (2014). Teachers' views on differentiation in content and language integrated learning (CLIL): Perceptions, practices and challenges. *Language and Education, 28*(1), 1-18.
- Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research methods for business students*. Essex: Prentice Hall: Financial Times.
- Stanger-Hall, K. F. (2012). Multiple-choice exams: an obstacle for higher-level thinking in introductory science classes. *CBE—Life Sciences Education, 11*(3), 294-306.
- Sternberg, R. J. (2009). *Wisdom, intelligence, and creativity synthesized*. Cambridge University Press.

- Suprayogi, M. N. (2017). *Differentiated instruction implementation in primary schools: Linking psychological factors in students and teachers to achievement* (Doctoral dissertation, Ghent University).
- Thambirajah, J., Benabbas, L., Bauer, M., & Thornhill, N. F. (2009). Cause-and-effect analysis in chemical processes utilizing XML, plant connectivity and quantitative process history. *Computers & Chemical Engineering*, 33(2), 503-512.
- Tomlinson, C. A. (1995). Deciding to differentiate instruction in middle school: One school's journey. *Gifted child quarterly*, 39(2), 77-87.
- Tomlinson, C. A. (2000). *Differentiation of Instruction in the Elementary Grades*. ERIC Digest.
- Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms* (2nd Ed.). Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2005). Grading and Differentiation: Paradox or Good Practice? *Theory Into Practice*, 44(3), 262-269.
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners*. Ascd.
- Tomlinson, C. A., & Kalbfleisch, M. L. (1998). Teach me, Teach my Brain: A Call for Differentiated Classrooms. *Educational Leadership*, 56(3), 52-55.
- Tomlinson, C.A., Brimijoin, K., & Narvaez, L. (2008). *The differentiated school: Making revolutionary changes in teaching and learning*. Alexandria, VA: ASCD.
- Tomlinson, C. A. (2017). *How to differentiate instruction in academically diverse classrooms*. ASCD.
- Uzair-ul-Hassan, M., Kazim, B., & Parveen, I. (2019). Teachers' Practices of Differentiated Instructions, Fair Interactions and Fair Assessment of Students in Sargodha. *Journal of Educational Sciences*, 6(1), 47-62.

- Vygotsky, L. (1978). Interaction between learning and development. *Readings on the development of children*, 23(3), 34-41.
- Wessels, I., Rueß, J., Gess, C., Deicke, W., & Ziegler, M. (2021). Is research-based learning effective? Evidence from a pre–post analysis in the social sciences. *Studies in Higher Education*, 46(12), 2595-2609.
- Westby, C. (2009). Differentiated Academic Language Instruction. *Word of Mouth*, 21(2), 1-16.
- Wright, H. D. (2018). Teachers' Perceptions of the Use of Individualized Differentiated Instruction in Planning, Teaching, and Professional Responsibilities.
- Ysseldyke, J., Tardrew, S., Betts, J., Thill, T., & Hannigan, E. (2004). Use of an instructional management system to enhance math instruction of gifted and talented students. *Journal for the Education of the Gifted*, 27(4), 293-310

Annexures

Data Collection Tool

Pre-Test

Place Cut out shapes on the circle, square, triangle etc

Same coloring in same shapes

Sample Lesson Plan for Experimental Study

Detailed Lesson Plan Title: Exploring Shapes
(Content)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Introduce basic shapes to playgroup students.
- Encourage students to recognize and differentiate between common shapes such as circles, squares, and triangles.

Materials:

- A variety of shape-related materials (e.g., cut-out shapes, shape puzzles, shape posters)
- Glue, child-safe scissors, and art supplies
- Large cardboard or poster boards
- Visual aids like images of shapes
- Teacher-made examples of shape collages

Duration: 30-45 minutes

Procedures:

1. Introduction (5 minutes):

Gather students in a circle and begin with a brief discussion about shapes. Show them pictures of common shapes (circle, square, triangle) and ask if they recognize any.

2. Exploration of Shapes (10 minutes):

- Spread out a variety of shape-related materials on a table or on the floor where students can easily access them.
- Allow students to explore and touch the shapes, talking about their characteristics (e.g., a circle is round, a square has four equal sides).
- Encourage students to identify and name the shapes as they explore.

3. Hands-on Shape Sorting (10 minutes):

- Provide each student with a basket or container of shapes (cut-out shapes, puzzle pieces, or foam shapes).
- Ask them to sort the shapes into categories based on their shapes (e.g., all the circles together, all the squares together).

**4. Circulate and assist as needed.
Shape Collages (10 minutes):**

- Distribute cardboard or poster boards to each student.
- Provide glue, child-safe scissors, and a variety of art supplies.
- Encourage students to create shape collages by sticking the cut-out shapes onto their boards in creative ways.
- The teacher can offer assistance, demonstrating how to glue the shapes and providing encouragement.

5. Sharing and Closure (5 minutes):

- Gather students in a circle and have each child show their shape collage to the group.
- Ask students to describe the shapes they used and what they learned.
- Praise and celebrate their efforts.

Assessment:

- Informal assessment during the activity to observe if students can recognize and name the basic shapes.
- Review the shape collages to see if students effectively placed shapes on their boards.

Extension Activity (if time permits):

- Play a simple game where the teacher calls out a shape, and students find that shape in the room or among their materials.
- Use shape posters on the walls as reference points throughout the day, encouraging students to point out and name shapes.

Differentiation:

- Tailor the level of complexity by providing more or fewer shapes, depending on individual student readiness.
- Offer additional assistance and guidance to students who may require it during the activity.

Homework (optional):

Encourage students to look for shapes in their surroundings at home, e.g., a circular clock, a square window, and discuss them with their parents or caregivers.

Detailed Lesson Plan Title: Exploring Shapes (Content)

Grade Level: Playgroup (Ages 2-3)

Objective:

Introduce basic shapes to playgroup students.

Encourage students to recognize and differentiate between common shapes such as circles, squares, and triangles.

Materials:

- A variety of shape-related materials (e.g., cut-out shapes, shape puzzles, shape posters)
- Glue, child-safe scissors, and art supplies
- Large cardboard or poster boards
- Visual aids like images of shapes
- Teacher-made examples of shape collages

Duration: 30-45 minutes

Procedures:

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- Encourage students to identify and name the shapes as they explore.

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- Provide each student with a basket or container of shapes (cut-out shapes, puzzle pieces, or foam shapes).
- Ask them to sort the shapes into categories based on their shapes (e.g., all the circles together, all the squares together).
- Circulate and assist as needed.

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- Encourage students to create shape collages by sticking the cut-out shapes onto their boards in creative ways.
- The teacher can offer assistance, demonstrating how to glue the shapes and providing encouragement.

5. Sharing and Closure (5 minutes):

- Gather students in a circle and have each child show their shape collage to the group.
- Ask students to describe the shapes they used and what they learned.
- Praise and celebrate their efforts.

Assessment:

- Informal assessment during the activity to observe if students can recognize and name the basic shapes.
- Review the shape collages to see if students effectively placed shapes on their boards.

Extension Activity (if time permits):

- Play a simple game where the teacher calls out a shape, and students find that shape in the room or among their materials.

- Use shape posters on the walls as reference points throughout the day, encouraging students to point out and name shapes.

Differentiation:

- Tailor the level of complexity by providing more or fewer shapes, depending on individual student readiness.
- Offer additional assistance and guidance to students who may require it during the activity.

Homework (optional):

- Encourage students to look for shapes in their surroundings at home, e.g., a circular clock, a square window, and discuss them with their parents or caregivers.

Lesson Plan Title: Colors All Around (Content)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Teach playgroup students about colors.
- Introduce primary colors and a few simple secondary colors.

Materials:

- Colorful objects and toys
- Color flashcards
- Art supplies (coloring materials, paper, glue, child-safe scissors)
- Visual aids (images or drawings of primary and secondary colors)

Duration: 30-45 minutes

Procedures:

1. Introduction (5 minutes):

- Gather students and start by asking if they know any colors. Show them color flashcards or use colorful toys to demonstrate primary colors (red, blue, yellow).
2. Exploration of Colors (10 minutes):
 - Arrange colorful toys and objects in the play area to represent primary and secondary colors. Encourage students to touch and explore these items.
 - Use color flashcards to review and reinforce primary colors.
 - Discuss what happens when you mix primary colors to create secondary colors (e.g., blue + yellow = green).
 3. Color Sorting Game (10 minutes):
 - Provide students with a basket of objects in various colors.
 - Ask them to sort the objects into categories based on their colors (e.g., all red items together, all blue items together).
 - Circulate and assist as needed, encouraging them to say the color names aloud.
 4. Artwork (10 minutes):
 - Give each student a blank piece of paper and art supplies.
 - Encourage them to create colorful artwork by drawing, coloring, and gluing colored paper.
 - Provide guidance and assistance as they work on their colorful projects.
 5. Sharing and Closure (5 minutes):
 - Gather students and ask them to show their colorful artwork to the group.
 - Have students name the colors they used and describe what they created.
 - Celebrate their efforts and discuss the concept of colors one more time.

Assessment:

- Informal assessment during the activity to determine if students can recognize and name primary colors.

- Review the artwork to see if students effectively used various colors in their creations.

Extension Activity (if time permits):

- Play a color-themed scavenger hunt where students search for objects of specific colors in the classroom.

- Introduce more complex color mixing concepts (e.g., mixing red and blue to make purple) for more advanced students.

Differentiation:

- Adapt the number of colors introduced based on the readiness of individual students.

- Provide additional assistance and guidance for those who may need it during the color sorting and artwork activities.

Homework (optional):

- Encourage students to spot and name colors at home and share what they've learned about colors with their parents or caregivers.

Lesson Plan Title: Story Time (Instructional Strategies)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Promote early literacy skills.
- Engage students in age-appropriate books with expressive storytelling.

Materials:

- Age-appropriate storybooks with colorful and engaging visuals
- Comfortable seating (mats, cushions, or small chairs)

- Visual aids (e.g., story-related pictures or props)
- A cozy reading corner with soft lighting

Duration: 20-30 minutes

Procedures:

1. Introduction (5 minutes):

- Start by gathering the students in the cozy reading corner.
- Show them the storybook and discuss the cover, encouraging them to predict what the story might be about.

2. Storytelling (10 minutes):

- Read the story with enthusiasm, using expressive voices and gestures to engage the children.
- Pause occasionally to ask questions about the story (e.g., "What do you think will happen next?").

3. Visual Aids (5 minutes):

- Use visual aids such as pictures or props related to the story to enhance comprehension and engagement.

4. Predictions and Participation (5 minutes):

- Encourage students to make predictions about the story's outcome based on what they've heard so far.
- Ask questions like, "What do you think will happen next? Why?" and allow students to share their thoughts.

5. Discussion and Closure (5 minutes):

- After completing the story, facilitate a brief discussion. Ask questions about the characters, events, and moral of the story.

- Encourage students to express their opinions and share what they enjoyed most about the story.

Assessment:

- Assess engagement and participation during the reading session. Observe if students show interest, respond to questions, and make predictions.
- Informal assessment of comprehension through discussions and the ability to identify story elements (characters, setting, events).

Extension Activity (if time permits):

- Allow students to create simple artwork related to the story, encouraging them to draw a favorite character or scene.
- Use additional age-appropriate books to continue the storytelling experience.

Differentiation:

- Choose books that match the students' developmental level and attention span.
- Adapt the level of questions and discussions to accommodate different language skills and comprehension abilities.

Homework (optional):

- Encourage parents to continue the storytelling experience at home by reading age-appropriate books with their children and discussing the stories together.

Lesson Plan Title: Playdough Creations (Classroom and Product)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Encourage creativity and fine motor skills.
- Allow students to explore and create their own playdough sculptures.

Materials:

- Playdough in various colors
- Child-safe sculpting tools (plastic knives, cookie cutters, rolling pins, etc.)
- Art mats or trays for each student
- Visual aids (images of simple playdough creations)
- Teacher-made examples of playdough sculptures

Duration: 30-45 minutes

Procedures:

1. Introduction (5 minutes):

- Gather students and introduce the playdough activity.
- Show them examples of simple playdough sculptures or creatures.
- Discuss the objective, which is to have fun and be creative with playdough.

2. Exploration and Tools (10 minutes):

- Distribute playdough in various colors to each student.
- Provide a variety of sculpting tools and demonstrate how to use them. Encourage students to explore the textures and shapes they can create.

3. Sculpting Time (15 minutes):

- Let students use their imagination to create their own playdough sculptures. They can make animals, objects, or anything they like.
- Circulate around the classroom, offering assistance and encouragement. Praise their efforts and ideas.

4. Sharing and Closure (5 minutes):

- Gather students and have each child showcase their playdough creations to the group.
- Encourage students to describe their sculptures and share what inspired them.

- Celebrate their creativity and express your appreciation for their work.

Assessment:

- Informal assessment during the activity to observe the students' creativity and fine motor skills as they sculpt with playdough.
- Review the playdough sculptures to see if students effectively used the materials to create their own designs.

Extension Activity (if time permits):

- Challenge students to create a collaborative playdough masterpiece by combining their individual sculptures into one larger creation.
- Explore mixing colors to create new shades with older or more advanced students.

Differentiation:

- Provide more detailed guidance to students who may need it, while allowing others to explore and create more independently.
- Adjust the complexity of sculpting tools based on the readiness of individual students.

Homework (optional):

- Encourage students to continue their playdough creativity at home by making simple shapes, creatures, or objects with their parents or caregivers.

Lesson Plan Title: Nature Scavenger Hunt (Teacher and Classroom)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Explore nature and develop observation skills.
- Introduce the concept of a scavenger hunt and encourage students to collect and share natural items.

Materials:

- Nature items (leaves, rocks, twigs, flowers)
- Small containers or baskets for collecting
- Visual aids (pictures of common natural items)
- Safety guidelines for outdoor activities

Duration: 30-45 minutes

Procedures:

1. Introduction (5 minutes):

- Gather students and introduce the nature scavenger hunt activity.
- Show them pictures of common natural items they might find during the hunt, such as leaves, rocks, and twigs.
- Discuss the objective, which is to explore nature and collect these items.

2. Scavenger Hunt Explanation (5 minutes):

- Explain the concept of a scavenger hunt to the students. Let them know they will be searching for specific natural items.
- Show them the containers or baskets they will use to collect their treasures.

3. Nature Walk (15 minutes):

- Plan a nature walk around the play area, ensuring a safe and supervised environment.
- Lead the students on the walk, pointing out natural items along the way and encouraging them to collect them in their containers.

4. Collecting Items (10 minutes):

- As students find natural items, assist them in collecting and placing these items in their containers.

- Encourage them to use their observational skills to find items like leaves, rocks, twigs, or flowers.

5. Sharing and Closure (5 minutes):

- Gather students and have each child share their collected items with the group.
- Discuss the items and ask questions like, "What did you find?" or "How does it feel?"
- Celebrate their discoveries and discuss the importance of taking care of nature.

Assessment:

- Informal assessment through observations during the scavenger hunt, including students' ability to find and collect natural items.
- Evaluate students' engagement and participation in discussions about their findings.

Extension Activity (if time permits):

- Use the collected items to create a nature-themed collage or artwork.
- Discuss the importance of preserving nature and caring for the environment.

Differentiation:

- Provide additional support to students who may need assistance during the hunt, such as guiding them to find items.
- Offer more complex questions or prompts for advanced students during discussions about their discoveries.

Homework (optional):

- Encourage students to share their nature discoveries with their parents or caregivers and discuss the importance of nature and environmental conservation.

Lesson Plan Title: Build a House (Content and Product)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Develop fine motor skills and spatial awareness.
- Allow students to explore and create their own houses using building blocks.

Materials:

- A variety of building blocks (different sizes and shapes)
- Visual aids (pictures of simple house structures)
- Building mats or surfaces for construction
- Visual examples of house structures made with blocks

Duration: 30-45 minutes

Procedures:

1. Introduction (5 minutes):

- Gather students and introduce the activity of building houses with blocks.
- Show them pictures of simple house structures made with building blocks.
- Discuss the objective, which is to have fun while developing fine motor skills and spatial awareness.

2. Block Exploration and Differentiation (10 minutes):

- Provide a variety of building blocks with different sizes and shapes for students to explore.
- Encourage students to touch and play with the blocks, discussing their characteristics (e.g., big, small, square, rectangular).

3. Demonstration (5 minutes):

- Demonstrate how to stack blocks to create a basic house structure. Explain the steps involved in building, such as placing one block on top of another.

4. Building Time (15 minutes):

- Allow students to use their imagination and creativity to build their own houses with the blocks.

- Provide guidance and support as needed, helping them understand how to connect the blocks.

5. Sharing and Closure (5 minutes):

- Gather students and ask them to show their block houses to the group.

- Encourage students to describe their creations and share what they enjoyed most about building their houses.

- Celebrate their creativity and efforts.

Assessment:

- Informal assessment during the activity to observe students' fine motor skills and spatial awareness as they construct their houses.

- Evaluate students' engagement and participation in discussions about their block creations.

Extension Activity (if time permits):

- Challenge students to expand their houses with additional features like windows, doors, or roofs.

- Introduce concepts of symmetry by discussing how the left and right sides of their houses match.

Differentiation:

- Provide more detailed guidance and support to students who may need it during the building activity.

- Offer more complex building challenges for advanced students who finish early.

Homework (optional):

- Encourage students to continue building with blocks at home, perhaps by creating structures inspired by what they've learned in class or by building their own imaginative creations.

Lesson Plan Title: Dance Party (Instructional Strategies and Classroom)

Grade Level: Playgroup (Ages 2-3)

Objective:

- Promote physical activity and rhythmic awareness.
- Engage students in a fun dance session with simple moves and various music genres.

Materials:

- Music player or device with a variety of music genres
- Colorful scarves or ribbons for dancing
- A clear and open dance area within the classroom
- Visual aids (images of dance poses)

Duration: 30-45 minutes

Procedures:

1. Introduction (5 minutes):

- Gather students and introduce the dance party activity.
- Show them some images of children dancing and discuss the objective, which is to have fun while dancing and moving to music.

2. Music Exploration and Differentiation (10 minutes):

- Play different music genres and encourage students to listen to the various rhythms and melodies.
- Discuss how music can make us feel and move differently depending on its style.

3. Demonstration and Dance Moves (10 minutes):

- Demonstrate a few simple dance moves, such as marching in place, clapping, or swaying to the rhythm.
- Lead the students in these moves, encouraging them to follow your lead and dance to the music.

4. Dance Session (15 minutes):

- Play different music genres and let students dance freely, using colorful scarves or ribbons to enhance their movements.
- Participate alongside the students, dancing to the rhythm and engaging with them in the dance session.

5. Sharing and Closure (5 minutes):

- Gather students and ask them to share their favorite dance moves or moments from the session.
- Discuss how they felt while dancing and the different styles of music they heard.
- Celebrate their enthusiasm and participation in the dance party.

Assessment:

- Informal assessment during the activity to observe students' engagement, rhythmic awareness, and their ability to follow simple dance moves.
- Evaluate students' participation and willingness to express themselves through movement.

Extension Activity (if time permits):

- Encourage students to create their own dance moves and share them with the group.
- Explore cultural dances from around the world and expose students to different styles of dance.

Differentiation:

- Adapt the complexity of dance moves based on the readiness of individual students, offering simpler or more challenging moves as needed.
- Provide extra assistance and support to students who may need it during the dance session.

Homework (optional):

- Encourage students to dance and move to music at home with their parents or caregivers. This can be a fun family activity to continue building rhythmic awareness and physical activity.