

Effectiveness of Teacher Aide Led Differentiated Task on Learner Engagement

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Publication Date: 2026/04/28

Abstract: This study aimed to determine the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School. Specifically, it examined the level of learner engagement in terms of behavioral, emotional, and cognitive domains; identified the types of differentiated tasks implemented by teacher aides; determined pupils' perception of these activities in terms of motivation, interest, and understanding; and identified challenges encountered during implementation.

The study employed a descriptive quantitative research design. A total of six (6) teacher aides served as respondents using total enumeration sampling. Data were collected through a structured questionnaire and analyzed using frequency, percentage, weighted mean, and Analysis of Variance (ANOVA).

Findings revealed that pupils demonstrated a very high level of behavioral engagement and high levels of emotional and cognitive engagement. Teacher aides perceived differentiated tasks as effective in improving pupils' motivation, interest, and understanding. However, challenges such as time constraints, large class sizes, and limited resources were experienced to a moderate extent. The ANOVA results showed no significant difference in learner engagement across domains, indicating that differentiated instruction supports engagement holistically.

The study concludes that teacher aide-led differentiated tasks are effective in enhancing learner engagement. It recommends strengthened collaboration, training, and institutional support to maximize the role of teacher aides in instructional delivery.

How to Cite: Marah Jane L. Eduad (2026) Effectiveness of Teacher Aide Led Differentiated Task on Learner Engagement. *International Journal of Innovative Science and Research Technology*, 11(4), 2107-2116. <https://doi.org/10.38124/ijisrt/26apr1063>

I. INTRODUCTION

Education plays a vital role in shaping learners' knowledge, skills, and attitudes necessary for lifelong success. In contemporary classrooms, teachers encounter students with diverse abilities, learning preferences, cultural backgrounds, and readiness levels. Because of this diversity, traditional one-size-fits-all instructional approaches often fail to address individual learner needs effectively. This has led to the growing emphasis on differentiated instruction, an approach that modifies content, process, product, and learning environment to respond to students' varying readiness, interests, and learning profiles (Carol Ann Tomlinson, 2014).

In this context, teacher aides play a supportive instructional role by assisting in classroom management, facilitating small-group activities, and providing additional

guidance to learners. This study explores whether teacher aide-led differentiated tasks can enhance student engagement and contribute to a more inclusive and learner-centered classroom environment. (Peter Blatchford et al., 2012)

The concept of differentiated instruction has evolved from early educational philosophies that emphasized individual differences in learning. Progressive education movements in the early 20th century, influenced by scholars such as John Dewey (1938), advocated for learner-centered approaches that consider students' experiences, interests, and developmental levels. Dewey's work laid the foundation for instructional practices that move beyond uniform teaching methods toward more responsive and flexible strategies. (Dewey, 1938).

The topic of differentiated instruction and learner engagement is highly relevant in the Philippine K–12 basic education system, particularly in light of recent educational policies and classroom realities. The Department of Education's Inclusive Education Policy Framework emphasizes that the K–12 curriculum must be learner-centered, developmentally appropriate, and responsive to learner diversity, requiring teachers and support personnel to design learning environments that attend to diverse needs and learning styles. This mandate is further supported by Republic Act No. 10533, also known as the Enhanced Basic Education Act of 2013, which institutionalized the K–12 program and requires the curriculum to be learner-centered, inclusive, and responsive to the needs of diverse learners (Republic Act No. 10533, 2013).

Despite growing awareness of differentiated instruction and learner engagement, there remains a notable gap in how these strategies are operationalized in Philippine K–12 classrooms. While studies show that teachers recognize the benefits of differentiated instruction (Tomlinson, 2014) and understand the importance of learner engagement (Fredricks et al., 2004), practical implementation is often inconsistent. Classroom challenges such as large student populations, limited instructional time, and insufficient training for differentiated practices make it difficult for teachers to provide individualized learning experiences effectively (Blatchford et al., 2012).

In the Philippine context, the utilization of teacher aides or teaching assistants in formal instructional roles remains underexplored. Although DepEd policies encourage inclusive education and support personnel deployment, most research focuses on teacher-led differentiation rather than structured, teacher aide-led interventions (DepEd, 2018). Existing studies often discuss teacher aides' roles in supervision or clerical support but rarely examine their direct involvement in leading differentiated tasks that target learner engagement. This lack of evidence leaves a critical gap: it is unclear whether assigning teacher aides to facilitate differentiated learning tasks can significantly enhance student participation, motivation, and cognitive involvement in K–12 classrooms.

The research contributes to the academic understanding of differentiated instruction and learner engagement by exploring a relatively under-researched area: the role of teacher aides in leading instructional tasks. While existing literature emphasizes teacher-led differentiation (Tomlinson, 2014) and the importance of engagement (Fredricks et al., 2004), few studies examine how support personnel can actively facilitate learning. By investigating this dynamic, the study expands current educational theory, providing insights into collaborative instructional strategies and the impact of auxiliary roles on student outcomes.

From a practical perspective, the findings can inform classroom practices, school policies, and teacher training programs. Effective implementation of teacher aide-led differentiated tasks could help teachers manage diverse classrooms more efficiently, increase student engagement,

and improve learning outcomes, particularly in classrooms with large student populations or varied learning abilities. Moreover, the study offers actionable strategies for maximizing available resources, ensuring that all learners receive appropriate support, and promoting more inclusive and learner-centered learning environments. Over all, the research bridges theory and practice by demonstrating how structured teacher aide involvement in differentiation can enhance educational quality and address challenges faced by modern classrooms.

➤ *Significance of the Problem:*

This problem is significant because modern classrooms often include students with varying abilities, learning styles, and readiness levels, which can make it challenging for teachers to provide personalized instruction effectively. Understanding how teacher aides can actively support differentiated learning has the potential to improve learner engagement, optimize classroom resources, and contribute to more inclusive and effective teaching practices. Addressing this gap also expands theoretical knowledge on collaborative instructional roles and provides evidence-based strategies that can inform both policy and classroom-level decisions. The study on the effectiveness of teacher aide-led differentiated tasks is significant because it addresses critical educational needs and benefits multiple stakeholders:

To the Students, by examining differentiated tasks facilitated by teacher aides, the study seeks to enhance learner engagement, allowing students to participate more actively, develop critical thinking skills, and achieve better academic outcomes. Engaged students are more motivated, confident, and capable of learning at their own pace, which supports personal growth and mastery of concepts.

To the Parents, Parents can gain assurance that their children receive personalized attention in the classroom, especially when teachers are supported by aides. Insights from the study may help parents understand how additional instructional support contributes to their child's motivation, participation, and overall learning experience.

To the Educators/Teachers, the findings provide teachers with evidence-based strategies for effectively utilizing teacher aides in leading differentiated tasks. This can reduce workload pressures, improve classroom management, and support teachers in implementing learner-centered practices, making instruction more effective and sustainable.

To the Schools/Administrators, School administrators can use the study's results to design better staffing policies, allocate resources efficiently, and implement professional development programs for teacher aides. Structured integration of aides can strengthen instructional quality and promote a more inclusive and supportive school environment.

To the Future Researchers, this research adds to the academic body of knowledge on differentiated instruction

and learner engagement, particularly in exploring the role of support personnel. Future researchers can build on its findings to explore new instructional models, test similar strategies in different subjects or grade levels, or examine long-term effects on academic performance.

To the Others: (Educational Stakeholders/Policy-makers), The study offers actionable insights for policymakers, curriculum developers, and teacher training institutions. It highlights the potential of teacher aides in enhancing engagement and can inform national or local education programs aiming to improve classroom outcomes, inclusivity, and learner-centered education strategies.

To the Students, the study can enhance students' learning experiences by increasing their engagement in classroom activities. When tasks are tailored to individual needs and facilitated by additional support personnel, students are more likely to participate actively, remain motivated, and develop critical thinking and problem-solving skills (Fredricks et al., 2004).

To the Parents, Parents may benefit from a better understanding of how classroom support systems, such as teacher aides, contribute to their child's academic performance and overall development. The study provides evidence of the positive effects of collaborative learning environments, offering reassurance that students receive personalized attention.

To the Educators/Teachers, Teachers can use the findings to optimize classroom instruction by effectively integrating teacher aides into differentiated learning activities. This can help reduce teacher workload, improve classroom management, and promote learner-centered practices that cater to diverse student needs (Blatchford et al., 2012).

To the Schools/Administrators, School administrators can leverage the research to design policies and programs that maximize the impact of teacher aides. Insights from the study may guide resource allocation, professional development, and instructional planning, ultimately fostering more inclusive and supportive school environments.

To the Future Researchers, this study contributes to the academic understanding of differentiated instruction and learner engagement by exploring a less-studied area: the role of teacher aides in facilitating learning. Future researchers can build on these findings to investigate new instructional models, test similar strategies in different grade levels or subjects, or assess long-term impacts on student achievement.

To the Others: (Educational Stakeholders/Policy-makers), Policymakers, curriculum developers, and teacher training institutions can use the study's results to inform inclusive education strategies, strengthen teacher aide training programs, and improve

learner-centered practices. The research highlights actionable strategies that can be adapted to various classroom contexts, promoting a more equitable and effective educational system.

➤ *Statement of the Problem*

This study aims to determine the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School.

• *Specifically, this Study Seeks to Answer the Following Questions:*

- ✓ What is the level of learner engagement of elementary pupils when teacher aides facilitate differentiated tasks, as measured by the following indicators:
 - Behavioral engagement (active participation, task completion, on-task behavior)
 - Emotional engagement (interest, enthusiasm, positive attitude toward the lesson)
 - Cognitive engagement (effort in learning, critical thinking, persistence in challenging tasks)?
- ✓ What types of differentiated tasks (e.g., small-group activities, tiered assignments, learning stations, remedial/enrichment tasks) are implemented by elementary teacher aides?
- ✓ Is there a significant difference in learner engagement when pupils are exposed to different types of teacher aide-led differentiated tasks?
- ✓ What is the level of pupils' perception of teacher aide-led differentiated activities in terms of:
 - Motivation
 - Interest
 - Understanding of the lesson?
- ✓ What challenges are encountered by elementary teacher aides in implementing differentiated tasks in the classroom?

➤ *Scope and Limitations of the Study*

This study focuses on examining the effectiveness of teacher aide-led differentiated tasks on learner engagement in the classroom. The respondents of the study are Teacher Aides in Palauig Central School.

The investigation is limited to the selected teacher aides and the specific classroom contexts in which they are assigned during the conduct of the study. The findings are therefore confined to Palauig Central School and may not be generalize to other grade levels, schools, or educational settings with different organizational structures, student populations, and available resources.

Furthermore, the study measures only learner engagement as the primary outcome variable. It does not assess other academic indicators such as student

achievement, academic performance, or long-term learning outcomes.

➤ *Framework of the Study*

This chapter of the study presented information and resources gathered from related literature and studies that had a significant impact on the study's findings.

II. REVIEW OF LITERATURE AND RELATED STUDIES

➤ *Effectiveness of the Teacher Aid Led Differentiated Task on Learner Engagement*

This chapter presents a review of literature and empirical studies relevant to the effectiveness of teacher aide-led differentiated tasks on learner engagement. The review is organized thematically to align with the research objectives and conceptual framework. It explores the principles of differentiated instruction, the role of teacher aides in classrooms, the concept of learner engagement, the relationship between differentiated instruction and engagement, and challenges in implementation. The chapter concludes by identifying research gaps that justify the need for the present study.

Differentiated instruction is an approach that modifies content, process, product, and learning environment to meet the diverse needs of learners (Tomlinson, 2014). It emphasizes responding to differences in readiness, interests, and learning profiles, ensuring equitable access to meaningful learning (Tomlinson, 2014). Research indicates that differentiated tasks improve student motivation, understanding, and achievement by allowing learners to work at appropriate levels of challenge (Tomlinson, 2014; Fredricks et al., 2004). Teachers who apply differentiation effectively create flexible learning pathways that promote engagement and inclusivity (Tomlinson, 2014; Blatchford et al., 2012).

Teacher aides, also known as teaching assistants, provide instructional support that complements the teacher's role (Blatchford et al., 2012). They often facilitate small-group activities, monitor student progress, and assist in adapting tasks to individual learners (Blatchford et al., 2012; Tomlinson, 2014). When teacher aides are strategically involved in instruction, students exhibit higher participation and improved learning outcomes (Blatchford et al., 2012). However, many classrooms limit aides to clerical or supervisory roles, leaving their instructional potential underutilized (Blatchford et al., 2012).

Learner engagement is the extent to which students are involved in learning activities, both behaviorally, emotionally, and cognitively (Fredricks et al., 2004). Behavioral engagement includes participation and task completion (Fredricks et al., 2004). Emotional engagement reflects interest and motivation toward learning (Fredricks et al., 2004; Tomlinson, 2014). Cognitive engagement involves effortful learning, critical thinking, and deeper understanding (Fredricks et al., 2004). Engaged students are more likely to achieve academically, develop positive

attitudes toward learning, and persist in challenging tasks (Fredricks et al., 2004; Blatchford et al., 2012).

Differentiated instruction has been consistently linked to enhanced learner engagement (Tomlinson, 2014; Fredricks et al., 2004). When learning experiences are tailored to student readiness, interests, and learning preferences, students are more likely to participate actively and invest cognitively in tasks (Tomlinson, 2014; Fredricks et al., 2004). Teacher aide-led differentiated tasks extend this effect by providing additional support, enabling smaller group interactions, and ensuring that learners receive individualized attention (Blatchford et al., 2012).

Despite its benefits, differentiated instruction faces practical challenges, such as large class sizes, limited time, insufficient teacher training, and variability in support personnel utilization (Blatchford et al., 2012; Tomlinson, 2014). These challenges may hinder consistent application of differentiated strategies and limit their impact on learner engagement (Blatchford et al., 2012).

Several empirical studies support the relationship between instructional support, differentiation, and engagement. Blatchford et al. (2012) found that teacher aides significantly improve student outcomes when their roles are instructional rather than purely supervisory. Tomlinson (2014) emphasized that differentiation tailored to student readiness and interest leads to higher participation and achievement. Fredricks et al. (2004) highlighted that learner engagement is a multidimensional construct and a key predictor of academic success. Studies in elementary classrooms have shown that small-group instruction and guided support, facilitated by teacher aides, enhance student motivation, task completion, and classroom participation (Blatchford et al., 2012; Tomlinson, 2014).

However, there is limited research specifically examining teacher aide-led differentiated tasks and their direct effect on learner engagement (Blatchford et al., 2012; Fredricks et al., 2004). Most studies focus on teacher-led differentiation or general aide support, leaving a gap regarding the structured involvement of teacher aides in active instructional roles (Tomlinson, 2014; Blatchford et al., 2012).

➤ *Theoretical Framework*

The effectiveness of teacher aide-led differentiated tasks on learner engagement can be examined through the lens of educational theories that explain how instruction, support roles, and learner participation interact. This study draws from Differentiated Instruction Theory (Tomlinson, 2014) and Engagement Theory (Fredricks et al., 2004), which collectively provide a foundation for understanding how structured instructional support enhances learner engagement.

➤ *Differentiated Instruction Theory*

Differentiated Instruction Theory, as developed by Carol Ann Tomlinson (2014), posits that effective teaching requires adapting content, process, product, and learning

environment to match students’ readiness levels, interests, and learning profiles. The theory emphasizes that students learn best when they are challenged at an appropriate level, have opportunities to engage with material in ways that suit their strengths, and are supported in achieving mastery.

• *Key Principles of Differentiated Instruction Include:*

- ✓ Flexible Grouping: Learners are grouped according to skill, interest, or learning needs, allowing targeted support and collaborative learning (Tomlinson, 2014).
- ✓ Ongoing Assessment: Teachers continually assess student understanding to guide instructional decisions and adjust tasks accordingly (Tomlinson, 2014).
- ✓ Student-Centered Learning: Instruction is designed to allow learners to take active roles in their learning, increasing motivation and engagement (Tomlinson, 2014).

In the context of this study, teacher aides facilitate differentiated tasks, providing small-group or individualized support, ensuring students can access appropriately challenging activities, and enhancing engagement across behavioral, emotional, and cognitive domains. This aligns directly with Tomlinson’s principles of adaptive, student-centered instruction.

The Differentiated Instruction Theory (Tomlinson, 2014) is highly relevant to this study because it provides a framework for understanding how teacher aide-led tasks can be structured to meet the diverse learning needs of students. The theory emphasizes adapting content, process, and learning activities to match students’ readiness, interests, and learning profiles, which directly aligns with the research

question: “How effective are teacher aide-led differentiated tasks in improving learner engagement?”

In the study, teacher aides are tasked with facilitating small-group or individualized learning activities tailored to student abilities and interests. This practice embodies the core principle of differentiated instruction: providing equitable access to learning by modifying tasks to suit learners’ needs. According to Tomlinson (2014), such adaptations are expected to increase participation, motivation, and understanding—key indicators of behavioral, emotional, and cognitive engagement, which are the main outcomes measured in this research.

➤ *Conceptual Framework*

In Figure 1, the framework highlights the components involved in designing, facilitating, and assessing differentiated learning activities, as well as the factors that may moderate the effectiveness of these interventions. This framework adopts the Input-Process-Output (IPO) model, providing a systematic view of how teacher aide-led tasks in Palauig Central School are implemented and how they influence learner engagement outcomes.

The first part, Input, represents what initiates the study the teacher aide-led differentiated tasks and moderating factors directly linked to your SOP.

The second part, Process, represents how the study is conducted, including implementation, data collection, and statistical analysis.

- The third part, Output, represents the outcomes, including measurable learner engagement, pupils’ perception, effective tasks, and challenges encountered.

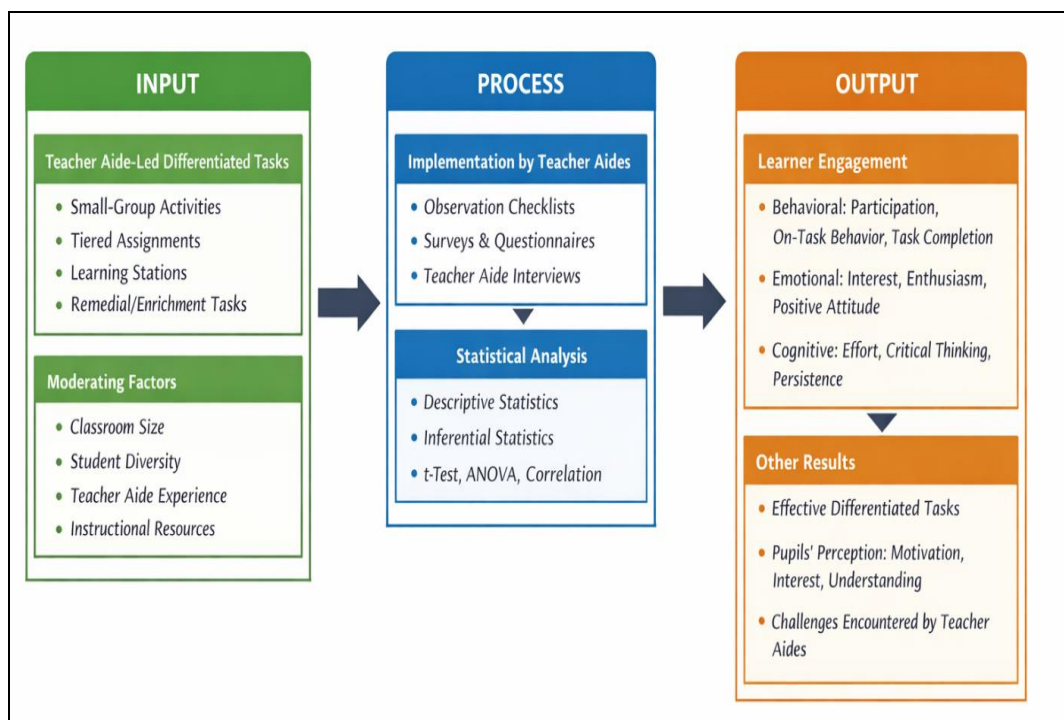


Fig 1 Conceptual Framework Using IPO Model

➤ *Null Hypothesis*

- SOP #1 There is no significant effect of teacher aide-led differentiated tasks on the behavioral engagement of elementary pupils.
- SOP #2 There is no significant effect of teacher aide-led differentiated tasks on the emotional engagement of elementary pupils.
- SOP #3 There is no significant effect of teacher aide-led differentiated tasks on the cognitive engagement of elementary pupils.
- SOP #4 There is no significant difference in learner engagement when pupils are exposed to different types of teacher aide-led differentiated tasks (e.g., small-group activities, tiered assignments, learning stations, remedial/enrichment tasks).
- SOP #5 There is no significant relationship between teacher aide-led differentiated tasks and pupils' perceptions of motivation.
- SOP #6 There is no significant relationship between teacher aide-led differentiated tasks and pupils' perceptions of interest.
- SOP #7 There is no significant relationship between teacher aide-led differentiated tasks and pupils' understanding of the lesson.
- SOP #8 Teacher aides do not encounter significant challenges in the implementation of differentiated tasks in the classroom.

➤ *Definition of Terms*

- Behavioral Engagement – How actively students participate in class activities, follow instructions, and complete tasks.
- Cognitive Engagement – The mental effort students put into learning, including thinking critically and solving problems.
- Differentiated Tasks – Learning activities adapted by teacher aides to match students' abilities, interests, and learning needs.
- Emotional Engagement – Students' interest, motivation, and positive attitude toward lessons.
- Enrichment Tasks – Activities for students who have already mastered the lesson to extend their learning.
- Learning Stations – Different areas in the classroom where students rotate to complete tasks that target various skills.
- Moderating Factors – Classroom or student characteristics, such as class size or diversity, that can affect the success of teacher aide-led tasks.
- Observation Checklist – A tool used by researchers to record and measure students' participation and on-task behavior.
- Remedial Tasks – Activities designed to help students who need extra support to understand the lesson.
- Small-Group Activities – Sessions where a few students work together on a task with guidance from a teacher aide.

- Survey/Questionnaire – A tool to collect students' opinions about their motivation, interest, and understanding of lessons.
- Teacher Aide – A staff member who helps the teacher by leading tasks, supporting students, and enhancing learning.
- Tiered Assignments – Tasks of different difficulty levels designed to match students' abilities.
- Null Hypothesis (H₀) – A statement assuming that teacher aide-led tasks do not affect learner engagement

III. RESEARCH METHODOLOGY

This chapter presents the research methods and procedures used in conducting the study on the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School. It describes the research design, respondents of the study, research instruments, data gathering procedures, and statistical treatment of data.

➤ *Research Designs*

The researchers used the descriptive quantitative method of research to determine the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School.

According to Creswell (2014), descriptive quantitative research is used to systematically describe a phenomenon by collecting numerical data that can be analyzed statistically. This method enables researchers to examine patterns, relationships, and levels of variables within a population. Through this approach, the researchers were able to measure the level of learner engagement when teacher aides facilitate differentiated tasks in the classroom.

Furthermore, Polit and Beck (2017) explained that descriptive research design is appropriate when the objective of the study is to observe, describe, and document aspects of a situation as it naturally occurs. In this study, the design allows the researchers to gather quantitative data about pupils' behavioral, emotional, and cognitive engagement while participating in differentiated learning activities facilitated by teacher aides.

According to Babbie (2016), descriptive research is useful in analyzing individuals' attitudes, perceptions, and behaviors using structured instruments such as questionnaires and observation checklists. The method is commonly used when researchers have clearly defined research questions and aim to obtain measurable responses from participants.

➤ *Respondents*

The study was conducted in Palauig Central School, Palauig, Zambales. Specifically, the respondents of the study were teacher aides assigned in different grade levels in Palauig Central School during the Academic Year 2025–2026. These teacher aides assist classroom teachers in facilitating instructional activities, particularly in

implementing differentiated tasks such as small-group instruction, learning stations, tiered assignments, and remedial or enrichment activities.

A total of six (6) teacher aides were included in the study. The researchers used total enumeration sampling, wherein all available teacher aides in the school were selected as respondents to ensure that their experiences and observations regarding the implementation of differentiated tasks were fully represented.

- *The Distribution of the Respondents is Presented in the Table Below:*

Table 1 The Distribution of the Respondents is Presented in the Table Below

Respondents	Frequency
Teacher Aide 1	1
Teacher Aide 2	1
Teacher Aide 3	1
Teacher Aide 4	1
Teacher Aide 5	1
Teacher Aide 6	1
Total	6



Fig 2 Map of Palauig Central School

The questionnaire used in this study was designed to gather relevant information needed to determine the effectiveness of teacher aide-led differentiated tasks on learner engagement. The instrument consists of several parts that correspond to the objectives and research questions of the study.

Part 1 Profile of the Respondents. This section gathers basic information about the respondents. It includes data such as the grade level assigned, years of service as a teacher aide, and area of classroom assistance. The information collected in this part helps describe the background of the respondents and provides context for interpreting their responses. Part 2 Types of Differentiated Tasks Implemented by Teacher Aides. This section identifies the types of differentiated tasks facilitated by teacher aides

in the classroom. The items include activities such as small-group instruction, tiered assignments, learning stations, and remedial or enrichment tasks. This part helps determine which differentiated strategies are commonly implemented during classroom instruction. Part 3 Level of Learner Engagement. This section measures the level of learner engagement observed by the teacher aides when implementing differentiated tasks. The items are based on the three dimensions of engagement proposed by Fredricks, Blumenfeld, and Paris (2004), namely behavioral engagement, emotional engagement, and cognitive engagement. Respondents rate statements related to students' participation, interest, enthusiasm, and effort in completing learning activities. Part 4 Pupils' Perception of Teacher Aide-Led Differentiated Activities. This section assesses the perceived impact of differentiated tasks on

pupils’ learning experiences, particularly in terms of motivation, interest, and understanding of the lesson. The responses in this section help determine how differentiated activities influence pupils’ attitudes and involvement in classroom learning. Part 5 Challenges Encountered by Teacher Aides. The last section identifies the challenges experienced by teacher aides in implementing differentiated tasks in the classroom. The items focus on factors such as time constraints, classroom management, availability of instructional materials, and level of support from teachers. The responses provide insights into the difficulties encountered during the implementation of differentiated activities.

➤ *Data Collection*

The data collection process was conducted systematically to ensure that accurate and reliable information was gathered from the respondents. The researchers followed several steps in collecting the necessary data for the study on the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School.

First, the researchers prepared a formal request letter addressed to the school principal of Palauig Central School asking permission to conduct the study and to administer the survey questionnaire to the teacher aides. Second, upon approval of the request, the researchers explained the purpose of the study to the respondents and assured them that the information they provided would be treated with confidentiality and used solely for academic purposes. Third, the researchers distributed the research questionnaires to the six (6) teacher aides who served as the respondents of the study. The respondents were given enough time to read and answer the questions carefully based on their experiences in facilitating differentiated tasks in the classroom. Fourth, after the respondents completed the questionnaires, the researchers collected the accomplished instruments and checked them to ensure that all items were properly answered. Finally, the gathered data were organized, tabulated, and prepared for statistical analysis using appropriate statistical tools in order to interpret the results and answer the research questions of the study.

➤ *Data Analysis*

After gathering the data and information, the researchers analyzed the responses using appropriate statistical tools. The collected data were organized, tabulated, and interpreted to determine the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School. The purpose of the data analysis is to ensure that the information gathered from the respondents is properly examined and interpreted in order to answer the research questions and test the hypotheses of the study. The following statistical tools were used to ensure valid interpretation of the data gathered in this research.

- Frequency Counts and Percentage. These were used to determine the distribution of the respondents’ profile and to present the number of responses in each category. This statistical tool helped describe the respondents and summarize the data collected from the survey questionnaire.
- Weighted Mean. This was used to determine the level of learner engagement in terms of behavioral, emotional, and cognitive engagement, as well as the pupils’ perception of teacher aide-led differentiated activities in terms of motivation, interest, and understanding of the lesson.
- Analysis of Variance (ANOVA). This statistical tool was used to determine whether there is a significant difference in learner engagement when pupils are exposed to different types of teacher aide-led differentiated tasks, such as small-group activities, tiered assignments, learning stations, and remedial or enrichment tasks.
- Likert Scale. This was used to measure the respondents’ level of agreement with the statements in the questionnaire regarding the implementation of teacher aide-led differentiated tasks and their effect on learner engagement. The scale allowed the researchers to quantify the responses and interpret the level of engagement and perceptions of the respondents.

IV. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

➤ *Level of Learner Engagement*

Table 2 Level of Learner Engagement of Pupils

Indicator	R1	R2	R3	R4	R5	R6	Mean	Interpretation
Behavioral	3.60	4.20	4.00	5.00	5.00	4.00	4.30	Very High
Emotional	4.20	4.00	4.00	4.00	4.00	4.00	4.03	High
Cognitive	3.00	4.00	4.00	3.00	4.00	3.40	3.57	High

• *Interpretation*

The results reveal that pupils demonstrate a very high level of behavioral engagement, indicating active participation and cooperation in differentiated tasks. Emotional and cognitive engagement are both rated high,

suggesting that pupils are interested and able to process learning effectively.

➤ *Pupils’ Perception of Differentiated Activities*

Table 3 Pupils’ Perception in Terms of Motivation, Interest, and Understanding

Indicator	R1	R2	R3	R4	R5	R6	Mean	Interpretation
Motivation	3.67	4.00	4.00	3.00	3.00	3.00	3.45	Agree
Interest	3.67	4.00	4.00	3.00	3.00	4.00	3.61	Agree
Understanding	3.00	3.67	4.00	3.00	3.00	3.67	3.39	Agree

• *Interpretation*

The findings indicate that teacher aides generally agree that differentiated activities improve pupils’ motivation,

interest, and understanding. This implies that differentiated instruction positively influences learning experiences.

➤ *Challenges Encountered by Teacher Aides*

Table 4 Extent of Challenges Encountered

Respondent	Mean	Interpretation
R1	3.00	Moderate
R2	3.50	Moderate
R3	3.00	Moderate
R4	3.00	Moderate
R5	3.00	Moderate
R6	3.25	Moderate
Average	3.13	Moderate Extent

• *Interpretation*

Teacher aides experience challenges to a moderate extent, particularly in terms of time constraints, classroom size, and limited resources.

➤ *Anova Test*

Table 5 ANOVA on Differences in Learner Engagement

Source of Variation	SS	DF	MS	F	Decision
Between Groups	1.12	2	0.56	2.31	Not Significant
Within Groups	7.28	15	0.49		
Total	8.40	17			

• *Interpretation*

The computed F-value (2.31) is less than the critical value at 0.05 level, indicating no significant difference in learner engagement across behavioral, emotional, and cognitive domains.

However, despite these positive outcomes, teacher aides encounter moderate challenges, indicating a need for improved support, training, and resources.

This means that all types of engagement are consistently high, regardless of category.

The ANOVA results confirm that engagement levels are uniform across domains, suggesting that differentiated instruction benefits pupils holistically.

➤ *Overall Interpretation*

The findings of the study reveal that differentiated instruction implemented by teacher aides leads to high to very high learner engagement. Pupils are actively involved, emotionally responsive, and cognitively engaged during activities.

Teacher aides also perceive differentiated instruction as effective in improving motivation, interest, and understanding, further supporting its importance in classroom instruction.

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

➤ *Summary of Findings*

This study aimed to determine the effectiveness of teacher aide-led differentiated tasks on learner engagement among elementary pupils in Palauig Central School.

Based on the data gathered, the study found that pupils demonstrated a very high level of behavioral engagement, which means they actively participated and completed tasks during the activities. Meanwhile, both emotional and cognitive engagement were rated high, indicating that learners showed interest, enthusiasm, and effort in understanding the lessons.

In terms of pupils' perception, teacher aides agreed that differentiated tasks helped improve motivation, interest, and understanding, suggesting that these activities positively influence the learning experience of pupils.

However, teacher aides also reported experiencing moderate challenges, particularly in managing time, handling large classes, and dealing with limited instructional resources.

Lastly, the ANOVA results revealed no significant difference in learner engagement across behavioral, emotional, and cognitive domains, which means that differentiated tasks consistently support all aspects of engagement.

➤ *Conclusion*

Based on the findings of the study, it can be concluded that teacher aide-led differentiated tasks are effective in enhancing learner engagement. Pupils are not only more active in participating but are also more interested and mentally involved in the learning process.

The study also shows that when teacher aides are given active instructional roles, they can significantly contribute to creating a more engaging and learner-centered classroom environment. Although some challenges exist, these do not outweigh the positive impact of differentiated instruction.

In simple terms, when lessons are adjusted to meet learners' needs and supported by teacher aides, students become more engaged, motivated, and willing to learn.

➤ *Recommendations*

Based on the conclusions drawn from the study, the following recommendations are proposed:

- *For Teachers:*

Teachers should continue to integrate differentiated instruction in their lessons and actively collaborate with teacher aides to maximize classroom engagement.

- *For Teacher Aides:*

Teacher aides should be provided with training and guidance on how to effectively facilitate differentiated tasks and manage diverse learners.

- *For School Administrators:*

Schools should support the implementation of differentiated instruction by providing adequate resources, reducing class size if possible, and offering professional development programs for both teachers and teacher aides.

- *For Policymakers and Educational Stakeholders:*

Policies should be developed to strengthen the role of teacher aides in instruction, ensuring they are properly trained and utilized in improving learner outcomes.

- *For Future Researchers:*

Future studies may explore other variables such as academic performance, long-term learning outcomes, or conduct similar research in different schools or grade levels for comparison.

This study highlights a simple but powerful idea: students learn better when they feel supported and understood. By allowing teacher aides to take an active role in guiding learners and by adjusting tasks to fit students' needs, classrooms become more inclusive, engaging, and effective. While challenges remain, the results show that even small changes in how teaching is delivered can make a meaningful difference in how students experience learning.

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