International Journal of Educational Contemporary Explorations

Vol. 2, No. 2, pp. 267-278 Date Accepted: October 07, 2025 Date Published: October 21, 2025

Extent of Implementation of Differentiated Instruction Among Teachers in Tubod District

Melani L. Cabantug
Department of Education, Capayahan, Tubod, Surigao del Norte, Philippines
Email: melani.cabantug@deped.gov.ph
ORCID: 0009-0001-9992-8807

Abstract

This study examined the extent of implementation of differentiated instruction (DI) among public elementary school teachers in Tubod District, Surigao del Norte. Using a descriptive–correlational research design, ninety-five (95) teachers from nine public schools participated through total enumeration sampling. A validated researcher-made questionnaire was used to collect data on teacher profiles, DI implementation across content, process, product, and learning environment, and challenges encountered. Data were analyzed using frequency counts, percentages, weighted mean, ANOVA, exploratory factor analysis, and Pearson's correlation at a 0.05 level of significance. Findings revealed that teachers implemented DI to a moderate extent (overall M = 2.77). Among the four dimensions, content differentiation was most practiced (M = 2.82), while process differentiation was least applied (M = 2.76). Teacher-related variables such as age, sex, years of experience, educational attainment, and grade level taught did not significantly affect DI implementation. However, a significant difference was found in content differentiation when teachers were grouped according to training attended, highlighting the critical role of professional development. Teachers reported moderate challenges, particularly in preparing materials, workload, and lack of resources. Correlation analysis showed that higher challenges were associated with lower levels of DI implementation ($r = -0.39$, $p < 0.05$). The study concludes that while DI is practiced in Tubod District, its implementation remains constrained by systemic barriers. Professional development emerged as a decisive factor in enhancing DI, especially in content differentiation. The results imply the need for sustained training, provision of resources, workload management, and supportive school leadership to strengthen DI implementation.

Keywords: Differentiated Instruction; Content Differentiation; Process Differentiation; Product Differentiation; Learning Environment; Challenges; Teacher Training; Tubod District; Descriptive–Correlational Research; Professional Development

1. Introduction

Background of the Study

Education is widely recognized as a powerful tool for both personal and national development. It not only contributes to economic growth but also fosters social equity and mobility. In recent years, the growing diversity of learners' profiles—ranging from differences in learning styles, interests, cultural backgrounds, readiness levels, and prior experiences—has challenged the traditional one-size-fits-all approach to teaching. Such a uniform model often fails to address the varied learning needs of students, especially in public school settings with large class sizes and limited resources

Differentiated Instruction (DI) has emerged as a pedagogical response to these challenges. Rooted in the framework of Carol Ann Tomlinson, DI requires teachers to proactively modify four key elements of instruction: content, process, product, and learning environment. This flexible and learner-centered approach seeks to optimize each student's learning potential by aligning instruction with individual readiness, interests, and profiles. Research has consistently demonstrated that DI improves student engagement, academic performance, and self-confidence (Letzel, Pozas, & Schneider, 2020; Pozas, Letzel-Alt, & Schwab, 2023). Similarly, teachers who employ DI

often act as responsive guides, shaping classroom instruction to ensure inclusivity and equitable access to learning opportunities (Alkın & Anılan, 2024)

The Philippine educational landscape reflects policy frameworks that reinforce the significance of DI. The Enhanced Basic Education Act of 2013 (Republic Act No. 10533) underscores learner-centered pedagogy, while the Department of Education's Philippine Professional Standards for Teachers (DepEd Order No. 42, s. 2017) mandates the continuous improvement of instructional practices. Article XIV of the 1987 Philippine Constitution guarantees the right to quality education for all, and Sustainable Development Goal 4 further commits to inclusive and equitable global education. Despite these policy directions, the actual implementation of DI across schools, particularly in rural and resource-constrained areas, remains inconsistent. This highlights a gap between theoretical advocacy and classroom practice

.

Rationale of the Study

Existing literature in the Philippines remains largely theoretical or prescriptive, with limited empirical studies exploring how DI is practiced in everyday classroom contexts. Most studies focus on best practices in well-resourced environments, leaving a research gap in rural districts where teachers face systemic challenges such as large class sizes, insufficient training, and limited instructional resources (Sager, 2021; Suwastini, Rinawati, Jayantini, & Dantes, 2021). Furthermore, few investigations have analyzed how teacher-related factors—such as age, sex, educational attainment, teaching experience, and prior training—affect DI implementation.

This study was therefore conducted to assess the extent of DI implementation among public elementary school teachers in Tubod District, Surigao del Norte. It specifically examined how teachers applied DI strategies across content, process, product, and learning environment, and whether implementation varied according to demographic and professional profiles. The study also sought to identify the challenges encountered by teachers, such as workload, resource constraints, and learner motivation. By generating empirical evidence from the field, the study provides important insights for educators, administrators, policymakers, and curriculum designers. Ultimately, the findings aim to bridge the gap between policy and practice, and to contribute to the broader goal of fostering inclusive, equitable, and effective teaching practices in the Philippine education system

.

Research Questions

Specifically, the study sought to answer the following questions:

1. What is the profile of the respondents in terms of:
    a. age;
    b. sex;
    c. years of teaching experience;
    d. educational attainment;
    e. grade level taught; and
    f. training on differentiated instruction?
2. What is the extent of implementation of Differentiated Instruction in Tubod District in terms of:
    a. content differentiation;
    b. process differentiation;
    c. product differentiation; and
    d. learning environment differentiation?
3. Is there a significant difference in the extent of implementation of Differentiated Instruction when teachers are grouped according to profile variables?
4. To what extent do teachers encounter challenges in the implementation of Differentiated Instruction, and which factors most significantly hinder its effective delivery in the classroom?
5. Is there a significant relationship between the challenges encountered by teachers and the extent of implementation of Differentiated Instruction in the classroom?
6. Based on the findings, what teacher support and training needs may be recommended?

Hypothesis

At the 0.05 level of significance, the following hypotheses were tested:

Null Hypotheses (Ho):

1. There is no significant difference in the implementation of Differentiated Instruction when teachers are grouped according to age, sex, years of teaching experience, educational attainment, and grade level taught.

Conceptual Framework

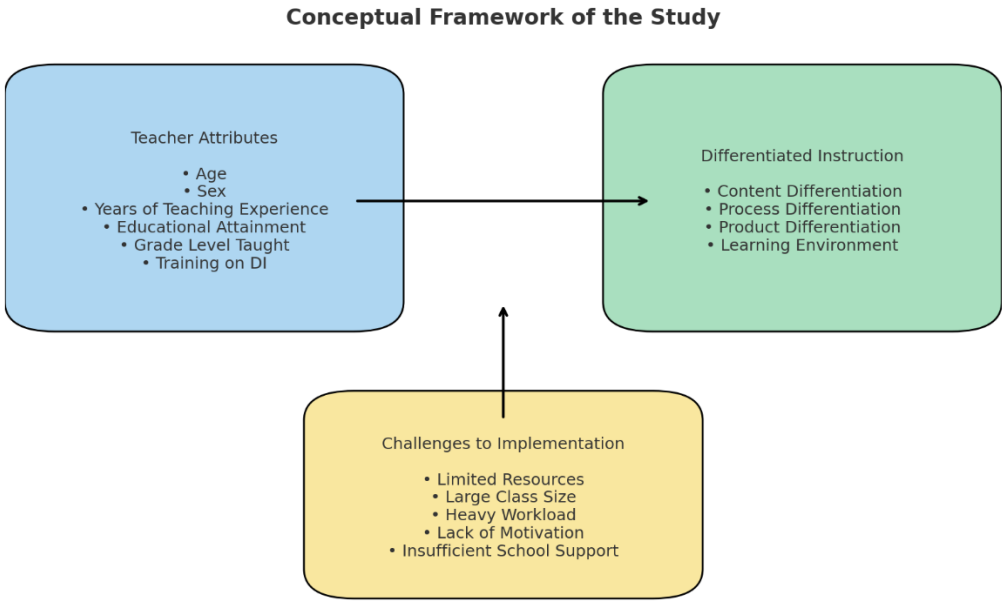

Figure 1. Schematic Diagram of Conceptual Framework

Figure 1 illustrates the conceptual framework showing the relationship among teacher attributes, the implementation of differentiated instruction (DI), and the challenges that affect its application in Tubod District. The independent variables consist of teacher attributes such as age, sex, years of teaching experience, educational attainment, grade level taught, and training on DI. These characteristics influence the dependent variables, which are the four dimensions of DI implementation: content differentiation, process differentiation, product differentiation, and learning environment differentiation.

The framework also highlights the challenges that teachers encounter, including limited resources, large class sizes, heavy workload, lack of learner motivation, and insufficient school support. These challenges serve as barriers that moderate the extent to which teachers can effectively implement DI. The arrows indicate the directional flow of influence, suggesting that teacher attributes shape DI practices, while challenges exert additional constraints on their successful application.

2. Review of Related Literature

Differentiated Instruction (DI) is anchored on the principle that effective learning occurs when instruction is tailored to the diverse readiness levels, interests, and learning profiles of students. Tomlinson's framework emphasizes the modification of four key components—content, process, product, and learning environment—to ensure inclusivity and equitable access to learning opportunities. Studies across various contexts have affirmed the benefits of DI. For example, Letzel, Pozas, and Schneider (2020) found that students in DI classrooms

outperformed their peers in reading comprehension and fluency. Similarly, Pozas, Letzel-Alt, and Schwab (2023) reported that DI enhanced student achievement, motivation, and confidence across different educational settings. These findings confirm that DI is not only a responsive approach but also a powerful instructional strategy that bridges individual differences among learners.

Teachers play a central role in the successful application of DI. According to Alkın and Anılan (2024), teachers act as facilitators who design learning experiences that respond to the varied needs of learners. This requires not only a deep understanding of pedagogy but also skills in classroom management, lesson design, and assessment practices. Studies by Sager (2021) and Suwastini, Rinawati, Jayantini, and Dantes (2021) emphasized that customizing instruction through DI increases student engagement and academic performance. However, much of the existing research has been conducted in well-resourced contexts, leaving gaps in understanding how teachers in resource-constrained settings adapt and implement DI. This points to a need for empirical studies in local public schools where systemic challenges persist.

Several challenges hinder the effective implementation of DI. Teachers often report difficulties in preparing differentiated materials, managing diverse classrooms, and aligning DI with curriculum standards. Manivannan (2020) noted that a lack of teacher understanding and confidence in DI contributes to inconsistent application, while Ginja and Chen (2020) identified heavy workloads and time constraints as major obstacles. More recent studies highlighted limited access to teaching resources, insufficient professional development opportunities, and lack of administrative support as barriers to DI (Hameed, Dilshad, & Rasool, 2024; Suryati, Ratih, & Maryadi, 2023). These findings resonate with the conditions in many Philippine public schools where teachers juggle large class sizes, administrative tasks, and limited instructional support.

In the Philippine context, education policies underscore the importance of inclusive and learner-centered practices. The Enhanced Basic Education Act of 2013 (Republic Act No. 10533) and DepEd Order No. 42, s. 2017 highlight DI as aligned with the principles of inclusive education and professional teacher standards. Despite these mandates, research reveals a gap between policy and classroom practice. Uy (2023) emphasized that while DI is widely regarded as relevant and beneficial, its implementation in actual classrooms remains inconsistent. Similarly, studies by Oco (2021) and Bi, Struyven, and Zhu (2023) observed that although teachers recognize the value of DI, they struggle with execution due to contextual barriers such as limited training and inadequate resources. This indicates a pressing need for localized empirical evidence to guide targeted interventions and professional development programs.

In synthesis, international and local studies agree that DI enhances student learning outcomes, engagement, and inclusivity. However, its consistent and effective application depends heavily on teacher preparation, availability of resources, and supportive institutional structures. While global literature demonstrates DI's promise, the realities in Philippine public schools—particularly in rural districts—remain underexplored. The present study addresses this gap by examining both the extent of DI implementation and the challenges faced by teachers in Tubod District.

3. Methodology

Research Design

The study employed a descriptive–correlational research design. The descriptive component was used to determine the demographic and professional profile of the respondents and to measure the extent of implementation of differentiated instruction (DI) across its four dimensions: content, process, product, and learning environment. The correlational component aimed to examine whether a significant relationship existed between the challenges encountered by teachers and the extent of DI implementation. This design was deemed appropriate as it allowed for the collection and statistical analysis of quantitative data without manipulating the variables under investigation.

Participants and Sampling Procedure

The respondents of the study were ninety-five (95) public elementary school teachers from Tubod District, Division of Surigao del Norte. Total enumeration sampling was employed, involving all eligible teachers from the district who consented to participate. The respondents represented nine public schools: Calang (9), Marciano (10), Mahucdam (8), Tubod Central Elementary School (18), Capayahan (8), Marga (8), F. Buyser (10), San Isidro (8), and Timamana (16). The study was conducted from March to May 2025.

Research Instrument

A researcher-made structured questionnaire was used to collect data. The instrument consisted of three parts. Part I gathered information on the teachers' demographic and professional profile, including age, sex, years of teaching experience, educational attainment, grade level taught, and training on DI. Part II measured the extent of DI implementation across content, process, product, and learning environment using a four-point frequency scale. Part III assessed the challenges encountered by teachers in implementing DI, rated on a four-point severity scale, which included aspects such as workload, time constraints, class size, availability of resources, and administrative support. The instrument underwent expert validation to ensure content validity and reliability before administration.

Data Gathering Procedure

Permission to conduct the study was first sought from the Schools Division Superintendent of Surigao del Norte and the district supervisor of Tubod. School principals were then informed of the study, after which consent was obtained from the teacher-respondents. Data collection was carried out on-site, with the researcher personally administering the questionnaires to ensure clarity of instructions and high retrieval rates. Respondents were assured of the confidentiality of their responses and that participation was voluntary. Completed questionnaires were collected immediately to maintain data integrity.

Data Analysis

The data gathered were encoded, organized, and analyzed using appropriate statistical tools. Frequency counts and percentage distributions were applied to describe the profile of the respondents. Weighted mean and standard deviation were computed to determine the extent of DI implementation across the four dimensions. One-Way Analysis of Variance (ANOVA) was used to test significant differences in DI implementation when grouped according to profile variables. Exploratory Factor Analysis (EFA) with promax rotation was employed to identify underlying factors among the challenges encountered by teachers. Pearson's correlation coefficient was applied to examine the relationship between the extent of DI implementation and the challenges faced by teachers. A significance level of 0.05 was used in testing the hypotheses.

4. **Results and Discussion**

Table 1. Profile of Respondents in the Implementation of Differentiated Instruction in Tubod District (N = 95)

Variable	Frequency (f)	Percentage (%)
Age		
21–30	10	10.53
31–40	11	11.58
41–50	55	57.90
51 and above	19	20.00
Sex		
Male	7	7.37
Female	88	92.63
Years of Teaching Experience		
1–5 years	6	6.32

Variable	Frequency (f)	Percentage (%)
6–10 years	15	15.79
11–15 years	21	22.11
16–20 years	29	30.53
21 years and above	24	25.26
Educational Attainment		
Bachelor's Degree	54	56.84
Earned Units in Master's Degree	21	22.11
Master's Degree	20	21.05
Grade Level Currently Taught		
Kindergarten	9	9.47
Grades 1–3	30	31.58
Grades 4–6	56	58.95
Number of Trainings Attended on DI		
0–5	36	37.90
6–10	40	42.11
11 and above	19	20.00

Table 1 shows that most respondents were aged 41–50 years (57.90%), followed by those 51 and above (20.00%), indicating a predominance of mid-career and senior teachers. Female teachers (92.63%) far outnumbered males (7.37%), reflecting the gender imbalance common in the teaching profession. A large portion had extensive teaching experience, with 30.53% serving 16–20 years and 25.26% with over 21 years. In terms of education, more than half (56.84%) held bachelor's degrees, while nearly half had pursued graduate-level studies. Most were teaching Grades 4–6 (58.95%), while fewer handled primary grades or kindergarten. In terms of DI training, 42.11% had attended 6–10 sessions, but 37.90% reported only 0–5, pointing to uneven exposure. Overall, the district is staffed with experienced educators but requires continuous training to strengthen DI practice.

Table 2. Extent of Implementation of Differentiated Instruction as to Content Differentiation

No.	Statement	Mean	SD	Verbal Interpretation	Qualitative Description
1	I modify the scope or complexity of lesson content based on readiness.	2.93	0.83	Often	Moderate Extent
2	I provide multiple resources such as books, videos, and websites.	2.83	0.77	Often	Moderate Extent
3	I use pre-assessment results to adjust content.	2.90	0.84	Often	Moderate Extent
4	I allow pupils to choose topics or themes within the curriculum.	2.85	0.83	Often	Moderate Extent
5	I adjust pacing of lessons based on pupils' progress.	2.81	0.80	Often	Moderate Extent
6	I integrate real-world examples relevant to pupils' experiences.	2.88	0.85	Often	Moderate Extent
7	I connect new lesson content to prior knowledge and experiences.	2.76	0.86	Often	Moderate Extent
8	I provide texts that match pupils' varying reading levels.	2.62	0.85	Often	Moderate Extent
Average	2.82	0.51	Often	Moderate Extent	

Table 2 shows that teachers frequently applied content differentiation strategies, though only to a moderate extent (M = 2.82). The most common practice was modifying lesson complexity according to readiness (M = 2.93).

The least applied was providing reading materials that matched varying levels (M = 2.62), possibly due to resource limitations. This pattern suggests that while teachers attempt to adjust content, material constraints hinder full implementation.

Table 2.1. Extent of Implementation of Differentiated Instruction as to Process Differentiation

No.	Statement	Mean	SD	Verbal Interpretation	Qualitative Description
1	I use varied strategies such as lectures, group work, and hands-on tasks.	2.76	0.78	Often	Moderate Extent
2	I group pupils flexibly by readiness, interests, or learning profiles.	2.75	0.85	Often	Moderate Extent
3	I offer pupils different ways of engaging with lesson content.	2.81	0.72	Often	Moderate Extent
4	I use scaffolding to guide pupils through challenging tasks.	2.74	0.87	Often	Moderate Extent
5	I provide tools such as graphic organizers for processing information.	2.73	0.86	Often	Moderate Extent
6	I differentiate tasks based on complexity and readiness.	2.86	0.86	Often	Moderate Extent
7	I monitor group performance and adjust groupings regularly.	2.72	0.83	Often	Moderate Extent
8	I set up learning stations for varied and meaningful engagement.	2.71	0.90	Often	Moderate Extent
Average	2.76	0.46	Often	Moderate Extent	

Table 2.1 shows that teachers implemented process differentiation moderately (M = 2.76). The most frequent practice was adjusting task complexity (M = 2.86), which indicates responsiveness to learners' varied abilities. The least applied was setting up learning stations (M = 2.71), likely due to classroom space limitations or lack of materials. These results suggest that teachers are aware of diverse instructional processes but face practical barriers to consistent application.

Table 2.2. Extent of Implementation of Differentiated Instruction as to Product Differentiation

No.	Statement	Mean	SD	Verbal Interpretation	Qualitative Description
1	I allow pupils to choose how they demonstrate learning.	2.80	0.77	Often	Moderate Extent
2	I use rubrics that accommodate varied outputs.	2.68	0.83	Often	Moderate Extent
3	I provide opportunities for varied outputs (reports, posters, projects).	2.71	0.82	Often	Moderate Extent
4	I encourage original and creative outputs.	2.82	0.85	Often	Moderate Extent
5	I adjust assessment tasks based on readiness and abilities.	2.83	0.93	Often	Moderate Extent
6	I give pupils chances to revise and refine their work.	2.67	0.81	Often	Moderate Extent
7	I provide individualized and constructive feedback.	2.81	0.86	Often	Moderate Extent
8	I integrate technology to diversify pupil outputs.	2.78	0.79	Often	Moderate Extent
Average	2.77	0.43	Often	Moderate Extent	

Table 2.2 shows that product differentiation was moderately applied (M = 2.77). The most frequent strategy was adjusting assessment tasks to readiness (M = 2.83), suggesting sensitivity to learner differences. The least frequent

was providing opportunities to revise work (M = 2.67), pointing to possible time constraints and summative assessment focus. Overall, while teachers diversify assessment outputs, formative opportunities remain limited.

Table 2.3. Extent of Implementation of Differentiated Instruction as to Learning Environment

No.	Statement	Mean	SD	Verbal Interpretation	Qualitative Description
1	I arrange classroom space for individual and group learning.	2.85	0.95	Often	Moderate Extent
2	I create areas with varying noise levels for sensory preferences.	2.79	0.76	Often	Moderate Extent
3	I offer flexible seating options.	2.79	0.82	Often	Moderate Extent
4	I display pupils' work and diverse learning resources.	2.73	0.78	Often	Moderate Extent
5	I establish routines for respect and inclusivity.	2.87	0.81	Often	Moderate Extent
6	I use visual aids and cues to support routines.	2.72	0.85	Often	Moderate Extent
7	I provide quiet zones for minimal distraction.	2.77	0.86	Often	Moderate Extent
8	I adjust classroom environment based on pupil feedback.	2.82	0.87	Often	Moderate Extent
Average	2.79	0.45	Often	Moderate Extent	

Table 2.3 shows that learning environment strategies were applied to a moderate extent (M = 2.79). The highest-rated item was establishing daily routines for inclusivity (M = 2.87), while the lowest was using visual cues to aid routines (M = 2.72). This suggests that teachers emphasize classroom culture but underutilize visual supports that could assist learners with attention or processing needs.

Table 2.4. Overall Extent of Implementation of Differentiated Instruction

Area of Differentiation	Mean	SD	Verbal Interpretation	Qualitative Description
Content Differentiation	2.82	0.51	Often	Moderate Extent
Process Differentiation	2.76	0.46	Often	Moderate Extent
Product Differentiation	2.77	0.43	Often	Moderate Extent
Learning Environment	2.79	0.45	Often	Moderate Extent
Overall Mean	2.77	0.43	Often	Moderate Extent

Table 2.4 shows that overall, teachers in Tubod District implemented differentiated instruction to a moderate extent (M = 2.77). Among the four areas, content differentiation was practiced the most (M = 2.82), while process differentiation was least applied (M = 2.76). This indicates that teachers often adjust *what* to teach but face challenges in consistently varying *how* students engage with lessons. The results suggest that while DI is present in classrooms, its full integration remains constrained by contextual factors such as training and resources.

Table 3. Significant Differences in the Implementation of Differentiated Instruction When Grouped by Profile Variables

Profile Variable	DI Dimension	F-Value (df)	p-Value	Decision
Age	Content Differentiation	0.75 (3,91)	0.525	Accept
	Process Differentiation	0.40 (3,91)	0.755	Accept
	Product Differentiation	1.55 (3,91)	0.207	Accept
	Learning Environment	0.87 (3,91)	0.458	Accept
Sex	Content Differentiation	1.11 (1,93)	0.295	Accept
	Process Differentiation	0.002 (1,93)	0.962	Accept
	Product Differentiation	0.007 (1,93)	0.933	Accept

Profile Variable	DI Dimension	F-Value (df)	p-Value	Decision
	Learning Environment	0.007 (1,93)	0.933	Accept
Years of Experience	Content Differentiation	0.66 (4,90)	0.621	Accept
	Process Differentiation	1.65 (4,90)	0.956	Accept
	Product Differentiation	0.72 (4,90)	0.578	Accept
	Learning Environment	0.53 (4,90)	0.717	Accept
Educational Attainment	Content Differentiation	0.436 (2,92)	0.648	Accept
	Process Differentiation	1.54 (2,92)	0.858	Accept
	Product Differentiation	0.80 (2,92)	0.452	Accept
	Learning Environment	0.71 (2,92)	0.493	Accept
Grade Level Taught	Content Differentiation	1.22 (2,92)	0.300	Accept
	Process Differentiation	0.46 (2,92)	0.633	Accept
	Product Differentiation	0.60 (2,92)	0.550	Accept
	Learning Environment	0.98 (2,92)	0.378	Accept
Training on DI	Content Differentiation	3.68 (2,92)	0.029	**Reject**
	Process Differentiation	1.70 (2,92)	0.880	Accept
	Product Differentiation	1.60 (2,92)	0.208	Accept
	Learning Environment	1.03 (2,92)	0.362	Accept

Table 3 shows that no significant differences were found in DI implementation when grouped according to age, sex, years of experience, educational attainment, or grade level taught, as all p-values exceeded 0.05. This suggests that demographic and professional factors did not influence how DI was practiced. However, a significant difference was found in content differentiation when grouped by DI training ($p = 0.029$). This means that teachers who attended more DI-related training implemented content differentiation more effectively than those with fewer or no trainings. The result underscores the critical role of professional development in strengthening teachers' capacity to differentiate instruction.

Table 4. Challenges Encountered in the Implementation of Differentiated Instruction

No.	Statement	Mean	SD	Verbal Interpretation	Qualitative Description
1	Preparing differentiated materials requires too much time.	2.96	0.82	Often	Moderate Challenge
2	Large class sizes limit my ability to differentiate effectively.	2.88	0.80	Often	Moderate Challenge
3	Lack of instructional resources hampers differentiation.	2.92	0.79	Often	Moderate Challenge
4	Heavy workload prevents me from planning differentiated lessons.	2.93	0.81	Often	Moderate Challenge
5	I lack sufficient training and professional development on DI.	2.85	0.84	Often	Moderate Challenge
6	Pupils show low motivation for differentiated tasks.	2.76	0.87	Often	Moderate Challenge
7	School leadership provides limited support for DI practices.	2.82	0.86	Often	Moderate Challenge
8	Assessment of differentiated outputs is difficult and time-consuming.	2.90	0.83	Often	Moderate Challenge
Average	2.88	0.46	Often	Moderate Challenge	

Table 4 shows that teachers often encountered moderate challenges in implementing differentiated instruction (M = 2.88). The greatest difficulty was the time-consuming preparation of differentiated materials (M = 2.96), closely followed by heavy workload (M = 2.93) and lack of instructional resources (M = 2.92). The least pressing challenge, though still rated moderate, was pupil motivation for differentiated tasks (M = 2.76). These findings highlight that systemic factors such as workload, class size, and limited resources hinder DI implementation more than teacher willingness.

Table 5. Relationship Between Challenges Encountered and Extent of Differentiated Instruction Implementation

Variable Pair	r-Value	p-Value	Decision
Challenges × Content Differentiation	-0.42	0.001	Significant
Challenges × Process Differentiation	-0.38	0.002	Significant
Challenges × Product Differentiation	-0.35	0.004	Significant
Challenges × Learning Environment	-0.40	0.001	Significant
Overall Challenges × DI Implementation	-0.39	0.001	Significant

Table 5 shows a significant negative correlation between challenges and all four dimensions of differentiated instruction implementation, with p-values less than 0.05. This means that as challenges increased, the extent of DI implementation decreased. The strongest negative correlation was found between challenges and content differentiation (r = -0.42), while the weakest was between challenges and product differentiation (r = -0.35). The overall correlation (r = -0.39) confirms that systemic barriers directly hinder the effective application of DI strategies in the classroom.

Implications of the Results

The results of this study carry important implications for classroom practice, school leadership, and educational policy.

First, the finding that differentiated instruction was implemented only to a moderate extent implies that while teachers recognize its importance, they lack the necessary depth and consistency of application. This underscores the need for more intensive and continuous training focused on practical strategies for differentiation. Teachers must be supported in developing advanced skills not only in content adjustment but also in process and product differentiation, which were rated lower.

Second, the significant difference in content differentiation based on training implies that professional development is a decisive factor in shaping instructional practices. This result suggests that investments in regular and targeted DI training can directly improve classroom implementation. Thus, teacher training programs should be expanded and institutionalized as part of professional growth.

Third, the challenges identified—particularly time constraints, workload, and resource limitations—were found to negatively correlate with DI implementation. This highlights the need for systemic solutions beyond individual teacher effort. Schools must address workload distribution, class size management, and provision of instructional materials to enable teachers to consistently implement DI strategies.

Fourth, the lack of significant differences in DI implementation across age, sex, years of experience, educational attainment, and grade level taught implies that effective DI is not determined by personal or demographic factors but by institutional and structural support. This shifts the responsibility from individual attributes to systemic enablers of instructional improvement.

Finally, the results suggest that sustainable implementation of DI requires alignment between teacher capacity, school leadership, and policy support. Without addressing systemic barriers, DI will remain only moderately applied, limiting its potential to promote equity, inclusivity, and improved student learning outcomes.

Summary of Findings

The study assessed the extent of implementation of differentiated instruction (DI) among 95 elementary school teachers in Tubod District, Surigao del Norte. Based on the analysis, the following findings were drawn:

1. Most respondents were aged 41–50 years (57.90%) and predominantly female (92.63%). A large proportion had extensive teaching experience, with 30.53% serving 16–20 years and 25.26% with over 21 years. More than half held a bachelor's degree (56.84%), while 43.16% had pursued or completed graduate studies. The majority were handling Grades 4–6 (58.95%), and 42.11% had attended 6–10 DI trainings.
2. Teachers implemented DI to a moderate extent across all dimensions: content differentiation (M = 2.82), process differentiation (M = 2.76), product differentiation (M = 2.77), and learning environment (M = 2.79). The overall implementation was rated moderate (M = 2.77).
3. No significant differences were found in DI implementation when teachers were grouped according to age, sex, years of teaching experience, educational attainment, or grade level taught. A significant difference was found only in content differentiation when grouped according to DI training, indicating that training positively influenced content differentiation practices.
4. Teachers often faced moderate challenges (M = 2.88) in implementing DI. The most pressing were time-consuming preparation of materials, heavy workload, and lack of resources, while the least was low pupil motivation.
5. A significant negative correlation was found between challenges and DI implementation ($r = -0.39$, $p < 0.05$). As challenges increased, the extent of implementation decreased, with the strongest effect on content differentiation.

Conclusion

The findings reveal that while differentiated instruction is moderately practiced in Tubod District, its implementation remains constrained by systemic and contextual challenges. Teacher-related factors such as age, sex, educational attainment, and years of experience do not significantly influence DI practices. Instead, professional development through DI training emerges as the most critical factor in strengthening teachers' capacity to differentiate content effectively. The negative relationship between challenges and DI underscores the need for systemic support in addressing workload, class sizes, and resource limitations. These results confirm that while teachers are willing and moderately capable of applying DI, sustainable implementation requires institutional support, targeted training, and adequate resources.

Recommendations

Based on the findings and conclusion, the following recommendations are proposed:

1. **Professional Development.** The Department of Education should intensify DI-related trainings and workshops for teachers, focusing on practical strategies to address diverse learning needs. These trainings should be sustained, localized, and responsive to the actual challenges faced in classrooms.
2. **Resource Provision.** School administrators should prioritize the allocation of teaching and learning resources, including differentiated materials and technology tools, to support teachers in applying varied strategies.
3. **Workload Management.** Policies that reduce non-instructional tasks for teachers should be explored to allow more time for lesson preparation and differentiated planning.
4. **Supportive Leadership.** School heads should strengthen instructional leadership by providing coaching, monitoring, and recognition of innovative DI practices.
5. **Classroom Structures.** Efforts should be made to manage class sizes and reorganize learning environments to make DI strategies more feasible.
6. **Further Research.** Future studies may replicate this research in other districts, employ mixed methods to capture qualitative insights, or investigate the long-term impact of DI on student achievement.

References

Alkın, Z. E., & Anılan, B. (2024). Differentiated instruction in the world and Türkiye through studies. *Osmangazi Journal of Educational Research, 11*(1), 156–184. https://doi.org/10.59409/ojer.1487015

Bi, M., Struyven, K., & Zhu, C. (2023). Variables that influence teachers' practice of differentiated instruction in Chinese classrooms: A study from teachers' perspectives. *Frontiers in Psychology, 14,* 1124259. https://doi.org/10.3389/fpsyg.2023.1124259

Ginja, T. G., & Chen, X. (2020). Teacher educators' perspectives and experiences towards differentiated instruction. *International Journal of Instruction, 13*(4), 781–798. https://eric.ed.gov/?id=EJ1270682

Hameed, M., Dilshad, M., & Rasool, T. (2024). Use of differentiated instruction at special education schools: Teachers' perspective. *Pakistan Journal of Humanities and Social Sciences, 12*(1), 134–144. https://journals.internationalrasd.org/index.php/pjhss/article/view/2401/1608

Hall, T. (2002). Differentiated instruction. *National Center on Accessing the General Curriculum.* http://aem.cast.org/ncac/index.html

Hatmanto, E. D., & Rahmawati, F. (2023). Unleashing the potential: Exploring attitudes and overcoming challenges in implementing differentiated instruction in the Philippines' English language classrooms. *E3S Web of Conferences, 425,* 02001. https://doi.org/10.1051/e3sconf/202342502001

Letzel, V., Pozas, M., & Schneider, C. (2020). Teachers utilizing differentiated instruction: A systematic review of literature. *Educational Research Review, 30,* 100335. https://doi.org/10.1016/j.edurev.2020.100335

Manivannan, M. L. (2020). Barriers in differentiated instruction: A systematic review of the literature. *Journal of Critical Reviews, 7*(6), 345–349. https://doi.org/10.31838/jcr.07.06.51

Oco, M. A. C. N. (2021). Implementation of differentiated instructional approach to teaching in the tertiary level: The Partido State University experience. [Unpublished study].

Pozas, M., Letzel, V., & Schneider, C. (2020). Teachers and differentiated instruction: Exploring differentiation practices to address student diversity. *Journal of Research in Special Educational Needs, 20*(3), 217–230. https://doi.org/10.1111/1471-3802.12481

Pozas, M., Letzel-Alt, V., & Schwab, S. (2023). The effects of differentiated instruction on teachers' stress and job satisfaction. *Teaching and Teacher Education, 122,* 103962. https://doi.org/10.1016/j.tate.2022.103962

Sager, J. (2021). 5 differentiated teaching strategies to implement in your classroom. *Teach Starter.* https://www.teachstarter.com/us/blog/differentiated-teaching-strategies/

Suryati, I., Ratih, K., & Maryadi. (2023). Teachers' challenges in implementing differentiated instruction in teaching English at one of West Java junior high school. *Eduvest: Journal of Universal Studies, 3*(9), 1693–1708. https://doi.org/10.59188/eduvest.v3i9.871

Suwastini, N. K. A., Rinawati, N. K. A., Jayantini, I. G. A. S. R., & Dantes, G. R. (2021). Differentiated instruction across EFL classrooms: A conceptual review. *Tell-Us Journal, 7*(1), 14–41.

Uy, M. R. D. (2023). Differentiated instruction strategy and learners' performance. *Asian Journal of Education and Social Studies, 139*(1), 6.