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Differentiated Instructions in Elementary Schools

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ABSTRACT

This study examined the extent to which elementary teachers implement differentiated instruction (DI) and their level of competence in applying its principles in Cluster 1 of the Division of Negros Occidental during the Academic Year 2025–2026. Using a mixed-method research design, the study involved Grades 4–6 teachers, school heads, and Education Program Supervisors as respondents, utilizing survey questionnaires and semi-structured interviews to gather data. Quantitative data were analyzed using mean and standard deviation, while qualitative data were thematically analyzed to explore teachers' lived experiences, challenges, and support needs. Findings revealed a high level of DI implementation (M = 4.87) and above-average teacher competence (M = 5.09), indicating that differentiated strategies such as problem-solving, experiential learning, collaborative activities, and interactive approaches are frequently applied in elementary classrooms. Teachers demonstrated strengths in managing classroom routines, modifying instructional materials, and integrating innovative strategies such as games, dramatization, and ICT; however, areas for improvement were noted in designing tiered activities and providing varied formats for student outputs. The findings further showed that DI enhances student engagement, academic performance, confidence, and collaboration, although challenges such as large class sizes, limited preparation time, insufficient resources, and rigid curriculum requirements hinder its consistent implementation. Teacher motivation, supported by both intrinsic factors and administrative assistance, was found to sustain the use of DI practices. Based on the integrated findings, an intervention program was proposed to strengthen teachers' capacity in differentiated instruction. This study contributes to the field of education by providing empirical evidence and practical insights that support the development of inclusive, learner-centered, and responsive teaching practices in diverse elementary classroom settings.

Keywords: challenges, differentiated instruction, elementary education, student engagement, teacher competence

How to Cite:

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INTRODUCTION

Elementary classrooms today are increasingly characterized by diversity in learners' readiness levels, interests, and learning profiles. This diversity presents both opportunities and challenges for teachers, as they are expected to provide instruction that is inclusive, equitable, and responsive to individual learner needs. In response, differentiated instruction (DI) has emerged as an effective pedagogical approach that enables teachers to adjust content, process, product, and learning environment to accommodate diverse learners. By moving beyond traditional one-size-fits-all instruction, DI promotes active engagement, meaningful learning, and improved academic outcomes.

A growing body of research supports the effectiveness of differentiated instruction in enhancing student learning. For instance, Ferrer and Naanep (2025) found that differentiated strategies significantly improved the learning outcomes of Grades 4–6 students in South Cotabato, particularly in diverse classroom settings. Similarly, Gonzales and Dela Cruz (2025) emphasized adaptive teaching strategies and recommended capacity-building programs for multigrade teachers in Calbayog City. In contrast, findings from Sultan Kudarat (2025) revealed that although teachers recognize the value of DI, implementation remains limited due to constraints such as insufficient time and resources. These studies suggest that while DI is widely acknowledged as effective, its application varies depending on contextual and institutional factors.

Further comparative analysis shows that while some studies report strong implementation and positive student outcomes, others highlight barriers to consistent practice. For example, research in South Cotabato (2024–2025) reported improved student performance with DI, whereas a study in California (2023) showed that over 60% of teachers valued DI but struggled to implement it due to limited training and time constraints. This contrast underscores that DI effectiveness depends not only on teacher competence but also on professional support, resources, and enabling school environments.

The study is grounded in Howard Gardner's Multiple Intelligences Theory (1983, as cited in Malaran & Pañares, 2025), which recognizes varied learner intelligences; Vygotsky's Social Constructivist Theory (1978, as cited in Antonio & Prudente, 2024), which emphasizes learning through social interaction; and Tomlinson's Differentiated Instruction Model (2017, as cited in Lasala, 2023), which supports adapting instruction based on learners' readiness, interests, and profiles. Together, these theories highlight the need for flexible, inclusive, and student-centered teaching.

Despite strong evidence supporting DI, challenges remain in its consistent implementation in elementary classrooms. While teachers demonstrate awareness and competence, issues such as large class sizes, limited time, insufficient resources, and misaligned assessments hinder full application. Moreover, limited research integrates both quantitative and qualitative perspectives on teachers' experiences in the local context of Cluster 1, Division of Negros Occidental. This gap highlights the need to examine not only the extent of DI implementation but also the contextual factors affecting its effectiveness.

This study therefore examines teachers' differentiated instructional practices, competence, and the influence of DI on student engagement and academic performance. It also explores challenges and opportunities and proposes an intervention program to enhance DI implementation, contributing to more inclusive and learner-centered education in diverse elementary classrooms.

OBJECTIVES OF THE STUDY

Although prior studies have established that differentiated instruction (DI) enhances student engagement and academic performance, further investigation is needed into elementary school teachers' perceptions and actual practices of differentiation in their classrooms. This study aims to examine the extent to which DI is implemented, the challenges encountered, and its overall influence on teaching and learning processes.

The research focuses on a critical stage of student development—Grades 4 to 6—where foundational skills transition into more complex competencies and differences in readiness and learning profiles become increasingly evident. The primary purpose of this study is to examine the differentiated instructional practices employed in elementary schools within Cluster 1 of the Division of Negros Occidental during the academic year 2025–2026.

Specifically, this study sought to answer the following questions:

1. What are the common differentiated instruction practices in elementary schools?

2. What is the level of teachers' competence in applying the principles of differentiated instruction?

3. How does the implementation of differentiated instruction influence student engagement and academic performance in elementary classrooms?

4. What challenges do elementary educators face in applying differentiated instruction effectively?

5. What opportunities support teachers in implementing differentiated instruction?

6. Based on the findings, what intervention may be developed?

LITERATURE REVIEW

Differentiated Instruction and Its Salient Features

Differentiated Instruction (DI) is grounded on the idea that effective teaching must respond to learners' diverse readiness levels, interests, and learning profiles. Tomlinson's DI Model (2017, as cited in Lasala, 2023) serves as the main framework of this study, emphasizing differentiation of content, process, product, and learning environment.

This aligns with Vygotsky's (1978, as cited in Antonio & Prudente, 2024) Social Constructivist Theory, which highlights learning through interaction and scaffolding within the Zone of Proximal Development (ZPD). Together, these theories position DI as a learner-centered and socially mediated instructional approach.

Recent studies consistently show that DI improves student outcomes. Muh. Asriadi et al. (2023) found significant gains in heterogeneous classrooms, while South Cotabato studies (2024–2025) reported higher achievement compared to traditional instruction. However, these studies focus more on outcomes than actual classroom implementation.

A comparison of findings shows both consistency and variation. Macaraeg and Acuavera (2024) reported improved engagement through multiple intelligences grouping, while Domingo (2024) and Mizan (2023) highlighted inconsistent implementation due to time, training, and resource constraints. This suggests that DI effectiveness depends heavily on contextual and institutional support.

Collaborative Learning and Constructivist Foundations

Group collaboration is a key DI strategy anchored on Vygotsky's theory of social constructivism. Learning occurs through interaction, dialogue, and shared meaning-making.

Ali and Sari (2024) found flexible grouping supports readiness-based instruction, while Tahir and Hussain (2023) reported improved engagement and achievement through structured group work. However, one emphasizes classroom structure while the other highlights academic outcomes, showing different dimensions of effectiveness.

Aminuriyah (2023) emphasized inclusivity through flexible grouping, while Suhartono and Malik (2022) warned that poor structure leads to unequal participation. Rahman and Zulkifli (2022) further found that collaboration reduces anxiety and supports lower-performing learners.

Game-Based Learning in Differentiated Instruction

Game-based learning enhances motivation, engagement, and adaptive learning. Rahman and Zulkifli (2022) found improved participation, while Aminuriyah (2023) emphasized adaptability to learner differences.

Tahir and Hussain (2023) focused on academic gains, while Ali and Sari (2024) highlighted creativity and problem-solving, showing dual cognitive and affective benefits. Digital gamification studies (Ahmad et al., 2023; Lim & Leung, 2024) confirmed improved achievement but also revealed gaps in teacher readiness. Thus, effectiveness depends on teacher competence and resources.

ICT Integration in Differentiated Instruction

ICT supports flexible and personalized learning. Dela Fuente and Biñas (2020) noted limited teacher training, while Espinosa et al. (2023) identified infrastructure barriers.

Lestari et al. (2024) and Agustina (2023) found improved comprehension using ICT tools, but Caparal et al. (2025) reported underuse of platforms due to low digital skills. Zou et al. (2025) and UNESCO (2023) highlighted ICT's role in inclusive education, yet implementation remains uneven, especially in developing contexts.

(Discussion, Dramatization, Discovery, and Problem Solving)

DI strategies consistently reflect constructivist, learner-centered principles.

Discussion improves comprehension through scaffolding (Suprayogi et al., 2022; Lestari et al., 2024) but is limited by time and unequal participation. Dramatization supports multiple intelligences and engagement (Utami et al., 2024; Liao & Wang, 2021), but depends on teacher creativity and resources.

Discovery learning promotes autonomy and critical thinking (Fahmi et al., 2022; Hernández & Rico, 2023) but requires scaffolding for lower-performing learners. Problem-solving improves reasoning and achievement (Alotaibi & Alshammari, 2023; Chen et al., 2023) but shows varied focus on cognitive vs. socio-emotional outcomes.

METHODOLOGY

This section presents and contains the research design, research locale, respondents of the study, data gathering instrument, validity and reliability of the instrument, data gathering procedure, and data analysis to meet and determine the differentiated instructions in the cluster 1, Division of Negros Occidental.

Research Design

This study uses a Sequential Explanatory Design, a mixed-method approach outlined by Creswell and Plano Clark (2018) and Creswell (2021). It involves two sequential phases: first, the collection and analysis of quantitative data, followed by qualitative data to explain and provide deeper insights into the quantitative results.

In the quantitative phase, the study assessed common differentiated instruction (DI) practices and teachers' competence in applying these strategies. The qualitative phase, through interviews and observations, explored how and why certain DI strategies influenced learning outcomes. This approach leverages both numerical patterns and contextual, experiential factors for a comprehensive understanding of DI implementation in elementary schools.

Research Locale

The study was conducted in Cluster 1 of the Division of Negros Occidental, Philippines, specifically covering the municipalities of Calatrava, Toboso, and Don Salvador Benedicto. These municipalities were selected because they represent a combination of rural and semi-rural elementary school settings, where differentiated instruction is highly relevant due to the diversity of learners in terms of readiness levels, socioeconomic background, and access to learning resources.

Public elementary schools in these areas operate under the Department of Education (DepEd) and follow standardized curriculum guidelines; however, classroom implementation varies due to differences in teacher experience, class size, and available instructional materials. This setting provides a suitable context for examining how differentiated instruction is implemented in real classroom conditions.

Phase 1: Quantitative

Data were collected using a validated and reliable researcher-made questionnaire measuring both the frequency of DI strategies and teachers' perceived competence.

Sampling Technique

Stratified random sampling was used to select respondents from Cluster 1 of Negros Occidental (Calatrava, Toboso, and Don Salvador Benedicto). The population was divided into meaningful strata, such as municipalities and grade levels, with participants randomly selected from each stratum. This ensured proportional representation, reduced selection bias, and enhanced generalizability (Simkus, 2023). Stratified random sampling thus maintained scientific rigor while capturing diverse learner groups across the division.

Table 1

Respondents of the Study

Area	Teacher	School Heads	EPS
Calatrava I	36	11	2
Calatrava II	39	12	2
Toboso	35	11	2
DSB	24	7	2
Total =	**134**	**41**	**8**

Research Instruments

A researcher-made questionnaire was used to collect data, consisting of two parts: Part I assessed common differentiated instruction (DI) practices, and Part II measured teachers' competence in applying DI principles. The instruments were validated and tested for reliability to ensure they accurately captured the intended constructs.

Validity and Reliability

Two versions of the questionnaire were developed: one for teachers and one for school heads/supervisors. Content validity was established using Lawshe's Content Validity Ratio (CVR), with teachers' instrument achieving an A-CVR of 0.912 (excellent) and administrators' instrument 0.739 (acceptable). Reliability was tested via Cronbach's Alpha after refining the Likert scale to 7 points and grouping similar items: teachers' instrument $\alpha = 0.822$, administrators' instrument $\alpha = 0.759$, confirming good internal consistency.

Part I Teacher. Common Differentiated Instruction Practiced in Elementary Schools

Value - Label Frequency (over 40-week SY)
1 - Very rarely - Less than 5 times in the year
2 - Rarely - About 5-10 times in the year
3 - Occasionally - About once a month (10-12 times)
4 - Sometimes - About once every two weeks (~20 times)
5 - Often - About once a week (~40 times)
6 - Very often - 3 times a week (~80-100 times)
7 - Always - Almost every day / in every lesson (~160+ times)

Part II Teacher: Level of Teacher's Competence in Applying Differentiated Instruction Principles

Value - Label Description
1 - Very Low - Not competent; task cannot be performed effectively
2 - Low - Task can be performed occasionally but with difficulty
3 - Below Average - Task can be performed sometimes but inconsistently

4 - Average - Task can be performed adequately, with some support
5 - Above Average - Task can be performed well and independently
6 - High - Task can be performed very well and consistently
7 - Very High - Task can be performed excellently in almost all situations

Part I School Head/EPS: Frequency of Differentiated Instruction Practices

Instructions: Indicate how frequently teachers in your school use the following teaching strategies throughout the school year.
Value - Label Description
1 - Very Rarely - Observed in very few lessons
2 - Rarely - Observed occasionally, but not regularly
3 - Occasionally - Observed sometimes, in a noticeable number of lessons
4 - Sometimes - Observed in about half of lessons or classes
5 - Often - Observed in most lessons
6 - Very Often - Observed in almost all lessons
7 - Always - Observed consistently in every lesson or activity

Part II School Head/EPS: Level of Teacher Competence in Applying Differentiated Instruction

Instructions: Indicate your assessment of teachers' competence in performing each of the following practices throughout the school year, based on your observations and overall impression.
Value - Label Description
1 - Very Low - Not competent; task cannot be performed effectively
2 - Low - Task can be performed occasionally but with difficulty
3 - Below Average - Task can be performed sometimes but inconsistently
4 - Average - Task can be performed adequately, with some support
5 - Above Average - Task can be performed well and independently
6 - High - Task can be performed very well and consistently
7 - Very High - Task can be performed excellently in almost all situations

Data Gathering Procedure

Approval to conduct the study was obtained from the Schools Division Superintendent, followed by consent from school heads, teachers, and selected participants. Respondents were briefed on the study's purpose, procedures, and ethical safeguards, including confidentiality. The questionnaire was distributed to school heads and master teachers over three to four weeks, with reminders issued and completed instruments collected, checked, tallied, and analyzed using appropriate statistical tools.

Data Analysis

Quantitative data were analyzed using descriptive and inferential statistics. Mean and standard deviation described the frequency of DI practices and teachers' competence, capturing both general trends and significant variations.

The qualitative phase involved semi-structured interviews with purposively selected teachers to complement the quantitative findings. This phase explored the challenges and opportunities in implementing DI, providing context and depth to the numerical results. Purposive sampling ensured participants had firsthand experience and could provide rich, insightful perspectives (Ahmad & Wilkins, 2025).

Respondents

The study focused on Grade 4–6 teachers, school heads, and students from Cluster 1, Division of Negros Occidental, AY 2024–2025. This grade range represents a transitional stage where learners move from foundational skills to complex competencies, requiring tailored instructional strategies.

Purposive selection ensured that participants could provide relevant, meaningful data regarding DI practices and challenges.

Table 2

Respondents of the Study

Area	Sample
Calatrava	5
Toboso	5
DSB	5
Total =	**15**

Research Instrument

The study used semi-structured interviews to explore Grade 4–6 teachers' differentiated instruction (DI) practices and challenges. This format combines structured guidance with open-ended questions, allowing participants to share detailed experiences in their own words. Face-to-face interviews facilitated rapport and the collection of rich, in-depth data aligned with the research objectives. Probing questions and active listening ensured authentic accounts of instructional practices and challenges.

Validity and Reliability

The original interview guide had 20 open-ended questions. Content validity was established through review by nine experts in elementary education, instructional design, and research using Lawshe's method. Six low-CVR items were removed, and two moderate-CVR items were revised, resulting in a final set of 14 questions with an average CVR of 0.937, demonstrating high content validity.

Reliability was confirmed via inter-rater agreement using Cohen's Kappa. Two independent coders marked all 14 items as adequately aligned with the study's objectives. Although SPSS could not compute Kappa due to no variation, unanimous agreement indicated perfect inter-rater reliability, confirming the instrument's consistency and credibility.

Data Gathering Procedure

Iinterviews were done with 15 elementary teachers who use differentiated instructions in there classroom facilitation of learning in various subject/disciplines. They were interviewed about 4 topics based on SOP 3 to 6, which are; (a) influence of differentiated instruction to the engagement of pupils and academic performance, (b) challenges of applying differentiated instruction in elementary, (c) opportunities received by teachers in applying differentiated instruction and (d) intervention procedures in applying differentiated instruction. In the conduct of interviews, voice recordings were in order to ensure that all responses are taken into account.

Data Analysis

The qualitative data were analyzed using thematic analysis, which involved: (a) transcription of responses in Excel with numbered statements, (b) translation into English for clarity, (c) coding to identify initial themes from meaningful phrases, (d) merging of similar codes to form final themes, (e) ensuring alignment of themes with the SOP domains, and (f) summarizing initial and final themes per respondent and per domain, with final themes traced back to the specific numbered statements from which they were derived.

Trustworthiness of the Data

To ensure rigor, this study established the validity, reliability, and credibility of findings through key trustworthiness criteria:

Credibility. Confidence in the accuracy of qualitative findings was enhanced by fostering rapport with participants and conducting member checking, allowing participants to review and confirm interview transcripts (Varpio et al., 2025).

Transferability. Applicability to other contexts was supported through thick descriptions of the study setting, participants, and methods, along with translation and back-translation by qualified instructors to preserve meaning.

Dependability. Consistency over time was ensured via a detailed audit trail, triangulation of data sources, repeated interviews after five to seven days, and expert verification of themes (Ahmed, 2024; McLeod, 2024).

Confirmability. Findings were grounded in participant data rather than researcher bias, supported by an audit trail, repeated coding reviews, and theme verification. For the quantitative phase, content validity was established using Lawshe's technique, retaining items meeting the critical threshold and calculating the Content Validity Ratio (CVR).

Collectively, these measures ensured that both qualitative and quantitative data were credible, dependable, transferable, and confirmable, reinforcing the overall rigor of the study.

Ethical Considerations

This study adhered to strict ethical standards to protect participants' rights and well-being. Informed consent was obtained after clearly explaining the study's purpose, procedures, and participants' roles. Participation was voluntary, with the right to withdraw at any time without consequence.

Confidentiality was maintained throughout, with identities anonymized and data securely handled for academic purposes only.

During interviews, participants could skip questions they found uncomfortable, preventing emotional, psychological, or professional harm. The study was free from coercion, and proper permissions were secured.

The researcher-maintained objectivity at all stages, ensuring accurate, unbiased reporting. Overall, the study balanced the collection of meaningful data with the protection of participants' rights and welfare.

RESULTS AND DISCUSSION

This section presents the findings of the study following the sequence of the research questions. Quantitative results from survey data are presented first, followed by qualitative findings from interviews. The quantitative data describe the frequency of differentiated instruction (DI) practices in elementary schools and teachers' level of competence in applying these principles.

The qualitative findings provide deeper insights into DI implementation, including its effects on student engagement and academic performance, as well as the challenges and opportunities encountered by teachers. The integration of both data sets informs the development of the proposed intervention program.

To address the first research question, the frequency of DI practices in elementary classrooms was examined. Respondents rated how often various DI strategies were used.

Two versions of the survey instrument were utilized: one for teachers and another for school heads and supervisors.

For teachers, Part I measured the frequency of DI implementation across three subscales: (1) active and interactive strategies, (2) problem-solving and experiential learning, and (3) collaborative, discussion-based, and ICT-supported learning. For school heads and supervisors, Part I assessed their perceptions of teachers' DI practices using eight items without subscales.

The results for both groups are presented in the succeeding tables, providing a comprehensive view of the prevalence and perception of differentiated instruction practices across schools in Cluster 1.

Table 3

Frequency of Differentiated Instruction Practices Reported by Teachers

Instruction Type	DI Strategy	M	SD	Verbal Interpretation
1. Active / Interactive Strategies	1. Teacher uses educational games to reinforce academic concepts	4.75	0.971	Often
	2. Teacher designs activities where students learn through play	4.87	0.961	Often
	3. Teacher integrates competitive or cooperative games to motivate learners	4.96	0.972	Often
	4. Teacher uses role-play or skits to explain lessons	4.85	0.905	Often
	5. Teacher allows students to act out stories or historical events	4.84	0.935	Often
	6. Teacher integrates dramatization to develop communication and empathy skills	4.93	1.035	Often
	Subscale Mean	4.87	0.813	Often
2. Problem-Solving & Experiential Learning	1. Teacher presents real-life problems for students to solve	4.96	0.866	Often
	2. Teacher encourages critical thinking through puzzles or scenarios	4.96	0.908	Often
	3. Teacher guides students to apply problem-solving steps in different subjects	4.88	1.026	Often
	4. Teacher guides students to learn concepts through exploration	4.99	1.007	Often
	5. Teacher lets students investigate and find answers themselves	4.86	0.990	Often
	6. Teacher designs activities where students discover patterns or rules	4.96	0.908	Often
	7. Teacher conducts hands-on experiments in class	4.93	0.983	Often
	8. Teacher allows students to test hypotheses and observe outcomes	4.99	0.962	Often
	9. Teacher integrates experiments to connect theory with practice	4.99	0.965	Often
	Subscale Mean	4.95	0.806	Often

3. Collaborative / Discussion / ICT Learning	1. Teacher uses digital tools (computers, tablets, projectors) in teaching	4.51	1.308	Often
	2. Teacher incorporates online resources or apps to support learning	4.59	1.328	Often
	3. Teacher encourages students to use ICT for research and presentations	4.51	1.386	Often
	4. Teacher assigns tasks that require teamwork	4.60	1.183	Often
	5. Teacher uses cooperative learning strategies (e.g., jigsaw, peer teaching)	4.81	1.065	Often
	6. Teacher encourages peer support and shared responsibility in group work	4.96	1.036	Often
	7. Teacher facilitates open discussions to explore ideas	5.00	1.041	Often
	8. Teacher encourages students to share opinions and ask questions	5.04	0.953	Often
	9. Teacher uses guided questioning to deepen classroom discussions	5.10	0.944	Often
	Subscale Mean	4.79	0.997	Often
Overall Mean	**—**	**4.87**	**0.841**	**Often**

The results in Table 3 show that elementary teachers frequently use differentiated instruction (DI) strategies, with an overall mean of 4.87 (SD = 0.841), interpreted as "Often." Among the subscales, Problem-Solving and Experiential Learning was most frequently used (M = 4.95), followed by Active/Interactive Strategies (M = 4.87) and Collaborative/Discussion/ICT Learning (M = 4.79).

These results indicate that teachers commonly apply learner-centered strategies such as hands-on activities, guided questioning, group work, and ICT integration.

This pattern reflects constructivist principles and Vygotsky's Social Constructivist Theory, where learning is enhanced through active engagement and social interaction within the learner's zone of proximal development. It also aligns with Tomlinson's Differentiated Instruction Model, which emphasizes adapting instruction based on learner readiness, interests, and profiles.

However, the findings are based on teachers' self-reports; thus, they reflect perceived rather than directly observed classroom practices.

Overall, the results suggest that DI is consistently implemented in elementary classrooms, particularly through experiential, interactive, and collaborative strategies that support student-centered learning.

Table 4

Frequency of Differentiated Instruction Practices as Rated by School Heads and Supervisors

Strategy	M	SD	Verbal Interpretation
1. Teachers use educational games to reinforce lessons.	4.51	0.982	Often
2. Teachers present real-life problems for students to solve.	4.90	0.823	Often
3. Teachers integrate role-play or dramatization in teaching.	4.63	1.074	Often
4. Teachers use ICT tools (computers, tablets, projectors, apps) during instruction.	4.90	1.262	Often
5. Teachers assign tasks that require group collaboration among students.	5.02	0.803	Often
6. Teachers facilitate classroom discussions to explore ideas and opinions.	5.12	0.807	Often
7. Teachers guide students to learn concepts through the discovery method.	5.08	0.812	Often
8. Teachers conduct hands-on experiments to connect theory with practice.	5.02	0.854	Often
Overall Mean	**4.90**	**0.699**	**Often**

As shown in Table 4, differentiated instruction (DI) strategies were perceived by school heads and supervisors as frequently implemented, with an overall mean of 4.90 (SD = 0.699), interpreted as "Often." The highest-rated practices were facilitating classroom discussions (M = 5.12), guiding discovery learning (M = 5.08), assigning collaborative group tasks (M = 5.02), and conducting hands-on experiments (M = 5.02). Educational games obtained the lowest mean (M = 4.51) but still fell within the "Often" range, indicating consistent use of student-centered approaches.

These results suggest that classroom instruction is largely experiential, collaborative, and inquiry-based. This may be attributed to the demands of the elementary curriculum, which encourages active learning and learner engagement. The findings align with constructivist theory and Vygotsky's Social Constructivist Theory, which emphasize learning through interaction, exploration, and scaffolding within the zone of proximal development.

A comparison of Tables 3 and 4 shows strong consistency between teachers' self-reports (M = 4.87) and school heads' evaluations (M = 4.90), indicating agreement on the frequent use of DI strategies. This alignment suggests that differentiated instruction is observable in practice, not only perceived by teachers. It also supports Tomlinson's Differentiated Instruction Model, which emphasizes flexible instruction based on learner needs.

However, these findings reflect perceived implementation rather than direct measurement of instructional effectiveness. Despite this limitation, both groups consistently report that DI strategies such as collaboration, hands-on learning, and guided inquiry are regularly practiced in classrooms.

Table 5

Teachers' Level of Competence in Applying Differentiated Instruction Principles

Competence Area	M	SD	Verbal Interpretation
1. Teacher can adjust lesson objectives to match students' readiness levels.	5.15	0.985	Above Average
2. Teacher can provide varied instructional materials (texts, visuals, multimedia) to meet diverse learning needs.	5.19	0.827	Above Average
3. Teacher can use flexible grouping strategies (ability, interest, or random).	5.09	0.946	Above Average
4. Teacher can design tiered activities that match different skill levels.	4.90	0.995	Average
5. Teacher can allow students to demonstrate learning in varied formats (projects, presentations, written work).	4.81	0.938	Above Average
6. Teacher can design rubrics that account for individual progress and effort.	5.08	0.876	Above Average
7. Teacher can arrange classroom seating and routines to support collaboration and independent work.	5.22	0.846	Above Average
8. Teacher can integrate innovative strategies (e.g., games, ICT, dramatization, experiments) into differentiated instruction.	5.18	0.964	Above Average
9. Teacher can evaluate student outcomes effectively based on differentiated instruction principles.	5.18	0.830	Above Average
Overall Mean	**5.09**	**0.766**	**Above Average**

Table 5 shows that teachers rated their competence in differentiated instruction (DI) as "Above Average" (M = 5.09, SD = 0.766). Highest ratings were observed in classroom management and collaborative arrangements (M = 5.22), use of varied instructional materials (M = 5.19), and integration of innovative strategies such as ICT, games, and dramatization (M = 5.18), reflecting strong alignment with Tomlinson's DI model (2017), particularly in process and learning environment differentiation. However, designing tiered activities obtained the lowest mean (M = 4.90), indicating difficulty in addressing learner readiness levels as emphasized in constructivist and differentiated learning frameworks. This pattern suggests that while teachers are

Table 6

School Heads and Supervisors' Ratings of Teachers' Competence in Applying Differentiated Instruction Principles

Competence Area	M	SD	Verbal Interpretation
1. Teachers adjust lesson objectives to match students' readiness levels.	5.12	0.696	Above Average
2. Teachers provide varied instructional materials (texts, visuals, multimedia) to meet diverse learning needs.	5.35	0.855	High
3. Teachers design tiered activities that match different skill levels.	5.22	0.798	Above Average
4. Teachers allow students to demonstrate learning in varied formats (projects, presentations, written work).	4.82	0.928	Average
5. Teachers design rubrics and evaluate student outcomes effectively, considering individual progress and differentiated instruction principles.	5.29	0.842	Above Average
6. Teachers organize classroom routines and seating and create a supportive atmosphere that values student differences and encourages collaboration and independent work.	5.41	0.864	High
7. Teachers integrate innovative instructional strategies, such as educational games, ICT, dramatization, and hands-on experiments, into differentiated instruction.	5.22	1.046	Above Average
Overall Mean	**5.20**	**0.703**	**Above Average**

confident in delivering engaging, student-centered instruction, they face challenges in fully operationalizing content differentiation due to constraints such as time, class size, and planning demands, as supported by existing literature (Domingo, 2024; Mizan, 2023). Overall, the results reflect perceived competence rather than directly measured instructional performance, highlighting the need for targeted capacity-building on tiered task design.

Table 6 shows that school heads and supervisors rated teachers' competence in differentiated instruction (DI) as "Above Average" (M = 5.20, SD = 0.703). Highest ratings were given to classroom organization and collaborative learning environments (M = 5.41) and the use of varied instructional materials (M = 5.35), reflecting strong alignment with Tomlinson's DI framework (2017), particularly in learning environment and process differentiation. The lowest-rated indicator was allowing students to demonstrate learning in varied formats (M = 4.82), suggesting limited application of product differentiation, which requires flexible assessment design and higher-order task planning.

The close alignment between teachers' self-ratings and administrative evaluations indicates consistency in perceived competence across raters, supporting the validity of the findings. This pattern suggests that strong classroom management and resource adaptation are more readily implemented than flexible assessment practices, likely due to planning demands and curriculum constraints. From a constructivist perspective (Vygotsky, 1978), the stronger emphasis on collaborative environments reflects teachers' reliance on social learning structures, while weaker performance in varied outputs indicates partial implementation of

full DI principles. Overall, the results reflect perceived competence rather than direct observation of practice, confirming that teachers are generally proficient in DI but still require support in enhancing assessment flexibility and product differentiation.

For each research question, this section is organized into four major thematic sections. Key ideas are presented in each section and supported by direct quotes from participants to convey the breadth and authenticity of their perspectives. Beyond illustrating the use of differentiated instruction (DI) and its impact on student engagement and academic performance, the analysis provides a nuanced understanding of the realities faced by elementary educators. Specifically, it explores how teachers differentiate both the content (what is taught) and instructional processes (how it is taught) to address the diverse learning needs of Grades 4–6 students.

These qualitative insights offer critical context for the numerical trends identified in the preceding quantitative chapter. By capturing participants' lived experiences and interpretations of DI, this chapter provides a more comprehensive understanding of its implementation in the classroom. The findings presented here will form the foundation for the integrated analysis and discussion of implications in the following chapter.

1. Influence of Differentiated Instruction on Pupil Engagement and Academic Performance

Theme 1: Pupil Response to Differentiated Instruction Strategies

Interview data indicate that differentiated instruction (DI) is perceived to enhance pupil engagement, particularly when lessons are interactive and contextually relevant. Teachers observed that students show greater attentiveness and participation during hands-on and collaborative activities. This aligns with Vygotsky's constructivist theory (1978), which emphasizes learning through social interaction and active engagement. As Ramilo and Ting (2025) similarly noted, DI increases engagement by addressing learner diversity and promoting inclusivity. These responses suggest that engagement is driven by instructional relevance and active participation, rather than passive content delivery.

Theme 2: Perceived Most Effective Strategies

Participants identified flexible grouping, ICT integration, and interactive tasks as the most effective DI strategies. These approaches support Tomlinson's DI model (2017), particularly in differentiating process and learning environment based on learner readiness and interest. Teachers reported that allowing student choice and using digital tools increases motivation and comprehension. This supports Ferrer and Naanep (2025), who found that flexible and technology-supported instruction improves learner engagement. The effectiveness of these strategies appears to stem from their ability to accommodate diverse learning profiles and promote learner autonomy.

Theme 3: Academic Performance Improvements

Teachers perceived that DI improves academic performance through tiered tasks, varied assessments, and ICT-based instruction. These strategies allow learners to access content at appropriate levels of difficulty, consistent with Tomlinson's principle of readiness-based differentiation. Participants attributed improved understanding to scaffolded instruction and multimodal delivery. This supports Manuel and Mempin (2025) and Peralta et al. (2025), who reported that structured differentiation enhances achievement. However, these findings reflect perceived improvements in performance rather than directly measured academic gains.

Theme 4: Peer Interaction and Communication

Participants emphasized that DI promotes peer interaction, collaboration, and communication skills through group activities and discussions. This reflects Vygotsky's social constructivist perspective, where learning occurs through cooperative dialogue within the zone of proximal development. Teachers observed that peer support helps clarify concepts and encourages participation among lower-performing learners. Consistent with Husin (2025) and Buendia and Cole (2025), collaboration fosters inclusivity and shared learning. These outcomes highlight the role of social interaction as a mechanism for learning development.

Theme 5: Confidence and Independence

DI was also perceived to strengthen students' confidence and independence by aligning tasks with learner readiness and interests. Teachers noted that appropriately leveled tasks reduce anxiety and encourage self-directed learning. This aligns with Tomlinson's framework, which emphasizes learner-centered adaptation to promote autonomy and growth. Lindner and Schwab (2021) similarly found that individualized instruction enhances self-efficacy and motivation. Overall, participants perceived that DI supports learner agency, although these outcomes are based on teacher observations rather than direct measurement of student psychological development.

2. Challenges in Applying Differentiated Instruction in Elementary

Theme 1: Practical Constraints

Interview responses indicate that time limitations, insufficient resources, and classroom management demands significantly hinder the implementation of differentiated instruction (DI). Teachers reported difficulty in preparing multiple learning tasks within limited instructional time, particularly in large and diverse classrooms. These constraints reduce the consistency and depth of differentiation practices. This reflects Tomlinson's DI model (2017), which requires flexible planning of content, process, and product—an expectation that becomes difficult under constrained conditions. Consistent with Rubio (2024), the findings suggest that structural limitations, rather than lack of intent, restrict full implementation of DI. Overall, these constraints explain why differentiation is often partial rather than fully operationalized in practice.

Theme 2: Teacher Confidence and Support Needs

Participants expressed moderate confidence in applying DI, despite having basic knowledge of its strategies. Many teachers reported the need for additional training, coaching, and practical demonstrations to strengthen implementation. This suggests a gap between theoretical understanding and classroom application, which may limit effective differentiation. From a constructivist perspective, professional learning is essential for transforming knowledge into practice through guided experience and scaffolding. As Alojado (2024) emphasized, continuous mentoring and professional development are necessary to sustain effective DI implementation. These findings indicate that teacher efficacy in DI is still developing and requires institutional strengthening.

Theme 3: Alignment with Curriculum and Assessment

Teachers also identified misalignment between DI practices and standardized curriculum and assessment requirements as a key challenge. While DI promotes flexible instruction, rigid testing systems limit opportunities for varied outputs and individualized assessment. One participant highlighted the difficulty of implementing tiered tasks while meeting exam requirements. This tension reflects a systemic constraint where assessment practices do not fully support differentiated learning outcomes. Consistent with Honteveros (2024), effective DI requires alignment between instructional strategies and assessment frameworks. The findings suggest that without policy-level adjustments, full integration of DI remains constrained, despite teachers' willingness to implement it.

3. Opportunities Received by Teachers in Applying Differentiated Instruction

Theme 1: Existing Supports for Differentiated Instruction

Interview findings show that teachers benefit from multiple support systems that facilitate differentiated instruction (DI), including peer collaboration, professional development, instructional materials, and ICT resources. These supports enable teachers to better design and implement varied learning activities that address learner diversity. From Tomlinson's DI model (2017), effective differentiation depends on flexible resources and responsive instructional planning, which are strengthened through collaboration and access to teaching tools. Consistent with Wan (2024), these supports enhance teacher capability and instructional effectiveness. Overall, the presence of collaborative and resource-rich environments explains the sustained use of DI practices in classrooms.

Theme 2: Influence of Support on Confidence

Participants reported that institutional and collegial support strengthens their confidence in applying DI strategies. Administrative encouragement, peer sharing, and access to learner performance data allow teachers to adjust instruction more effectively and experiment with varied strategies. This reflects constructivist principles, where professional learning develops

through social interaction, reflection, and guided experience. As Wan (2024) emphasized, sustained support systems improve teacher self-efficacy and consistency in instructional practices. These findings suggest that teacher confidence in DI is largely shaped by the availability of structured support and feedback mechanisms.

Theme 3: Motivators and Incentives

Teachers identified both intrinsic and extrinsic motivators that sustain their use of DI. Intrinsic motivation arises from observing student progress, engagement, and achievement, while extrinsic motivation includes recognition, encouragement, and institutional appreciation from school leaders. These motivational factors reinforce teachers' commitment to adapting instruction to learner needs. In line with motivational theory and Wan (2024), positive reinforcement and professional recognition strengthen persistence in implementing innovative teaching strategies. Overall, sustained DI practice is driven by a combination of internal satisfaction and external support systems that reinforce instructional commitment.

4. Intervention Procedures in the Application of Differentiated Instruction

Theme 1: Personal Training Preferences

Interview data indicate that teachers prefer practical, classroom-based professional development to strengthen their implementation of differentiated instruction (DI). Preferred modalities include workshops, peer mentoring, and demonstration teaching, which allow immediate application of strategies. The emphasis on experiential training reflects constructivist learning theory, where knowledge is strengthened through active engagement and reflection. Consistent with Meutstege, Van Geel, and Visscher (2023) and Liang, To, and Lo (2024), teachers develop stronger instructional competence when training is context-based and sustained rather than purely theoretical. These findings suggest that perceived effectiveness of DI training is closely linked to its practicality and relevance to actual classroom conditions.

Theme 2: School-Level Support and Constraints

Participants emphasized that DI implementation is strongly influenced by school leadership, resource availability, and institutional conditions. Administrative support and collaboration opportunities facilitate consistent application of DI strategies, while large class sizes, rigid schedules, and staffing limitations hinder effective implementation. From Tomlinson's DI framework (2017), effective differentiation requires flexible instructional systems, which are constrained when school structures are rigid. Supporting Gibbs (2025), the findings indicate that leadership and organizational support are critical enablers of DI sustainability. Overall, these results highlight that implementation success depends not only on teacher capability but also on enabling school environments.

Theme 3: Needed Support for Resources

Teachers identified adequate instructional materials, ICT tools, manipulatives, and curriculum-aligned resources as essential for effective DI implementation. Lack of resources limits lesson preparation and reduces opportunities for varied instructional delivery, particularly in addressing diverse learner needs. These constraints directly affect the application of differentiated content, process, and product as described in Tomlinson's model (2017). Consistent with Santos (2023) and Husin and Adnan (2025), resource availability is a key determinant of instructional quality and learner engagement. The findings suggest that perceived barriers in DI implementation are primarily structural rather than pedagogical, underscoring the need for strengthened resource allocation and support systems.

The integration of quantitative and qualitative findings provides a comprehensive view of differentiated instruction (DI) implementation in elementary classrooms. Quantitative results show that both teachers and school heads/supervisors rated DI practices as "Often" (Teachers: M = 4.87; School Heads/Supervisors: M = 4.90), indicating consistent use. Teachers also reported above-average competence (M = 5.09, SD = 0.766), particularly in collaborative learning, use of varied materials, and integration of ICT, games, and dramatization. The lowest-rated area—designing tiered activities (M = 4.90)—remains above average.

Qualitative findings explain these results by highlighting both strengths and constraints. DI strategies such as interactive activities, ICT integration, and group work enhance engagement, communication, and learning outcomes. Tailored tasks improve motivation, performance, and learner independence. However, implementation is constrained by large class sizes,

limited time, insufficient resources, and rigid curriculum requirements. Teachers also emphasized the need for continuous training, mentoring, and technical support.

Findings further show that teacher motivation sustains DI practices, driven by intrinsic satisfaction from student progress and extrinsic support from school leaders. Despite challenges, teachers continue implementing DI, but effective practice requires stronger institutional support, adequate resources, flexible scheduling, and supportive leadership. Overall, both datasets confirm that DI enhances engagement, collaboration, and academic achievement. Quantitative data show frequency and competence levels, while qualitative data explain contextual factors affecting implementation. This indicates that DI is effective but resource-dependent, requiring coordinated support from educators, administrators, and policymakers.

These findings align with prior studies (Nketsia et al., 2024; Antonio, 2024; Kilbane & Milman, 2023; Llanos et al., 2024; Ignacio & Latog, 2025; Ramilo & Ting, 2025). In conclusion, DI is an effective strategy for improving learning and engagement, but sustained implementation requires adequate resources, continuous professional development, and strong institutional support.

Summary of Findings

Differentiated instruction enhances student motivation, engagement, self-confidence, and independence by aligning tasks with learners' readiness and interests. Interactive activities, ICT integration, and cooperative learning improve communication, peer interaction, understanding, and retention. Overall, DI promotes inclusive, flexible classrooms that support academic performance, collaboration, and lifelong learning skills. Teacher motivation is key to sustaining DI. Intrinsic factors (student progress) and extrinsic support (recognition and leadership) strengthen commitment, while professional development builds confidence and competence. Effective interventions emphasize practical training, collaboration, mentoring, and coaching. Overall, DI implementation depends on strong teacher motivation and institutional support.

CONCLUSION

The quantitative results of this study revealed that differentiated instruction (DI) is widely implemented in elementary classrooms and that teachers demonstrate above-average competence in applying its principles.

Teachers reported a high level of DI implementation (M = 4.87), with Problem-Solving and Experiential Learning as the most frequently used strategies, followed by Collaborative Learning, Discussion, ICT integration, and Active/Interactive approaches. School heads and supervisors confirmed these findings (M = 4.90), indicating consistency between self-assessment and administrative evaluation.

In terms of competence, teachers demonstrated above-average proficiency (M = 5.09), particularly in classroom management, instructional adaptation, and the use of varied strategies such as ICT, games, dramatization, and experiential activities. These results were further supported by administrative ratings (M = 5.20). However, designing tiered activities and providing varied assessment formats remain areas for improvement, highlighting the need for targeted professional development.

Findings further show that differentiated instruction enhances student achievement, engagement, and confidence by promoting participation, collaboration, and self-directed learning. Despite these benefits, implementation is constrained by large class sizes, limited resources, time constraints, curriculum demands, and insufficient training. Teacher motivation, driven by student progress and administrative support, plays a key role in sustaining DI practices. Overall, differentiated instruction is most effective when supported by strong institutional leadership, adequate resources, and continuous capacity-building programs. This study contributes to the growing body of evidence on differentiated instruction by integrating teacher competence, implementation practices, and contextual challenges within a Philippine basic education setting, thereby providing empirical and contextual insights that may guide future instructional improvement and policy development.

RECOMMENDATIONS

1. Teachers should be provided with targeted professional development focusing on designing tiered activities and developing varied assessment strategies such as project-based tasks, multimedia outputs, and portfolios to effectively address diverse learner needs.

2. Continuous professional development programs should be strengthened to focus on advanced differentiated instruction strategies, including personalized learning pathways, adaptive technologies, flexible pacing, and competency-based assessment systems.

3. Teachers' strengths in collaborative and interactive strategies should be maximized through structured peer-learning activities and hands-on approaches such as experiments, projects, and problem-solving tasks to enhance engagement and critical thinking.

4. School leaders should sustain strong administrative support through regular classroom observations, constructive feedback, mentoring programs, and recognition systems to ensure consistent and high-quality implementation of differentiated instruction.

5. Schools should enhance teacher motivation by recognizing instructional efforts, highlighting student progress, providing continuous training opportunities, and establishing reward and feedback mechanisms that strengthen both intrinsic and extrinsic motivation.

6. Schools should strengthen instructional support by ensuring access to ICT tools and laboratory resources, providing training on emerging technologies, and promoting collaborative learning through workshops and peer-sharing of best practices.

7. Differentiated instruction should be institutionalized as a core pedagogical approach by integrating ICT, flexible assessments, and customized learning tasks, while curriculum developers ensure alignment with inclusive and adaptable learning frameworks.

8. Policymakers and education administrators should address implementation barriers by ensuring adequate instructional resources, manageable class sizes, sufficient staffing, and flexible scheduling to support effective differentiated instruction practices.

Conflict of Interest

The author(s) declare that there are no conflicts of interest that could have influenced the design, conduct, analysis, or interpretation of this study. All sources of funding and institutional affiliations are transparently acknowledged, and the findings are presented objectively without any financial, personal, or professional bias.

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