JOURNAL OF INTERDISCIPLINARY PERSPECTIVES

ISSN Print: 2984-8288, ISSN Online: 2984-8385
Vol. 3 No. 6, pp. 247-258, June 2025

# Enhancing Learning: Differentiated Instruction in Elementary Schools

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**Date received**: April 5, 2025
**Date revised**: April 22, 2025
**Date accepted**: May 18, 2025

**Originality**: 97%
**Grammarly Score**: 99%
**Similarity**: 3%

**Recommended citation:**
Ferrer, J. M., & Naanep, N. (2025). Enhancing learning: Differentiated instruction in elementary schools. *Journal of Interdisciplinary Perspectives*, 3(6), 247-258. https://doi.org/10.69569/jip.2025.222

**Abstract.** As individual needs of the learners vary, they need to tailor their learning to meet their diverse, unique demands. This study determined the effectiveness of differentiated instruction techniques in enhancing pupils' learning outcomes to selected elementary schools in Tampakan, South Cotabato, for 2024-2025 academic year using a quantitative research design, which is descriptive and correlational, respondents included selected grades 4 to 6 pupils and all teachers from ten schools, using stratified random sampling for pupils. Statistical tools such as mean scores and Pearson's r correlation were used to analyze the data. Findings showed that differentiated instruction techniques, including hands-on exploration, varied instructional materials, visual aids, graphic organizers, and scaffolded tasks, were highly implemented. The pupils responded highly to differentiated instruction in motivation and engagement, with a section mean of 4.63. Additionally, the academic achievement of the respondents obtained a mean of 85.55, Science with the highest mean of 85.94, and Mathematics the lowest at 85.34. A moderate, positive correlation was determined between the implementation of differentiated instruction and pupils' motivation, engagement, and performance in academic areas. Identified challenges included time constraints, resource limitations, and classroom management, highlighting the need for strategic support. The study concluded that differentiated instruction enhances inclusive learning but requires robust support mechanisms.

**Keywords:** Academic achievement; Differentiated instruction; Engagement; Motivation.

## 1.0 Introduction

In the last few decades, differentiated instruction aims to tailor learning to individual needs by modifying content, processes, and assessments. However, teachers face significant challenges, including limited resources, extensive training requirements, time constraints, and resistance to change, making its implementation difficult in modern classrooms. Moreover, having a wide range of pupils has made standard teaching methods hard. According to (Dixon et al., 2019), new studies show that 89% of classes have a wide range of pupils with different experiences and skills, which means that one-size-fits-all methods do not work. Differentiated instruction is a way of teaching that changes techniques, materials, and tests to meet the needs of each student. Tomlinson and Jarvis (2019) also prove that this method motivates pupils and makes them successful in their academic performance.

Internationally, the significant contribution of differentiated instruction has been acclaimed for its ability to close the gaps in education. A key study by Özüdoğru (2022) that looked at school systems in Europe and North America has given a lot of data supporting this method. Differentiated methods were used to teach pupils from various backgrounds and skill levels in this study. The results revealed that differentiated instruction made pupils

much more interested and motivated, which led to a significant improvement in all of their grades. It's clear that these results show how important adaptable teaching methods are in meeting the needs of all learners and making their education better (Valiandes & Neophytou, 2019).

Research in the Philippines has validated differentiated instruction's effectiveness in mixed-ability classrooms. A study by Aranda and Zamora (2022) showed that customized teaching strategies significantly enhanced academic performance by meeting diverse pupil needs. However, in the study by Valiandes and Neophytou (2018); Vaughn et al., (2020); Ulferts, (2019) challenges like time constraints, resource limitations, classroom management, the need for extensive teacher training, practical assessments, resistance to change, socio-economic disparities, ensuring inclusivity, and meeting accountability standards complicate its implementation. Also, Ulferts (2019) finds that addressing these factors is crucial for successfully applying differentiated instruction in diverse educational settings.

Meanwhile, differentiated instruction on pupils' learning outcomes has received little attention based on improving pupils' motivation and engagement. Despite the findings from existing studies on differentiated instruction, there is a noticeable research gap in the Philippine context (Resplandor, 2021). This highlights the need for more holistic examination of differentiated instruction's efficacy. A comprehensive approach that encompasses academic achievements and in-depth insights into the experiences of educators and learners is crucial (Allcock & Hulme, 2020). Such an integrated research endeavor would illuminate the tangible benefits of differentiated instruction and unravel the complexities of its implementation and scalability (Groenewald et al., 2024).

In the local context, the study conducted by Lumando et al. (2023) in Tampakan, South Cotabato, provided early evidence supporting the efficacy of differentiated instruction, showing notable enhancements in pupils' engagement and performance within the schools. However, its limited scope focuses on the specific research area and challenges, raising questions about how to implement differentiated instruction's effectiveness across diverse Philippine regions and educational contexts. Thus, this study aimed to evaluate the differentiated instruction techniques in enhancing pupils 'learning outcomes in Elementary Schools of Tampakan, South Cotabato for the school year 2024-2025 in terms of the levels of implementation of differentiated instruction techniques being used by the respondents in hands- on exploration, varied instructional materials, visual aids and graphic organizers, and Scaffolded tasks; the level of the pupils' responses to differentiated instruction techniques in terms of motivation and engagement, and academic achievement in English, Mathematics, and Science; significant relationships between level of implementation of differentiated instruction technique and motivation and engagement and academic achievement; and the challenges associated with the implementation of differentiated instruction technique in the classroom.

## 2.0 Methodology

### 2.1 Research Design

This study employed a quantitative, evaluative research design. According to Creswell (2017), this design explored the connection between the dependent and independent variables to forecast future occurrences based on past events. The design was framed based on correlational research findings, which were used to examine the prevalence of independent and dependent variables such as the differentiated instruction techniques implementation with regards to hands-on exploration, varied instructional materials, visual aids, and graphic organizers, and scaffolded tasks. Additionally, according to Creswell and Cresswell (2018), pupils' responses to differentiated instruction techniques included two indicators: motivation, engagement, and academic achievement. Furthermore, pupils' responses to differentiated instruction techniques based on their motivation and engagement for the first academic achievement were identified as the dependent variable. Meanwhile, descriptive analysis tested for the correlation of independent and dependent variables and predictions of events based on existing data and knowledge. Although the method could be applied in various ways, it is important to use it cautiously and interpret the data meaningfully. In the study of Ghanad (2023), important issues were raised for discussion, and multiple data analysis methods were proposed to help researchers minimize errors.

Moreover, Creswell (2017) claimed that the results of correlational research were used to understand how standard variables were and how they related to each other and to predict future outcomes based on current knowledge. Even though the technique could be utilized in many ways, it is crucial to approach it carefully and

evaluate the data thoroughly. Significant questions were raised for discussion, and several analytical approaches were provided to help researchers make fewer mistakes (Berger, 2015).

**2.2 Research Locale**

The study was conducted in selected schools within the Municipality of Tampakan, South Cotabato, due to its rich cultural and historical context provides a unique backdrop for educational research. Tampakan is a municipality marked by its cultural diversity and historical significance. It was initially inhabited by indigenous Blaan people and was shaped by various waves of migration and colonization. This area offers a microcosm of broader societal challenges and opportunities, particularly in balancing cultural preservation with modern educational practices. The chosen schools, representing diverse educational environments, reflect the municipality's efforts to maintain its cultural heritage while adapting to contemporary educational demands. Including these schools was strategic, ensuring the study captured various educational practices and community dynamics. This approach is supported by literature emphasizing the importance of conducting educational research in culturally and historically rich settings, as it allows for a deeper understanding of how local contexts influence educational outcomes (Creswell, 2014). Furthermore, Tampakan's ongoing dialogue around environmental and indigenous rights, coupled with its developmental challenges, makes it a particularly relevant setting for examining how education intersects with cultural identity and sustainable development issues. The area's history of resistance to external influences and its current role in discussions about sustainable resource management provide a compelling backdrop for exploring how education can contribute to cultural preservation and economic development. Mertens (2015) implies that this selection is aligned with research recommendations that advocate for studies in regions where educational practices are deeply intertwined with local socio-cultural and environmental issues. In conclusion, the Municipality of Tampakan was chosen for this study because of its representative diversity and unique cultural and historical context, which offers valuable insights into the role of education in shaping and preserving cultural identities in the face of modern challenges. Villa (2018) also implies that this choice is supported by scholarly perspectives that underscore the importance of situating educational research within specific cultural and historical contexts to enhance the relevance and impact of the findings.

**2.3 Research Respondents**

The respondents in the study included teachers and pupils from ten (10) selected elementary schools in the Municipality of Tampakan, South Cotabato Division, specifically in grades 4 to 6. 17.29% of respondents came from Cariaga-Mercado Elementary School, 16.22% from Maltana Elementary School, 14.89% from Lampitak Elementary School, 12.23% from Taplan Integrated School, 11.17% from Lambayong Elementary School, 8.51% from Sta. Cruz Elementary School, 7.71% from Escobillo Elementary School, 5.59% from San Isidro Elementary School, 4.26% from Claudio-Delos Reyes Elementary School, and 2.13% from Bukang Liwayway Elementary School. The distribution of the respondents by schools was based on a proportional allocation formula (Hechanova & Hechanova, 2005) with the target population by group.

**2.4 Research Instrument**

The research instruments used in the study came from notable authors. The questionnaires were adopted and modified. Before use, the questionnaires underwent validation by experts. Following the validation, the questionnaires were subjected to pilot testing at Tananzang Elementary School, Purok Acasia, Tananzang, Lutayan, Sultan Kudarat, to determine the reliability of Cronbach's Alpha. Each item was measured using a 5-point Likert Scale. The questionnaire was composed of three (3) parts. First, it assessed the level of implementation of differentiated instruction techniques in terms of hands-on exploration, varied instructional materials, visual aids, and graphic organizers, and scaffolded tasks. Second, it evaluated pupils' responses to differentiated instruction techniques regarding motivation and engagement. Furthermore, pupils' academic achievement in selected schools in the Municipality of Tampakan, South Cotabato, was gathered during the first grading period of the school year 2024-2025.

**2.5 Data Gathering Procedure**

The data-gathering procedure for this study followed a structured process to ensure accuracy, validity, and ethical compliance (Kabir, 2016). First, the test items underwent validation to confirm their relevance and effectiveness in measuring the intended constructs. Also, the study of Johnson and Turner (2003) involved assessing the items' clarity, reliability, appropriateness, and comprehensiveness through expert review and pilot testing. Next,

permission was sought from the office of the Schools Division Superintendent to conduct the study within the designated educational jurisdiction. Coordination with the District in charge and School Administrators of the target schools was established to secure access and support for data collection activities (Babbie, 2001). Once permission was obtained, a schedule was set with the respondents, typically elementary teachers and pupils within Tampakan District, Tampakan, South Cotabato, ensuring convenience and minimal disruption to their teaching responsibilities. Depending on the participants ' preference, the test items were administered according to the agreed-upon schedule, either electronically or in print format. Additionally, the office of the Graduate School sought approval to conduct the study, ensuring adherence to academic and ethical standards. Following data collection, the retrieved responses were consolidated and prepared for analysis. Data analysis involved statistical techniques, such as Pearson's r Correlation, to explore relationships between variables (Nachmias & Nachmias, 1990). Finally, the results were interpreted within the context of the research objectives, providing insights into the influence of professional development participation on pupil achievement growth. All collected data were handled with the highest level of confidentiality and used solely for research purposes of the study, following the Data Privacy Act (Khan, 2006).

### 2.6 Ethical Consideration

This study adhered to ethical principles to ensure the protection and rights of all respondents. Prior to data collection, approval was obtained from relevant authorities, including the Schools Division Superintendent and the Graduate School of Sultan Kudarat State University, to ensure compliance with academic and institutional guidelines. Respondents were informed about the purpose of the study, and their voluntary participation was emphasized, with the option to withdraw at any time. Confidentiality and anonymity were maintained, and all collected data were used solely for research. The study also complied with the Data Privacy Act to safeguard personal information and uphold ethical research standards. Likewise, the works of different bodies in this study were recognized and referenced.

## 3.0 Results and Discussion

### 3.1 Level of Implementation of Differentiated Instruction Techniques

Table 1 shows the mean distribution for the level of implementation of differentiated instruction techniques, specifically focusing on hands-on exploration. The overall section mean is 4.81, which is described as Highly Implemented. This indicates that the respondents lead in implementing differentiated techniques regarding the use of hands-on exploration techniques to enhance their learning process.

**Table 1.** *Mean Distribution on the Level of Implementation of Differentiated Instruction Techniques in terms of Hands-on Exploration (n=59)*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | Find that hands-on exploration activities enhance my understanding of the material. | 4.78 | Highly Implemented |
| 2 | Feel more engaged in the learning process when it involves hands-on exploration. | 4.81 | Highly Implemented |
| 3 | Believe that hands-on exploration helps accommodate diverse learning styles. | 4.85 | Highly Implemented |
| 4 | Prefer lessons that include opportunities for hands-on exploration over traditional lectures. | 4.86 | Highly Implemented |
| 5 | Think that hands-on exploration activities encourage critical thinking and problem-solving skills. | 4.83 | Highly Implemented |
| 6 | Feel confident in applying what I have learned through hands-on exploration to real-world situations. | 4.71 | Highly Implemented |
| 7 | Appreciate when instructors incorporate hands-on exploration to make learning more interactive. | 4.83 | Highly Implemented |
| | **Section Mean** | **4.81** | **Highly Implemented** |

Among the seven statements on the indicator Hands-on Exploration, the highest mean is "Prefer lessons that include opportunities for hands-on exploration over traditional lectures," with a mean of 4.86, also interpreted as Highly Implemented. Conversely, the statement with the lowest mean is "Feel confident in applying what I have learned through hands-on exploration to real-world situations," which has a mean of 4.71, still interpreted as Highly Implemented. Thus, this study implies that hands-on exploration is widely embraced and effectively implemented in learning environments, significantly promoting engagement and accommodating diverse learning styles, ultimately fostering critical thinking and practical skill application among pupils.

Supporting this notion, Hagenimana et al. (2023) explored the effectiveness of hands-on practical activities in teaching chemistry, finding that these activities significantly enhanced pupils' engagement, learning experiences, and academic performance. The study suggests that interactive, practical experiences help pupils better grasp complex concepts by actively involving them in the learning process. Relating to hands-on exploration, this underscores the importance of incorporating such methods to deepen pupil understanding and increase participation, ultimately improving academic outcomes. Similarly, Musharrat (2020) examined teachers' perceptions of using hands-on activities in secondary science classrooms, highlighting both their benefits and challenges. While teachers acknowledged that hands-on methods increased learner engagement and understanding, they faced barriers such as limited resources and time constraints. This study suggests that the successful implementation of hands-on exploration requires sufficient resources and training, aligning with the need for supportive conditions to maximize its effectiveness in differentiated instruction contexts.

Table 2 displays the mean distribution for the level of implementation of differentiated instruction techniques in terms of varied instructional materials. The overall section mean is 4.79, which is interpreted as Highly Implemented. This result indicates that respondents lead in differentiated techniques regarding using varied instructional materials to cater to diverse learning needs. Moreover, the highest mean is associated with the statement, "Appreciate when different forms of instructional materials are provided to help understand complex concepts," with a mean of 4.88, interpreted as Highly Implemented. In contrast, the statement with the lowest mean is "Prefer courses that utilize a variety of instructional materials to present information," with a mean of 4.64, also interpreted as Highly Implemented.

**Table 2.** *Mean Distribution on the Level of Implementation of Differentiated Instruction Techniques in terms of Varied Instructional Materials*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | Find that varied instructional materials cater to my individual learning preferences. | 4.80 | Highly Implemented |
| 2 | Feel more motivated to learn when a range of instructional materials is used. | 4.78 | Highly Implemented |
| 3 | Believe that using varied instructional materials makes content more accessible to all pupils. | 4.85 | Highly Implemented |
| 4 | Appreciate when different instructional materials are provided to help understand complex concepts. | 4.88 | Highly Implemented |
| 5 | Find classes that use varied instructional materials are more engaging. | 4.73 | Highly Implemented |
| 6 | Think that varied instructional materials support a more profound understanding of the subject matter. | 4.86 | Highly Implemented |
| 7 | Prefer courses that utilize a variety of instructional materials to present information. | 4.64 | Highly Implemented |
| | **Section Mean** | **4.79** | **Highly Implemented** |

Hence, the findings imply that incorporating varied instructional materials effectively addresses different learning preferences and enhances engagement and comprehension, supporting a more inclusive and adaptable learning environment that fosters more profound understanding. Corroborating this perspective, Alciso et al. (2023) emphasized the development of outcomes-based instructional materials in professional teacher education, highlighting their flexibility and responsiveness to diverse educational needs. The study suggests that well-crafted instructional materials enhance learning by aligning educational goals with adaptable content, fostering pupil engagement, and accommodating diverse learner needs. This aligns with the importance of varied instructional materials, showing their potential to make learning relevant, accessible, and tailored to individual learning preferences. Also, Abubakar (2020) investigated the impact of instructional materials on learners' academic performance in Physics in Sokoto, Nigeria, demonstrating a strong positive influence on comprehension and achievement. The study highlights that diverse instructional tools enhance concept clarity and retention, leading to improved academic outcomes. This supports the indicator of varied instructional materials by showcasing their role in creating more engaging, accessible, and effective learning environments, especially for complex subjects like Physics.

Table 3 displays the mean distribution for the level of implementation of differentiated instruction techniques focusing on visual aids and graphic organizers. The overall section mean is 4.82, described as Highly Implemented, indicating that respondents lead in the differentiated techniques' use of visual aids and graphic organizers to enhance learning effectiveness.

**Table 3.** *Mean Distribution on the Level of Implementation of Differentiated Instruction Techniques in terms of Visual Aids and Graphic Organizer*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | Understand concepts better when visual aids and graphic organizers are used in teaching. | 4.76 | Highly Implemented |
| 2 | Find visual aids and graphic organizers that are helpful in organizing and remembering information. | 4.81 | Highly Implemented |
| 3 | Believe that visual aids and graphic organizers make learning more interesting. | 4.90 | Highly Implemented |
| 4 | Appreciate the use of visual aids and graphic organizers to clarify complex ideas. | 4.86 | Highly Implemented |
| 5 | Feel that visual aids and graphic organizers support diverse learning needs. | 4.78 | Highly Implemented |
| 6 | Prefer lessons that incorporate visual aids and graphic organizers. | 4.81 | Highly Implemented |
| 7 | Visual aids and graphic organizers facilitate a quicker grasp of learning materials. | 4.80 | Highly Implemented |
| | **Section Mean** | **4.82** | **Highly Implemented** |

Moreover, the highest mean is associated with the statement, "Believe that visual aids and graphic organizers make learning more interesting," with a mean of 4.90, interpreted as Highly Implemented. The lowest mean is "Understand concepts better when visual aids and graphic organizers are used in teaching," with a mean of 4.76, also interpreted as Highly Implemented. This study implies that the consistent use of visual aids and graphic organizers greatly improves pupil interest, comprehension, and the ability to grasp complex concepts, making learning more accessible and engaging for diverse learners.

Corroborating this observation, Kurniaman and Zufriady (2019) investigated the effectiveness of graphic organizers in enhancing reading comprehension among elementary pupils. Their study found that these tools help structure information, making it easier for pupils to grasp and retain reading material. The findings highlight the role of graphic organizers in differentiated instruction by supporting diverse learning needs, aiding in content accessibility, and boosting pupils' ability to understand and remember complex reading content. Mamadaliyeva and Ismanova (2020) explored using visual aids and information technology in teaching English, emphasizing how these tools make learning more engaging and effective. Their study showed that visual aids enhance comprehension and maintain pupil interest by presenting material more interactively. This aligns with the indicator of incorporating visual aids and graphic organizers, underscoring their value in making complex concepts more comprehensible and engaging for diverse learners.

Table 4 presents the mean distribution for the level of implementation of differentiated instruction techniques related to scaffolded tasks. The overall section mean is 4.69, with a descriptive interpretation of Highly Implemented. This indicates that respondents lead in differentiated techniques in terms of the scaffolded tasks in their educational practices, acknowledging their value in facilitating learning by providing structured, step-by-step support.

**Table 4.** *Mean Distribution on the Level of Implementation of Differentiated Instruction Techniques in terms of Scaffolded Tasks*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | Feel more confident in my ability to complete tasks when they are scaffolded. | 4.68 | Highly Implemented |
| 2 | I believe scaffolded tasks help gradually build my understanding of the subject. | 4.71 | Highly Implemented |
| 3 | Appreciate when tasks are broken down into manageable steps to assist learning. | 4.83 | Highly Implemented |
| 4 | Find scaffolded tasks essential for mastering complex concepts. | 4.90 | Highly Implemented |
| 5 | Think that scaffolded tasks promote independence in learning. | 4.75 | Highly Implemented |
| 6 | Prefer learning environments that utilize scaffolded tasks to introduce new skills. | 4.83 | Highly Implemented |
| 7 | Feel that scaffolded tasks are beneficial in providing personalized learning experiences. | 4.69 | Highly Implemented |
| | **Section Mean** | **4.69** | **Highly Implemented** |

Additionally, the statement with the highest mean is "Find scaffolded tasks essential for mastering difficult concepts," with a mean of 4.90, interpreted as Highly Implemented. The statement with the lowest mean is "Feel more confident in my ability to complete tasks when they are scaffolded," with a mean of 4.68, also interpreted as Highly Implemented. Hence, the implication of this study suggests that scaffolded tasks play a crucial role in assisting pupils to master complex topics by breaking them into manageable steps. This approach enhances learners' confidence, promotes independence, and offers personalized learning experiences, ultimately fostering a supportive and engaging educational environment. Implementing scaffolded learning strategies can significantly contribute to educational success by addressing diverse learning needs and facilitating meaningful comprehension.

In a related context, Dominguez and Svihla (2023) reviewed teacher-implemented scaffolding strategies in K-12 education, emphasizing their pivotal role in pupils' learning and skill development. Their findings highlight that effective scaffolding adjusts support to meet individual learning needs, gradually withdrawing assistance as pupils gain competence. This aligns with the importance of scaffolded tasks in differentiated instruction by enabling tailored support for mastering complex concepts, fostering pupils' confidence and academic growth through structured learning. Complementing this, Sun et al. (2023) conducted a systematic review of teacher scaffolding in game-based learning within primary education, revealing that scaffolding enhances engagement and knowledge acquisition. Teachers enable deeper learning and skill mastery by providing guidance tailored to pupils' needs within game-based environments. This demonstrates that scaffolded tasks are essential for fostering complex skill development, promoting independence, and making learning contexts more meaningful and interactive for young learners.

Table 5 presents the mean distribution of pupils' responses to differentiated instruction techniques regarding motivation. The overall section mean is 4.63, which is interpreted as Highly Motivated. This indicates that pupils generally exhibit a high level of motivation in response to differentiated instructional methods, showing engagement and enthusiasm in their learning activities.

**Table 5.** *Mean Distribution on the Level of Pupils' Responses to Differentiated Instruction Techniques in terms of Motivation*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | Get excited about learning when the lessons are fun and interactive. | 4.74 | Highly Motivated |
| 2 | How much I try in class directly affects how well I do in my schoolwork. | 4.48 | Motivated |
| 3 | Feel more interested in the subjects when teachers use cool and new ways to teach. | 4.66 | Highly Motivated |
| 4 | I like it when teachers make learning a game or a group activity. | 4.59 | Highly Motivated |
| 5 | Know that I remember things better when excited and paying attention in class. | 4.66 | Highly Motivated |
| | **Section Mean** | **4.63** | **Highly Motivated** |

Specifically, the highest mean is associated with the statement "Get excited about learning when the lessons are fun and interactive," with a mean of 4.74, interpreted as Highly Motivated. The lowest mean is "Think how much I try in class directly affects how well I do in my schoolwork," with a mean of 4.48, interpreted as Motivated. Hence, the implication of this study suggests that incorporating fun, interactive, and varied teaching methods through differentiated instruction significantly enhances pupil motivation. Educators can foster a more stimulating learning environment by making lessons engaging and relatable, encouraging greater participation and retention. This approach effectively tailors learning experiences to meet diverse pupil needs, promoting academic success and a positive attitude toward learning. The findings indicated that diverse media tailored to individual learning styles boost pupil motivation and engagement.

Supporting this finding, Zens (2021) investigated the impact of differentiated learning activities on pupil engagement and motivation in the English Language Arts classroom. The study revealed that tailoring instructional activities to meet diverse pupil needs significantly increases engagement and motivation. This suggests that by addressing individual learning preferences, differentiated learning fosters a more stimulating and inclusive educational environment. Such methods enhance motivation and engagement, making learning experiences more relevant and captivating for pupils. Complementing this, Demir (2021) examined how differentiated instructional media affect motivation and pupils' perspectives toward science learning, considering various learning styles. The findings indicated that diverse media tailored to individual learning styles boost pupil motivation and engagement. This underscores the importance of flexible, differentiated instructional approaches in meeting diverse educational needs, enhancing motivation, and fostering positive learning attitudes, ultimately promoting more effective and inclusive science education experiences.

Table 6 presents the mean distribution of pupils' responses to differentiated instruction techniques regarding engagement. The overall section mean is 4.63, with a descriptive interpretation of Highly Engaged. This indicates that pupils generally exhibit a strong level of engagement in their learning experiences when differentiated instruction techniques are employed, reflecting an active interest and involvement in class activities.

**Table 6.** *Mean Distribution on the Level of Pupils' Responses to Differentiated Instruction Techniques in terms of Engagement*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | Feel involved in class when teachers use different and fun teaching methods. | 4.64 | Highly Engaged |
| 2 | Believe that when I am interested and active in class, I do better in my schoolwork. | 4.65 | Highly Engaged |
| 3 | I want to get into my school subjects more when teachers make them fun and interesting. | 4.58 | Highly Engaged |
| 4 | Feel awesome when teachers let us do things like experiments or projects. | 4.51 | Highly Engaged |
| 5 | I like classes more when teachers ensure we all pay attention and have fun while learning. | 4.79 | Highly Engaged |
| | **Section Mean** | **4.63** | **Highly Engaged** |

Moreover, the highest mean is associated with the statement "Like classes more when teachers make sure we are all paying attention and having fun while learning," with a mean of 4.79, interpreted as Highly Engaged. The lowest mean is "Feel awesome when teachers let us do things like experiments or projects," with a mean of 4.51, also interpreted as Highly Engaged. Thus, the implication of this study suggests that employing engaging instructional methods, such as fun and interactive activities, significantly boosts pupils' engagement levels. Differentiated strategies like projects and experiments encourage active participation and foster a positive learning atmosphere, enhancing pupils' focus, enthusiasm, and overall learning outcomes. This aligns with differentiated instruction's capacity to boost pupils' engagement by providing relevant, accessible learning experiences, enriching their educational journey, and creating a dynamic, supportive classroom atmosphere.

Supporting this notion, Halif et al. (2020) explored the moderating role of pupil motivation in the relationship between learning styles and engagement, finding that higher motivation enhances pupil engagement across various learning approaches. This implies that differentiated instruction techniques tailored to individual learning preferences can maximize engagement, as motivated pupils are more likely to actively participate and connect with their learning experiences, fostering deeper educational involvement and success. In a related context, Ismajli and Imami-Morina (2018) emphasized differentiated instruction to accommodate diverse learning needs through interactive strategies. Their study highlights that engaging, tailored teaching practices foster inclusive classroom environments, improving pupils' engagement by aligning teaching methods with individual capabilities. This aligns with differentiated instruction's capacity to boost pupils' engagement by providing relevant, accessible learning experiences, enriching their educational journey and creating a dynamic, supportive classroom atmosphere.

Table 7 shows the mean distribution of pupils' responses to differentiated instruction techniques in academic achievements, with a section mean of 85.55, interpreted as Very Satisfactory. This indicates that overall, pupils achieved a very satisfactory level of academic performance across the subjects assessed, demonstrating the effectiveness of differentiated instruction in supporting learning.

**Table 7.** *Mean Distribution on the Level of Pupils' Responses to Differentiated Instruction Techniques in terms of Academic Achievements*

| No. | Indicators | Mean | Interpretation |
|---|---|---|---|
| 1 | English | 85.37 | Very Satisfactory |
| 2 | Mathematics | 85.34 | Very Satisfactory |
| 3 | Science | 85.94 | Very Satisfactory |
| | **Overall Mean** | **85.55** | **Very Satisfactory** |

The highest mean is found in "Science" with a mean score of 85.94, interpreted as Very Satisfactory. The lowest mean is observed in "Mathematics," with a mean of 85.34, with slight variation is also interpreted as Very Satisfactory. Hence, this study implies that differentiated instruction techniques positively influence academic performance, particularly enhancing outcomes in Science more than other subjects. Although it posits that slight variation in mathematics-focused strategies may be required to improve outcomes further, it demonstrates the need for tailored instructional practices for varying subject demands.

Corroborating this perspective, Kotob and Abadi (2019) examined the impact of differentiated instruction on pupils' academic achievement in mixed-ability classrooms. This suggests that differentiated instruction allows educators to provide targeted support and personalized learning experiences, improving comprehension and academic outcomes, particularly for pupils with varying abilities, thus making learning more accessible and practical. Similarly, Grain et al. (2022) explored the effect of differentiated instruction on Level 2 English pupils' academic achievement in Iraq's public sector universities. The study found that differentiated teaching approaches positively influenced pupils' learning outcomes by accommodating their unique learning styles and needs. This

underscores the importance of adopting flexible instructional strategies to boost academic success, highlighting how differentiated instruction enables pupils to reach their full potential through customized learning pathways.

### 3.2 Relationship between Implementation of Differentiated Instruction, Motivation, and Academic Performance

Table 8 presents the results of the correlation analysis between the extent of implementation of differentiated instruction techniques and pupils' motivation and engagement. The descriptive statistics show a mean value of 4.630 for motivation/engagement with a standard deviation of 0.29. At the same time, the implementation of differentiated instruction has a mean of 4.81 and a standard deviation of 0.19.

**Table 8.** *Relationship between Motivation/Engagement and Implementation*

| ` | Mean | SD | r | p-value | Interpretation |
|---|---|---|---|---|---|
| **Motivation/Engagement** | 4.63 | 0.29 | .42 | <.001 | Significant Moderate Correlation |
| **Implementation** | 4.81 | 0.19 | | <.001 | |

*$r^2$ = .18, .05 level of Significance (2-tailed)*

However, the Pearson (r) correlation coefficient of 0.425 between motivation/engagement and implementation reveals a moderate positive relationship. This implies that when differentiated instruction techniques are effectively implemented, there is a corresponding increase in pupils' levels of engagement and motivation. Notably, the p-value of 0.000 indicates a statistically significant correlation at the 0.05 significance level. Thus, the data strongly support the hypothesis that differentiated instruction strategies positively influence pupil motivation and engagement. The obtained strength of the relationship between the implementation of differentiated instruction techniques and motivation and engagement, represented by the coefficient of determination ($r^2$ = 0.18), indicates that the level of implementation of these instructional techniques can explain 18% of the variance in pupils' motivation and engagement. Conversely, 82% of the variance is attributed to other variables not examined in this study. This suggests that while implementing differentiated instruction significantly contributes to fostering pupils' motivation and engagement, additional factors such as teacher quality, classroom dynamics, peer relationships, and external influences like family support may also play a crucial role in shaping these outcomes.

Thus, the findings further highlight a significant moderate correlation between implementing differentiated instruction techniques and pupils' motivation and engagement. This implies that when differentiated instruction strategies are effectively applied, pupils are more likely to exhibit higher interest, motivation, and engagement in their learning activities. About the result, the study of Brunello and Brunello (2022) explored the connection between differentiated instruction and pupil motivation in mixed-ability classrooms, revealing that tailored teaching strategies significantly enhance motivation. Their study suggests that differentiated approaches address diverse learning needs, increasing pupils' engagement and interest. This implies that such techniques directly influence pupil motivation, creating a supportive and stimulating environment that encourages active participation and sustained effort. Similarly, Saputri et al. (2023) examined differentiated instruction's impact on learners' perception, engagement, and motivation in EFL high school education, highlighting that customized learning activities foster higher engagement levels and motivation. The study found that differentiated instruction methods made learning more relatable and dynamic. This suggests a positive relationship between implementing differentiated strategies and increased pupil motivation and engagement, emphasizing the importance of adapting teaching to meet diverse needs.

Table 9 presents the descriptive statistics and correlation results for the relationship between academic achievements and the implementation of differentiated instruction techniques. Based on the sample size of 317 (N), the mean for academic achievements is 85.56, with a standard deviation of 3.91, while the mean for implementation is 4.81, with a standard deviation of 0.19.

**Table 9.** *Relationship between Academic Achievements and Implementation*

| | Mean | SD | r | p-value | Interpretation |
|---|---|---|---|---|---|
| **Academic Achievements** | 85.56 | 3.91 | .43 | <.001 | Significant Moderate Correlation |
| **Implementation** | 4.819 | 0.19 | | | |

*$r^2$ = .19, .05 level of Significance (2-tailed)*

Moreover, the Pearson correlation coefficient (r) between academic achievements and the implementation of differentiated instruction is 0.43, with 0.000 as the p-value. This indicates a significant moderate positive relationship between the two variables, as the p-value is well below the 0.01 significance level. This finding suggests that as the

The correlation coefficient ($r^2 = 0.19$) indicates that 19% of pupils' academic achievement variance can be attributed to implementing differentiated instruction techniques. Conversely, 81% of the variance is explained by other factors not included in this study. This suggests that while differentiated instruction contributes meaningfully to pupils' academic success, additional influences such as teacher expertise, curriculum quality, school resources, socio-economic factors, and pupils' learning habits also play a critical role. Hence, the result implies that differentiated instruction techniques can significantly boost pupils' academic performance. Educators can create more inclusive and effective classrooms by customizing teaching methods to fit individual pupil needs and learning preferences, ultimately driving better academic outcomes. This underscores the importance of investing in training and resources to implement differentiated instruction strategies and enhance pupil success.

According to Lv et al. (2016), which explored the link between academic achievement and the emotional well-being of elementary pupils in China, highlighting parent-school communication as a moderating factor. Their findings emphasize the significance of creating supportive environments that foster academic success. This implies that effective implementation of differentiated instruction strategies, alongside robust communication and collaboration with parents, can enhance pupils' academic outcomes by addressing emotional and contextual factors that influence learning. Similarly, Özcan (2021) examined various factors affecting pupil academic achievement based on teachers' opinions, noting that tailored teaching methods and contextual adaptations play a pivotal role. The study underscores the importance of aligning instructional practices with pupil needs to maximize academic performance. This suggests that when responsive to diverse needs, differentiated instruction implementation can significantly boost academic success, fostering a holistic and adaptable educational approach that benefits all learners.

### 3.3 Challenges Encoountereed

Table 10 outlines the challenges of implementing differentiated instruction techniques in the classroom, with a ranked list of ten issues. Time constraints emerge as the top-ranked challenge, indicating that educators often struggle to find sufficient time to design and implement differentiated strategies effectively. This suggests that the complexity of catering to diverse pupil needs may clash with the rigid schedules and demands placed on teachers. Closely following, resource limitations rank second, highlighting the lack of adequate materials, tools, and support structures necessary for effectively applying differentiated instruction.

**Table 10.** *Challenges Associated with the Implementation of Differentiated Instruction Technique in the Classroom*

| No. | Challenges | Rank |
|---|---|---|
| 1 | Time Constraints | 1 |
| 2 | Resource Limitations | 2 |
| 3 | Classroom Management | 4 |
| 4 | Teacher Training and Support | 3 |
| 5 | Assessment | 8 |
| 6 | Resistance to Change | 7 |
| 7 | Pupil Motivation | 6 |
| 8 | Socio-economic Disparities | 5 |
| 9 | Inclusive Practice | 9 |
| 10 | Accountability | 10 |

Additional challenges, such as classroom management (ranked third) and teacher training and support (ranked fourth), emphasize the importance of fostering a conducive environment and equipping educators with the skills and confidence needed to adapt their teaching methods. Lower-ranked challenges, such as resistance to change, pupil motivation, socio-economic disparities, inclusive practice, and accountability, reflect broader systemic and social factors that can further complicate efforts to tailor instruction. These findings underscore the multifaceted nature of implementing differentiated instruction and the need for comprehensive support and reform. This notion is supported by Nurlankyzy and Elmira (2023). The study highlights the complex challenges and strategies in implementing differentiated instruction within classrooms. Their research underscores that educators face

prevalent issues with time constraints, resource limitations, and resistance to change. Strategies such as targeted professional development and collaborative planning sessions were suggested to mitigate these challenges. This emphasizes that overcoming obstacles to differentiation requires systemic support and deliberate planning to accommodate diverse pupil needs. Also, Suryati et al. (2023) explore specific challenges encountered by English teachers in junior high schools when implementing differentiated instruction, including limited training, diverse learner capabilities, and insufficient resources. The study reveals that teachers often struggle to balance the needs of varied learners while maintaining curriculum standards. Providing ongoing teacher training and access to resources is suggested to alleviate these issues, facilitating the successful integration of differentiated strategies into classroom practices.

## 4.0 Conclusion

Teachers play a vital role in meeting pupils' diverse learning needs through effective instructional strategies. This study determines the impact of differentiated instruction techniques, such as hands-on exploration, varied instructional materials, visual aids, and scaffolded tasks, on pupil motivation, engagement, and academic achievement. It also highlights challenges faced by educators in implementing these strategies, emphasizing the need for support and resources to enhance teaching effectiveness. In terms of the level of the implementation in differentiated instruction techniques, the study concludes that the consistently high mean scores across hands-on exploration, varied instructional materials, visual aids, and graphic organizers, and scaffolded tasks demonstrate the successful implementation of differentiated instruction. These findings highlight the importance of employing diverse instructional strategies to address learning needs and enhance educational outcomes. Pupils exhibited high levels of motivation and engagement in response to these techniques, and their academic achievements in subjects like Science, English, and Mathematics further validate the positive impact of differentiated teaching on learning outcomes. Moreover, the study confirms that pupil motivation and engagement are dependent on the implementation of varied instructional techniques. At the same time, academic success is closely linked to the extent to which differentiated strategies are integrated into teaching practices. However, despite these benefits, key challenges such as time constraints, resource limitations, and classroom management hinder the efficient implementation of differentiated instruction. These obstacles emphasize the need for strategic interventions to support educators in overcoming barriers and maximizing the effectiveness of differentiated teaching. This study is limited to a specific geographical area—elementary schools in Tampakan, South Cotabato—which may affect the generalizability of the findings to other regions with different educational contexts. Future research should consider expanding the scope to include a larger and more diverse sample across multiple regions in the Philippines. Longitudinal studies could also examine the sustained impact of differentiated instruction on academic performance over time.

## 5.0 Contributions of Authors

The authors indicate equal contribution to each section. The authors reviewed and approved the final work.


## 6.0 Funding

This work received no specific grant from any funding agency.


## 7.0 Conflict of Interests

The authors declare no conflicts of interest regarding the publication of this paper.


## 8.0 Acknowledgement

The researchers extend their immeasurable appreciation and deepest gratitude to the following individuals for their untiring assistance, guidance, suggestions, and encouragement to make the study possible. Samson L. Molao, EdD, President of SKSU, and Jesusa D. Ortuste, PhD, OIC-President, for their service and dedication to the university; Mildred F. Accad, PhD, Graduate School Dean, for her untiring support and encouragement for the completion of the undertaking; Cherry Vanessa M. Ventura, PhD, and Efren C. Flores, PhD, the advisory committee, for their enriching advices, suggestions, and guidance in materializing the paper; Richard C. Toledo, MAEd-English, their critic and the language editor, for his efforts and remarks in checking and editing that improved the manuscript's contents; Efren C. Flores, PhD, statistician, for sharing his knowledge and assistance in data analysis and statistical computations and led the researcher to come up with the valid and reliable result; To the Division Superintendents, Crispin A. Soliven Jr., CESE, of Sultan Kudarat Division, and Leonardo M. Balala, CESO V, of South Cotabato Division, to their permission to conduct this study; Ramona F. Bangoc, To the Cluster Head, of Tampakan District of South Cotabato, to the permission to conduct the study in the selected schools of Tampakan District. To the school heads, thank you for allowing the researchers to study the survey questionnaires. Study Respondents, the teachers and pupils of Tampakan District, for their worthy support, cooperation, and time to provide all essential information's; To the School Head, Geraldine G. Dalengga, TIII-Teacher In-Charge of Tananzang Elementary School, and Cluster Head of Lutayan District II, Sultan Kudarat, Daisy V. Prio, for allowing the researchers to conduct the pilot testing of the survey questionnaires; Special thanks are also accorded to Emilyn B. Borja, PhD., Jonathan P. Roque, Assistant Professor II, Verna C. Pedregosa, MT-I, for sharing their exemplified expertise as Content-Validators of Survey Questionnaires.

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