PERSONALIZED PATHWAYS: ENHANCING MOTIVATION AND OUTCOMES THROUGH DIFFERENTIATED INSTRUCTION

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ABSTRACT

In contemporary educational settings characterized by diverse learner profiles, differentiated instruction (DI) emerges as an indispensable pedagogical approach to tailor learning experiences according to individual student needs and preferences. This study, situated within the framework of the DepEd Matatag Curriculum, critically investigates the extent and impacts of DI implementation in enhancing student motivation and engagement from both teacher and learner perspectives. Empirical evidence gathered reveals a generally robust application of DI strategies, as indicated by a high overall mean score, underscoring the consistency of varied instructional methods that accommodate different readiness levels, interests, and learning preferences. Despite these positive trends, the research identifies areas for refinement, notably in the utilization of diverse assessment tools, which remain comparatively underdeveloped and represent an opportunity for further pedagogical enhancement. Importantly, the study elucidates a statistically significant relationship between DI practices and demographic factors such as age, sex, and grade level, highlighting the imperative of customizing instructional design to align with learner-specific characteristics. This finding aligns with extant educational theories that advocate for flexible, inclusive, and learnercentered pedagogies. Moreover, a comprehensive statistical analysis affirms that enhanced DI implementation correlates positively with increased student motivation-particularly intrinsic motivation-and heightened behavioral engagement, indicating that personalized learning pathways not only bolster academic outcomes but also energize students' internal motivation and active participation within the classroom milieu. Collectively, these insights substantiate the critical role of differentiated instruction in cultivating an inclusive learning environment that nurtures both cognitive and affective domains of student development, thereby offering evidence-based recommendations for educators seeking to optimize personalized educational practices.

Keyword: Differentiated Instruction, DepEd Matatag Curriculum, Student Engagement, Student Achievement, Motivation, Personalized Learning, Teacher Practices, Educational Strategies

1. INTRODUCTION

Differentiated instruction (DI) has emerged as a pivotal approach in contemporary education, aligning with the Department of Education's (DepEd) commitment to inclusive and learner-centered teaching, as outlined in the Matatag Curriculum. Grounded in the principles of DepEd Order No. 21, s. 2019 [1], which emphasizes the need for contextualized and flexible learning strategies, DI tailors instruction to address students' diverse needs, abilities, and learning preferences. Moreover, DepEd Order No. 13, s. 2018 [2] underscores the importance of pedagogical innovations that foster equitable learning opportunities, ensuring that no learner is left behind. This study explores the effectiveness of DI on student engagement and academic performance, examining how customized instructional strategies enhance motivation and learning outcomes.

Differentiated instruction (DI) serves as a structured pedagogical approach that recognizes the varied learning profiles, preferences, and levels of readiness among students, fostering an inclusive and learner-centered educational setting. As highlighted by Moallemi (2024) [3], DI entails the strategic adaptation of instructional content, processes, outputs, and the learning environment to cater to individual needs, thereby promoting greater student engagement and academic achievement. Through the implementation of flexible instructional methodologies, educators can effectively address diverse learning capabilities, ensuring that each student receives instruction that is both meaningful and appropriately challenging (Pasira, 2022) [4]. Moreover, empirical studies suggest that DI enhances student motivation by enabling learners to interact with educational materials in ways that align with their personal strengths and interests, ultimately contributing to improved educational outcomes (Halil, 2024) [5].

Despite the acknowledged advantages of differentiated instruction (DI), its practical application continues to face significant obstacles in various educational contexts. One primary challenge is the insufficient professional development opportunities for educators, leaving many ill-equipped to design and implement tailored instructional strategies effectively. This is particularly evident in the classrooms with high student-to-teacher ratios, where managing diverse learning needs within limited instructional time becomes overwhelming. Additionally, inconsistencies in DI execution arise from the absence of a unified framework guiding its adoption, leading to varied interpretations and inconsistent application across different schools and regions. Resistance to pedagogical change, often fueled by traditional teaching mindsets and the lack of institutional support, further impedes its widespread integration. These barriers create a critical gap between the theoretical benefits of DI and its actual implementation in real-world classrooms. Without a structured approach to overcoming these challenges, many educators remain constrained by conventional, one-size-fits-all teaching methodologies, ultimately limiting the potential impact of DI on student engagement and academic performance.

This study seeks to address these pressing concerns by exploring practical, evidence-based solutions for the effective implementation of DI within the framework of DepEd's Matatag Curriculum. By examining differentiated instructional practices in various learning environments, this research aims to develop concrete strategies that enhance teacher preparedness, optimize resource utilization, and foster a culture of inclusivity in education. Furthermore, the study will contribute to the growing body of knowledge on DI by providing empirical data on its direct effects on student motivation, participation, and achievement. The findings will serve as a valuable reference for policymakers, administrators, and educators, offering insights into best practices that can be adapted to diverse educational settings.

2. METHODOLOGY

2.1 Research Design

This study employs a mixed-method approach, integrating both quantitative and qualitative methodologies to comprehensively examine the impacts of differentiated instruction on students' motivation and learning outcome. According to Pregoner (2024) [6], employing a mixed-method design facilitates a more in-depth investigation of a research problem by synthesizing numerical data with qualitative insights. This methodological framework is particularly suited for educational research, as it enables data triangulation, thereby strengthening the validity and reliability of findings. The quantitative component of this study utilized a descriptive research design, systematically collecting numerical data to assess students' motivation levels and learning outcomes. To ensure a structured and standardized data collection process, a survey questionnaire was utilized, allowing for the acquisition of responses from a substantial sample. This allowed the researcher to identify patterns, relationships, and trends in students' experiences with differentiated instruction.

Complementing this, the qualitative component adopts a phenomenological research design, aiming to capture the lived experiences of students and educators regarding the challenges and effectiveness of differentiated instruction. Phenomenological inquiry is particularly valuable in understanding subjective experiences, as it provides depth and contextual richness (Alhazmi and Kaufmann, 2022) [7]. To gather qualitative data, the researcher conducted an interview and Focus Group Discussion (FGD) exclusively with teachers and key informants. These interviews facilitated an in-depth examination of participants' insights, enabling a comprehensive understanding of their perspectives on differentiated instruction. By employing this approach, the study aims to capture detailed narratives and nuanced experiences that contextualize and enrich the quantitative findings, thereby reinforcing the overall validity and depth of the research conclusions.

2.2 Research Participants

This study focused on elementary learners in Grades 4, 5, and 6 in Tandag City, a crucial stage in their academic journey as they transition from foundational learning to advanced competencies. It explored the impact of differentiated instruction on student motivation and learning outcomes. A stratified proportional random sampling method was used to select 306 participants from a total population of 1,299, ensuring a 95% confidence level. In addition to the learner respondents, 36 teachers and 14 key informants, including master teachers and school heads, were involved. These educators were chosen through total enumeration to gain comprehensive insights into the implementation and effectiveness of differentiated instruction. The study was conducted across four elementary schools in Tandag City: Tandag City SPEd Center, Special Science Elementary School, Tandag Central Elementary School.

2.3 Research Instruments

This study utilized two primary research instruments: a researcher-designed questionnaire and semi-structured interviews. The questionnaire aimed to assess students' perceptions of differentiated instruction and its impact on motivation and academic outcomes, employing a 5-point scale for responses. It was divided into four parts: demographic profiles, the extent of differentiated instruction implementation, student motivation, and engagement. The first part collected data on the respondents' demographics, while the second assessed how differentiated instruction was implemented in classrooms, including strategies, task customization, and assessment tools. The third part explored various aspects of student motivation, including intrinsic and extrinsic motivation, interest, and self-determination, while the fourth evaluated students' engagement through emotional, behavioral, and cognitive indicators. In addition, semi-structured interviews with teachers and informants provided qualitative insights into the effectiveness and influence of differentiated instruction, offering richer contextual understanding beyond the quantitative survey data. This combined approach aimed to provide a comprehensive view of how personalized learning strategies can enhance student motivation and academic success.

2.4 Data Gathering Procedure and Analysis

The data gathering for this study followed a structured and ethical approach to ensure the accuracy and reliability of the findings. Initial steps involved obtaining the necessary permissions from school officials. A validated survey questionnaire was administered to both teachers and students to assess their perceptions of differentiated instruction, providing valuable quantitative data on its effectiveness. In addition to the survey, semi-structured interviews and Focus Group Discussion (FGD) were conducted to gather qualitative insights, allowing participants to share their experiences and further explore how differentiated instruction influenced motivation and outcomes. The data collection spanned multiple stages, ensuring a comprehensive understanding of the effects of personalized learning. Statistical analyses included frequency, percentage, and rank for demographic data, means for assessing various dimensions, and Pearson correlation to examine relationships between implementation differentiated instruction and the profile of the respondents. Additionally, Braun and Clarke's thematic analysis was employed to analyze the qualitative data, uncovering patterns and themes related to the research objectives.

2.5 Ethical Consideration

Adhering to ethical principles in research is fundamental to safeguarding the rights, dignity, and welfare of respondents (Sánchez, et al., 2023) [8]. This study strictly complies with ethical guidelines to ensure the protection, dignity, and moral integrity of all key informants involved. Prior to data collection, the researcher secures the necessary approvals and permissions, ensuring that all procedures align with ethical research standards. To uphold confidentiality and protect the privacy of participants, all identifying information is excluded from records and reports. Data is handled with the utmost discretion, securely stored, and accessible only to the researcher to prevent unauthorized use. Additionally, participants retain the right to withdraw from the study at any point without facing any repercussions. By implementing these ethical safeguards, this research maintains respect for individual rights while ensuring the integrity and credibility of the study.

3. RESULTS AND DISCUSSION

3.1 Demographic Profile of the Respondents

In this study, the demographic profile of the learner-respondents was analyzed according to age, sex, and grade level. Table 1 presents a total of 306 learners who participated in the survey.

Among the age brackets, the majority of the respondents belonged to the 11–12 age group, comprising 210 learners or 69% of the total population. This suggests that learners within this age range dominate the sampled population, likely reflecting the typical age range for upper elementary levels. Conversely, the lowest representation came from the 13 and above bracket, with only 5 learners or 2%, indicating a minimal presence of overage students within the sample. This aligns with DepEd's K to 12 curriculum structure, where Grades 5 and 6 are generally composed of learners aged 11 to 12 (DepEd, 2018) [9].

In terms of sex, a greater proportion of the respondents were female, totaling 176 or 58%. The male respondents, by contrast, accounted for 130 or 42%, marking them as the lesser-represented sex group in the study. The data suggests a slightly higher participation of female learners in the sampled schools. This aligns with the observation that females tend to have higher enrollment rates than males (DepEd, 2022) [10].

With regard to grade level, the highest number of respondents were enrolled in Grade 6, totaling 131 learners or 43%, indicating a strong representation of terminal grade-level students in the elementary cycle, which aligns with findings on sustained student engagement in later grade levels (Korhonen et al., 2024) [11]. On the other hand, Grade 4 had the fewest respondents, comprising only 68 or 22% of the sample, which may reflect either enrollment distribution or selection coverage at the time of data collection.

Profile	Classifications 64	Frequency	Percentage
Age	9-10	91	30%
	11-12	210	69%
	13 above	5	2%
Sex	MALE	130	42%
	FEMALE	176	58%
Grade Level	GRADE 4	68	22%
	GRADE 5	107	35%
	GRADE 6	131	43%

Table-1: Demographic Profile of the Learners

The table 2 presents the demographic attributes of the 36 teacher-respondents in terms of age, sex, academic position, training exposure, and years of teaching experience. The analysis highlights the most and least represented groups per variable to provide insight into the composition of the instructional workforce involved in differentiated instruction.

The most prevalent age bracket among the teacher-respondents was 31 to 45 years old, accounting for 56% of the total sample. This distribution suggests that a substantial portion of the teaching personnel are in their mid-career phase, a stage often characterized by professional stability and refined pedagogical strategies (Booth et al., 2021) [12]. In contrast, the least represented age group was 60 years and above, comprising only 6%, indicating a smaller presence of senior educators nearing or at retirement age.

An overwhelming majority of the respondents were female, representing 94% of the population, while only 6% identified as male. This notable gender disparity reflects the prevailing trend in basic education settings, where teaching remains a female-dominated profession, particularly at the elementary level (Hilton, 2023) [13].

The designation of Teacher III emerged as the most common academic position, with 58% of the respondents occupying this rank. This indicates a concentration of educators with relatively advanced placement in the teacher career line, likely reflecting both experience and eligibility credentials (DepEd, 2023) [14]. On the other hand, positions such as Special Education Teacher I and Teacher I, each accounted for only 3%, marking them as the least represented in the sample.

In terms of professional development, the basic level of training exposure was most frequently reported, encompassing 50% of respondents. This implies that half of the teachers have undergone fundamental training relevant to their field, possibly encompassing general pedagogy and curriculum delivery (D'Intino and Wang, 2021) [15]. Conversely, only 3% of the respondents indicated having undergone extensive training, underscoring a potential area for capacity-building in differentiated instruction strategies (Suryani, et al., 2024) [16].

With regard to teaching tenure, the highest proportion of respondents, which is 50%, reported having served in the profession for 16 years and above, denoting a mature teaching force with substantial classroom experience. Meanwhile, the lowest representation was found in the 11 to 15 years category, comprising only 14% of the group. Chisiri, et al. (2024) [17] highlight the importance of understanding the impact of human resource policies on teacher career progression, particularly the limitations posed by structural and systemic components such as training and development, reward, and promotion policies.

Profile	Classifications	Frequency	Percentage
Age	30 below	3	6%
C	31-45	20	56%
	46-60	11	31%
	60 above	2	6%
Sex	MALE	2	6%
	FEMALE	34	94%
Academic Rank /	TEACHER I	5	14%
Position	TEACHER II	5	14%
	TEACHER III	21	58%
	SPECIAL EDUCATION	1	3%
	TEACHER I		
	MASTER TEACHER I	2	6%
	MASTER TEACHER II	2	6%
Training Exposure	NONE	2	6%
	BASIC	18	50%
	MODERATE	15	42%
	EXTENSIVE	1	3%
Years of Experience	1 to 5 years	6	17%
	6 to 10 years	7	19%
	11 to 15 years	5	14%
	16 years & above	18	50%

Table-2: Demographic	Profile of the Teachers
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3.2 Level of Differentiated Instruction (DI) Implementation

Table 3 presents the findings on the Level of Differentiated Instruction (DI) Implementation, as assessed from both learners' and teachers' perspectives. It outlines the mean scores across five key indicators, highlighting the strengths and areas for improvement in the application of DI strategies in the classroom.

Among the five indicators assessed from the learners' perspective, the lowest mean score was observed in the use of Varied Assessment Tools (4.058), interpreted as Moderately Implemented. This suggests that, while assessment tools are being utilized, their variation may not be fully responsive to the diverse learning needs of students. This highlights a gap in adapting evaluation methods to meet individual needs. It aligns with the assertion that effective differentiation requires not only diverse content and instruction but also strengthened teacher training and systemic strategies to ensure meaningful customization across all aspects of teaching and learning (Goyibova et al., 2025) [18].

Conversely, the highest mean was observed for Varied Instructional Materials (4.266), which was rated as Highly Implemented. This indicates a strong effort to accommodate different learning preferences by providing diverse content and resources. This supports Qorib's (2024) [19] findings, which emphasize the importance of differentiated instruction as a solution for addressing student diversity in inclusive education settings.

From the teachers' perspective, the lowest mean score was recorded for Customized Learning Tasks (4.367), still rated as Highly Implemented. This suggests that while there is a strong effort to personalize learning, there remains an opportunity for further improvement in tailoring tasks to individual student needs. On the other hand, the highest mean scores were noted in both Varied Instructional Materials and Engagement Techniques (4.661). This indicates a consistent and strong application of differentiated instruction strategies that foster active learner engagement, reinforcing the view that strategic variation in teaching practices enhances student participation and learning outcomes (Ojong, 2023) [20].

In contrast, Grecu (2023) [21] highlighted that many educators face challenges in implementing differentiation due to rigid curricular materials, which often require modification to address diverse student needs. This suggests that, although structural barriers may hinder differentiated instruction in some settings, effective implementation is achievable when educators take proactive measures, especially when supported by flexible institutional policies or context-specific strategies.

The overall mean for learners was 4.204, and for teachers, it was 4.566, both falling under the Highly Implemented category. The grand mean of 4.385 indicates that differentiated instruction is generally well-practiced across classrooms. However, teachers reported a higher level of implementation compared to learners' perceptions, highlighting a positive yet slightly varied perspective on the integration of differentiated strategies in the learning environment. This aligns with previous studies that indicate teachers tend to have a more optimistic view of their instructional practices compared to students' perceptions (Wisniewski, et al., 2022) [22].

	I	earners	Teachers		Crond	Over-all
Indicators	Mean	Adjectival Rating	Mean	Adjectival Rating	Mean	Adjectival Rating
Customized Learning Tasks	4.156	Moderately Implemented	4.367	Highly Implemented	4.262	Highly Implemented
Varied Instructional Material	4.266	Highly Implemented	4.661	Highly Implemented	4.464	Highly Implemented
Varied Assessment Tools	4.058	Moderately Implemented	4.567	Highly Implemented	4.313	Highly Implemented
Accommodation of Learning Differences	4.258	Highly Implemented	4.572	Highly Implemented	4.415	Highly Implemented
Engagement Techniques	4.282	Highly Implemented	4.661	Highly Implemented	4.472	Highly Implemented
Over-all Mean	4.204	Highly Implemented	4.566	Highly Implemented	4.385	Highly Implemented

Table-3: Level of Differentiated Instruction (DI) Implementation

3.3 Level of Learners' Motivation When Exposed to DI

Table 4 presents the level of learners' motivation when exposed to differentiated instruction (DI). Among the learner-respondents, the lowest mean was recorded under the indicator Intrinsic Motivation with a mean of 4.207, though it still falls under the adjectival rating Strongly Agree. This suggests that while internal drive and personal interest are present, they appear to be comparatively the least influential aspects of student motivation when exposed to differentiated instruction. On the other hand, the highest mean was observed in Extrinsic Motivation, which obtained a mean of 4.454, also rated Strongly Agree, highlighting that learners are most motivated by external factors such as rewards, praise, or recognition when instructional methods are varied. These findings align with the conclusion of Hasanah and Murdiono (2024) [23], who emphasize that the implementation of differentiated learning strategies significantly enhances both intrinsic and extrinsic student motivation.

For the teacher-respondents, the lowest mean was found in Self-Determination, which garnered a score of 4.189 with an adjectival rating of Agree. This suggests that teachers acknowledge the significance of student autonomy and self-direction, yet they perceive it as somewhat less emphasized in the context of differentiated instruction. While the concept is valued, it may not be as consistently prioritized compared to other motivational factors, thus indicating potential for further integration of strategies that encourage greater student independence. This aligns with the findings of Hornstra, et al., (2023) [24], who suggest that while teachers value self-determination, the implementation of practices that fully support student autonomy can often be inconsistent in classroom settings.

In contrast, the highest mean was observed in Extrinsic Motivation, with a mean of 4.644, strongly indicating that educators believe external incentives significantly enhance learners' engagement and participation when instruction is adapted to their individual needs. This reflects the broader consensus in educational psychology, which asserts that external rewards can serve as a powerful motivator in enhancing student performance and engagement (Zajda, 2024) [25].

The overall computed mean for learners is 4.338, and for teachers is 4.360, which corresponds to the over-all adjectival rating Strongly Agree. The grand mean 4.360 reflects a shared positive perception that differentiated instruction significantly contributes to student motivation, supporting its continued use as an effective strategy to address diverse learning preferences and needs. This finding resonates with the work of Saparov (2023) [26], who highlighted the importance of adapting teaching methods to address the varied interests, readiness, and learning profiles of students, thereby fostering an environment conducive to increased motivation and academic success.

	Le	earners	Те	Teachers		Over-all
Indicators	Mean	Adjectival Rating	Mean	Adjectival Rating	Mean	Adjectival Rating
Intrinsic Motivation	4.207	Strongly Agree	4. <mark>4</mark> 56	Strongly Agree	4.332	Strongly Agree
Extrinsic Motivation	4.454	Strongly Agree	<u>4.6</u> 44	Strongly Agree	4.549	Strongly Agree
Goal Orientation	4.348	Strongly Agree	4.222	Strongly Agree	4.285	Strongly Agree
Interest in the Subject Matter	4.318	Strongly Agree	4.500	Strongly Agree	4.409	Strongly Agree
Perception of Relevance to Future Goals	4.363	Strongly Agree	4.283	Strongly Agree	4.323	Strongly Agree
Self-Determination	4.340	Strongly Agree	4.189	Agree	4.265	Strongly Agree
Over-all Mean	4.338	Strongly Agree	4.382	Strongly Agree	4.360	Strongly Agree

Table-4: Level of Learners' Motivation When Exposed to DI

3.4 Level of Learners' Engagement When Exposed to DI

Table 5 presents the findings regarding the learner and teacher perceptions of differentiated instruction in terms of engagement. The reveals that among the indicators of student engagement, Sense of Connectedness received the lowest mean score from learners at 4.259, which corresponds to the adjectival rating of Strongly Agree. While still within the Strongly Agree range, this suggests a slightly lower perception of social belonging and connection in the classroom under differentiated instruction compared to other indicators. This finding is consistent with previous research that suggests students may sometimes experience a more individualistic sense of engagement when exposed to differentiated instruction (Widayanti, et al., 2024) [27]. On the other hand, Affective Engagement garnered the highest mean among learners at 4.320, also within the Strongly Agree range, reflecting that students strongly agreed that differentiated instruction positively influenced their emotional investment in learning. This echoes the findings of Shan (2024) [28], who emphasize that emotional engagement is a key factor in fostering student motivation and learning outcomes in differentiated classrooms.

For the teacher-respondents, Cognitive Engagement recorded the lowest mean score at 4.206, with an adjectival rating of Strongly Agree. While still indicating strong agreement, this suggests that teachers perceived a somewhat lesser impact on students' intellectual engagement compared to the other indicators, albeit with a still significant positive effect. This aligns with the work of Siregar (2024) [29], who underscore that cognitive engagement is often a primary target of differentiated instruction. Conversely, Affective Engagement achieved the highest mean score among teachers at 4.583, which also falls within the Strongly Agree category, signifying strong agreement that differentiated instruction fosters emotional engagement and connection with students. This supports the argument by Sun, et al. (2024) [30], who assert that fostering positive emotional connections is a crucial aspect of improving student engagement in any instructional model.

The overall mean scores is 4.293 for learners with an adjectival rating of Strongly Agree and 4.403 for teachers, also rated Strongly Agree. This indicates that both groups strongly agree on the positive impacts of differentiated instruction on student engagement. The grand mean of 4.348, accompanied by the adjectival rating of Strongly Agree, underscores the collective perception that differentiated instruction significantly enhances students' affective, behavioral, cognitive, and social engagement, thereby promoting more meaningful and personalized learning experiences. This aligns with the study of Akintayo, et al. (2024) [31], which demonstrates that differentiated instruction can lead to a more inclusive and engaging learning environment for diverse student populations.

	Le	earners	Te	achers	Crond	Over-all	
Indicators	Mean	Adje <mark>ctival</mark> Rating	Mean	Adjectival Rating	Mean	Adjectival Rating	
Affective Engagement	4.320	Strongly Agree	4.583	Strongly Agree	4.452	Strongly Agree	
Behavioral Engagement	4.268	Strongly Agree	4.417	Strongly Agree	4.343	Strongly Agree	
Cognitive Engagement	4.334	Strongly Agree	4.206	Strongly Agree	4.270	Strongly Agree	
Sense of Connectedness	4.259	Strongly Agree	4.539	Strongly Agree	4.399	Strongly Agree	
Self-Efficacy	4.282	Strongly Agree	4.272	Strongly Agree	4.277	Strongly Agree	
Over-all Mean	4.293	Strongly Agree	4.403	Strongly Agree	4.348	Strongly Agree	

 Table-5: Level of Learners' Engagement When Exposed to DI

3.5 Relationship between the Level of DI Implementation and the Learner-Respondents' Profile

Table 6 presents the relationship between the level of differentiated instruction (DI) implementation and the respondents' profile. The findings for Customized Learning revealed statistically significant relationships with both age (r = 0.175, p = 0.002) and sex (r = 0.162, p = 0.004), while the correlation with grade level (r = 0.107, p = 0.062) was not significant. These outcomes indicate that learners' age and sex have a meaningful association with how customized learning strategies are perceived or implemented, suggesting that as learners mature or differ in sex, their engagement or responsiveness to personalized approaches in instruction may vary significantly. This supports the findings of Meng (2023) [32], who emphasized the importance of aligning instruction with students' readiness, interests, and learning profiles to promote equitable access to learning. However, the lack of a significant relationship with grade level implies that being in different academic stages does not necessarily influence students' experiences of customized learning in a differentiated instructional framework. These results underscore the importance of tailoring instructional strategies by accounting for age and sex differences to optimize motivation and learning outcomes.

As for the Varied Instructional Strategies, the data reveals statistically significant relationships between the implementation of differentiated instruction and the learners' demographic profiles—particularly age, sex, and grade level. Notably, the computed r and p-values for age (r = 0.19, p = 0.001), sex (r = 0.14, p = 0.014), and grade level (r

= 0.162, p = 0.004) indicate positive and significant relationships. These results lead to the rejection of the null hypothesis and suggest that the degree to which varied instructional strategies are applied is influenced by the learners' age, gender, and educational level. This aligns with the perspective of Tomlinson and Jarvis (2023) [33], who contend that effective differentiation requires teachers to adapt content, process, and product in accordance with student diversity. Consequently, this underscores the importance of a learner-centered paradigm in which instructional variability is not merely a pedagogical option but a necessity for maximizing student engagement and academic success across developmental and contextual variables.

In terms of Varied Assessment Tools, the data show that the relationship between Varied Assessment Tools and sex demonstrates statistical significance (r = 0.124, p-value = 0.031), leading to the rejection of the null hypothesis, indicating a significant relationship. On the other hand, the relationship between Varied Assessment Tools and age (r = 0.058, p = 0.308) and grade level (r = 0.078, p = 0.174), fails to reject the null hypothesis, suggesting no significant association between these variables. This implies that the respondents' gender plays a significant role in how varied assessment methods influence the learning outcomes. This observation is consistent with the assertion of Tai, et al. (2023) [34], who advocates that assessment strategies should accommodate diverse learners to ensure fairness and accuracy in measuring student progress. However, the lack of significant findings with grade level suggests that, despite differences in grade levels, the impact of varied assessment tools remains relatively consistent across these groups. Therefore, the results highlight that gender might influence the effectiveness of specific assessment strategies, whereas grade level does not appear to exhibit such a strong correlation.

The analysis regarding the accommodation of learning differences reveals a nuanced relationship with the learners' demographic profiles. Statistical analysis indicates that both sex (r = 0.160, p = 0.005) and grade level (r = 0.149, p = 0.009) are significantly associated with the level of differentiated instruction (DI) implementation in accommodating learning differences. These findings suggest that educators' strategies in recognizing and addressing diverse learner needs are influenced by the learners' sex and educational level, possibly due to varied cognitive, emotional, or sociocultural factors that emerge across developmental stages and gender-related learning styles. Conversely, age (r = 0.013, p = 0.824) shows no significant correlation, implying that the accommodation strategies employed are not contingent on chronological age but rather on other contextual factors. This highlights the importance of implementing inclusive instructional approaches that are sensitive to learners' individual profiles beyond mere age brackets, thereby fostering equitable learning experiences. This highlights the importance of implementing equitable learning experiences (Sharma, 2024) [35].

The analysis of Engagement Techniques reveals no statistically significant relationships with any of the learner profile variables tested, namely age (r = 0.013, p = 0.824), sex (r = 0.098, p = 0.086), and grade level (r = 0.107, p = 0.063). These p-values all exceed the threshold for statistical significance (p > 0.05), leading to the failure to reject the null hypothesis. This implies that the implementation level of engagement techniques within differentiated instruction is not significantly influenced by learners' demographic factors. It suggests that while engagement strategies may be universally applied across varied learner groups, their deployment may not necessarily be tailored or sensitive to specific learner characteristics such as age, gender, or academic level. These findings contrast with those of Moallemi (2024) [36], who emphasized that learner engagement may rely less on demographic characteristics and preferences. This suggests that effective engagement may rely less on demographic characteristics and more on personalizing instruction based on students' intrinsic motivations and interests This outcome may indicate the need for further qualitative inquiry into how engagement strategies are perceived and experienced by different learner segments.

Variables Tested		Computed r	P-value	Decision	Conclusion
Customized Learning	Age	0.175	0.002	Reject Ho	Significant
	Sex	0.162	0.004	Reject Ho	Significant
	Grade Level	0.107	0.062	Failed to Reject Ho	Not significant
Varied Instructional	Age	0.19	0.001	Reject Ho	Significant
Materials	Sex	0.14	0.014	Reject Ho	Significant
	Grade Level	0.162	0.004	Reject Ho	Significant

Table-6: Relationship between the Level of DI Implementation and the Learner-Respondents' Profile

Varied Assessment Tools	Age	0.058	0.308	Failed to Reject Ho	Not significant
	Sex	0.124	0.031	Reject Ho	Significant
	Grade Level	0.078	0.174	Failed to Reject Ho	Not significant
Accommodation of	Age	0.058	0.309	Failed to Reject Ho	Not significant
Learning Differences	Sex	0.16	0.005	Reject Ho	Significant
	Grade Level	0.149	0.009	Reject Ho	Significant
Engagement Techniques	Age	0.013	0.824	Failed to Reject Ho	Not significant
	Sex	0.098	0.086	Failed to Reject Ho	Not significant
	Grade Level	0.107	0.063	Failed to Reject Ho	Not significant

3.6 Relationship between the Level of DI Implementation and the Teacher-Respondents' Profile

Table 7 presents the correlation analysis between the level of implementation of differentiated instruction (DI) through Customized Learning and the teacher-respondents' profile. The data revealed no statistically significant relationship, as indicated by the failure to reject the null hypothesis across all tested variables. The p-values associated with age, sex, position, training, and teaching experience were all above the 0.05 significance level, suggesting that these demographic factors do not have a measurable influence on the extent to which customized learning strategies are employed by teachers. These findings reflect similar conclusions reached by Porta (2025) [37], who posited that differentiated instruction is often guided more by school-wide pedagogical mandates than by personal characteristics. This implies that regardless of professional background or personal characteristics, educators demonstrate a uniform approach in adopting customized learning strategies. Such findings underscore the notion that the implementation of customized instruction is likely driven by institutional or pedagogical frameworks (Turney, 2025) [38], rather than individual demographic attributes, highlighting the importance of systemic support over personal disposition in actualizing differentiated instruction within the classroom context.

For the varied instructional strategies, the data reveals a consistent pattern of statistical insignificance. Specifically, the computed correlation coefficients (r-values) between the level of implementation of varied instructional strategies and variables such as age (r = 0.074), sex (r = 0.096), position (r = 0.018), training (r = 0.068), and teaching experience (r = 0.045), accompanied by p-values all well above the 0.05 threshold, indicate no significant relationship. These results support earlier conclusions by Bukamal (2024) [39], who noted that differentiated instruction tends to be broadly applied where institutional norms exist, regardless of individual educator differences. In essence, teachers' utilization of diversified teaching strategies appears uniformly distributed, irrespective of age, gender, rank, experience, or prior training, underscoring a potentially standardized or universally embraced pedagogical approach in the sampled educational setting.

The statistical findings pertaining to the implementation of varied assessment tools in relation to teacherrespondents' demographic and professional attributes reflect a consistent absence of significant associations. Correlation coefficients for age (r = 0.133), sex (r = 0.082), position (r = 0.031), training (r = 0.012), and teaching experience (r = 0.018), each accompanied by p-values exceeding the standard threshold of 0.05, collectively underscore a lack of meaningful statistical relationship. This outcome suggests that educators' deployment of differentiated assessment strategies to measure diverse learner outputs and accommodate multiple intelligences operates independently of their age, gender identity, rank, formal training, or years of service. This is consistent with the findings of Manigbas and De Luna (2023) [40], who highlighted that educators tend to adopt assessment techniques reflective of a shared instructional philosophy. The uniformity in the use of such tools implies a collective professional commitment to inclusive evaluation methods, likely influenced more by institutional frameworks and pedagogical standards than by individual characteristics or professional backgrounds.

Concerning the accommodation of learning differences, the data reveals no significant relationship between the level of DI implementation and various teacher-respondents' profiles. The computed correlation coefficients for age (r = 0.15), sex (r = 0.034), position (r = 0.024), training (r = 0.136), and experience (r = 0.011) all yield p-values that exceed the threshold of 0.05, indicating that these variables do not significantly influence the extent to which teachers implement differentiated instruction strategies tailored to accommodate diverse learning needs. These results support the premise that DI strategies are often standardized within institutional norms rather than based on personal or demographic influences (Bi, et al., 2021) [41]. This uniformity in response could imply that

accommodations are likely dictated by broader educational policies and practices rather than personal characteristics or professional development.

Regarding the engagement techniques, the computed correlation coefficients for various variables such as position (r = 0.086), training (r = 0.235), and experience (r = 0.018) along with their respective p-values (0.619, 0.169, and 0.915), all exceed the threshold of 0.05. This indicates that factors such as a teacher's professional role, training background, and years of teaching experience do not significantly affect the use of engagement techniques within differentiated instruction. The failure to reject the null hypothesis (Ho) suggests that engagement strategies employed by educators in the classroom may be influenced by factors other than individual teacher characteristics, possibly by institutional guidelines, resources, or the general approach to student engagement within the broader educational environment. This notion is reinforced by Sumbilon, et al. (2024) [42], who emphasized the role of curriculum frameworks and administrative support systems in guiding engagement practices,

Variables Test	ed	Computed r	P-value	Decision	Conclusion
	Age	0.161	0.349	Failed to Reject Ho	Not significant
	Sex	0.089	0.605	Failed to Reject Ho	Not significant
Customized Learning	Position	0.061	0.724	Failed to Reject Ho	Not significant
	Training	0.101	0.558	Failed to Reject Ho	Not significant
	Experience	0.014	0.937	Failed to Reject Ho	Not significant
	Age	0.074	0.666	Failed to Reject Ho	Not significant
Variad Instructional	Sex	0.096	0.579	Failed to Reject Ho	Not significant
Materials	Position	0.018	0.919	Failed to Reject Ho	Not significant
Waterlais	Training	0.068	0.696	Failed to Reject Ho	Not significant
	Experience	0.045	0. <mark>796</mark>	Failed to Reject Ho	Not significant
	Age	0.199	0.24 <mark>6</mark>	Failed to Reject Ho	Not significant
	Sex	0.034	0.8 <mark>4</mark> 4	Failed to Reject Ho	Not significant
Varied Assessment Tools	Position	0.031	0. <mark>8</mark> 56	Failed to Reject Ho	Not significant
	Training	0.012	0.943	Failed to Reject Ho	Not significant
	Experience	0.018	0.915	Failed to Reject Ho	Not significant
	Age	0.133	0.438	Failed to Reject Ho	Not significant
Assemmedation of	Sex	0.082	0.635	Failed to Reject Ho	Not significant
Accommodation of	Position	0.024	0.89	Failed to Reject Ho	Not significant
Learning Differences	Training	0.136	0.429	Failed to Reject Ho	Not significant
	Experience	0.011	0.951	Failed to Reject Ho	Not significant
	Age	0.15	0.383	Failed to Reject Ho	Not significant
Engagement Tachniques	Sex	0.034	0.844	Failed to Reject Ho	Not significant
Engagement Techniques	Position	0.086	0.619	Failed to Reject Ho	Not significant
	Training	0.235	0.169	Failed to Reject Ho	Not significant
	Experience	0.018	0.915	Failed to Reject Ho	Not significant

Table-7: Relationship between the Level of DI Implementation and the Teacher-Respondents' Profile

3.7 Relationship between the Level of DI Implementation and the Students' Motivation According to Learner-Respondents

Table 8 presents the relationship between the level of DI implementation and the students' motivation according to learner-respondents. Based on the statistical findings, there exists a significant relationship between the level of differentiated instruction (DI) implementation and students' motivation across all measured domains. The computed r values, which range from moderate to strong correlations, along with p values consistently less than 0.05, led to the rejection of the null hypothesis in every instance. This indicates that the association between the variables is statistically significant and not attributed to mere chance. This aligns with the findings by Tomlinson and Jarvis (2023) [43], who emphasized that differentiated instruction promotes learner motivation by addressing diverse academic needs, interests, and readiness levels.

In particular, the components of differentiated instruction, namely customized learning, varied instructional strategies, diverse assessment tools, accommodation of learning differences, and engagement techniques, were all found to be significantly correlated with both intrinsic and extrinsic motivational factors. Among these, the strongest relationships were observed in the areas of extrinsic motivation and self-determination within the category of accommodating learning differences, yielding correlation coefficients of 0.579 and 0.528 respectively. These findings underscore the effectiveness of delivering instruction that aligns with individual learner needs in fostering both internal drive and external motivation. These figures highlight the motivational potency of instructional approaches tailored to individual learning profiles (Bayounes, et al., 2022) [44].

Additionally, all motivational indicators, which include goal orientation, interest, perception, and self-determination, demonstrated consistent and significant relationships with each element of differentiated instruction. The results suggest that when instruction is intentionally designed to match students' unique readiness levels, preferences, and learning profiles, there is a corresponding increase in motivation, whether it is internally inspired or externally driven. The data support the assertion that instructional design grounded in students' readiness, interests, and preferred learning modalities contributes positively to their motivational disposition (MCcall, 2024) [45]. In both internal and external motivational aspects, students responded favorably when pedagogical interventions aligned with their specific needs and aspirations.

These findings confirm that the thoughtful and systematic implementation of differentiated instruction significantly influences students' motivational outcomes. These results advocate for the deliberate integration of differentiated practices in instructional planning to promote both academic success and holistic learner development.

V	ariables Tested	Computed r	P-value	Decision	Conclusion
	Intrinsic Motivation	0.354	0.000	Reject Ho	Significant
Customized	Extrinsic Motivation	0.328	0.000	Reject Ho	Significant
	Goal Orientation	0.335	0.000	Reject Ho	Significant
Loorning	Interest in the Subject Matter	0.290	0.000	Reject Ho	Significant
Leanning	Perception of Relevance to	0.361	0.000	Reject Ho	Significant
	Future Goals				
	Self-Determination	0.370	0.000	Reject Ho	Significant
	Intrinsic Motivation	0.367	0.000	Reject Ho	Significant
	Extrinsic Motivation	0.430	0.000	Reject Ho	Significant
Varied	Goal Orientation	0.323	0.000	Reject Ho	Significant
Instructional	Interest in the Subject Matter	0.434	0.000	Reject Ho	Significant
Materials	Perception of Relevance to	0.476	0.000	Reject Ho	Significant
	Future Goals				
	Self-Determination	0.373	0.000	Reject Ho	Significant
	Intrinsic Motivation	0.370	0.000	Reject Ho	Significant
	Extrinsic Motivation	0.390	0.000	Reject Ho	Significant
Varied	Goal Orientation	0.385	0.000	Reject Ho	Significant
Assessment	Interest in the Subject Matter	0.374	0.000	Reject Ho	Significant
Tools	Perception of Relevance to	0.388	0.000	Reject Ho	Significant
	Future Goals				
	Self-Determination	0.420	0.000	Reject Ho	Significant
	Intrinsic Motivation	0.392	0.000	Reject Ho	Significant
	Extrinsic Motivation	0.468	0.000	Reject Ho	Significant
Accommodation	Goal Orientation	0.345	0.000	Reject Ho	Significant
of Learning	Interest in the Subject Matter	0.403	0.000	Reject Ho	Significant
Differences	Perception of Relevance to	0.387	0.000	Reject Ho	Significant
	Future Goals				
	Self-Determination	0.376	0.000	Reject Ho	Significant

Table-8: Relationship between the Level of DI Implementation and the Students' Motivation According to Learner-Respondents

	Intrinsic Motivation	0.494	0.000	Reject Ho	Significant
	Extrinsic Motivation	0.579	0.000	Reject Ho	Significant
Engagement	Goal Orientation	0.457	0.000	Reject Ho	Significant
Techniques	Interest in the Subject Matter	0.459	0.000	Reject Ho	Significant
	Perception of Relevance to	0.480	0.000	Reject Ho	Significant
	Future Goals				
	Self-Determination	0.528	0.000	Reject Ho	Significant

3.8 Relationship between the Level of DI Implementation and the Students' Engagement According to Learner-Respondents

Table 9 reveals a statistically significant relationship between the level of differentiated instruction (DI) implementation and the various dimensions of student engagement, as evidenced by the correlation coefficients and p-values across all tested variables.

Among the instructional components, engagement techniques produced the strongest correlation with behavioral engagement, as indicated by a coefficient of 0.521 and a p-value less than 0.001. This suggests that deliberate strategies designed to sustain students' interest and active participation are most closely associated with observable classroom behaviors. This finding supports prior work demonstrating that deliberate instructional strategies, designed to foster student interest and active participation, play a pivotal role in promoting observable classroom behaviors (Dignath and Veenman, 2021) [46]. Similarly, the accommodation of learning differences revealed strong associations with both behavioral engagement (r = 0.525) and sensory engagement (r = 0.486), which echoes the importance of tailoring instruction to meet students' individual needs and preferences, thereby fostering a more inclusive and engaging learning environment (Alhomairi, 2024) [47].

Moreover, the use of varied assessment tools and instructional strategies exhibited moderate to high correlations, particularly within the affective and cognitive domains. This underscores findings from previous studies that show flexible approaches to assessing learning and delivering content significantly contribute to students' emotional involvement and intellectual engagement (El-Sabagh, 2021; Zen and Ariani, 2022) [48] [49]. All computed p-values were below the 0.001 threshold, thereby justifying the rejection of the null hypothesis in every instance. This result is consistent with research highlighting that differentiated instruction, when effectively implemented, has a meaningful influence on students' emotional connection, behavior, thought processes, personal perception, and sense of belonging within the academic setting (Pozas, et al., 2021; Duquette, 2022) [50] [51].

These findings suggest that differentiated instruction is more than an instructional preference; it serves as a vital factor in promoting learner engagement. By aligning teaching practices with the diverse needs and characteristics of students, educators create a learning environment that supports comprehensive participation, which in turn enhances both motivation and academic performance.

Table-9: Relationship between the Level of DI Implementation and the Students' Engagement According to Learner-Respondents

Variab	les Tested	Computed r	P-value	Decision	Conclusion
	Affective Engagement	0.293	0.000	Reject Ho	Significant
	Behavioral Engagement	0.438	0.000	Reject Ho	Significant
Customized Learning	Cognitive Engagement	0.318	0.000	Reject Ho	Significant
	Sense of Connectedness	0.316	0.000	Reject Ho	Significant
	Self-Efficacy	0.305	0.000	Reject Ho	Significant
	Affective Engagement	0.355	0.000	Reject Ho	Significant
Variad Instructional	Behavioral Engagement	0.461	0.000	Reject Ho	Significant
Varied Instructional	Cognitive Engagement	0.405	0.000	Reject Ho	Significant
Materials	Sense of Connectedness	0.375	0.000	Reject Ho	Significant
	Self-Efficacy	0.275	0.000	Reject Ho	Significant
Varied Assessment	Affective Engagement	0.413	0.000	Reject Ho	Significant

Tools	Behavioral Engagement	0.497	0.000	Reject Ho	Significant
	Cognitive Engagement	0.372	0.000	Reject Ho	Significant
	Sense of Connectedness	0.419	0.000	Reject Ho	Significant
	Self-Efficacy	0.326	0.000	Reject Ho	Significant
Accommodation of Learning Differences	Affective Engagement	0.440	0.000	Reject Ho	Significant
	Behavioral Engagement	0.525	0.000	Reject Ho	Significant
	Cognitive Engagement	0.416	0.000	Reject Ho	Significant
	Sense of Connectedness	0.486	0.000	Reject Ho	Significant
	Self-Efficacy	0.334	0.000	Reject Ho	Significant
Engagement Techniques	Affective Engagement	0.423	0.000	Reject Ho	Significant
	Behavioral Engagement	0.521	0.000	Reject Ho	Significant
	Cognitive Engagement	0.424	0.000	Reject Ho	Significant
	Sense of Connectedness	0.431	0.000	Reject Ho	Significant
	Self-Efficacy	0.361	0.000	Reject Ho	Significant

3.9 Relationship between the Level of DI Implementation and the Students' Motivation According to Teacher-Respondents

Table 10 shows the relationship between the level of Differentiated Instruction (DI) implementation and students' motivation. The results pertaining to customized learning revealed that only Intrinsic Motivation (r = 0.358, p = 0.032) demonstrated a statistically significant correlation with the level of differentiated instruction implementation. This suggests that when instruction is tailored to students' individual preferences and readiness, their internal drive to engage with learning activities increases. However, extrinsic motivation (r = 0.164, p = 0.340), goal orientation (r = 0.208, p = 0.222), interest (r = 0.251, p = 0.141), perception (r = 0.248, p = 0.093), and self-determination (r = 0.275, p = 0.104) all failed to achieve significance. These findings imply that while personalized pathways can enhance students' inner motivation, their influence on external incentives or broader motivational constructs may be limited, indicating a need for more integrative instructional approaches. These echo Reeve and Cheon's (2021) [52] view that intrinsic motivation is more closely tied to autonomy-supportive teaching practices than are extrinsically driven motivations.

In contrast, the application of Varied Instructional Strategies showed robust and statistically significant relationships across all motivational indicators. Significant correlations were found with intrinsic motivation (r = 0.474, p = 0.003), extrinsic motivation (r = 0.339, p = 0.043), goal orientation (r = 0.434, p = 0.008), interest (r = 0.428, p = 0.009), perception (r = 0.446, p = 0.006), and self-determination (r = 0.513, p = 0.001). These results underscore the efficacy of employing diverse pedagogical approaches in enhancing both internal and external motivational factors. As highlighted by Jiang and Zhang (2021) [53], integrating varied instructional strategies enables teachers to meet the learning needs of a heterogeneous group, thereby cultivating engagement, meaningful goal-setting, and increased learner autonomy.

The implementation of Varied Assessment Tools likewise emerged as a potent contributor to student motivation. Intrinsic motivation (r = 0.537, p = 0.001), goal orientation (r = 0.502, p = 0.002), interest (r = 0.480, p = 0.003), perception (r = 0.552, p = 0.000), self-determination (r = 0.426, p = 0.010), and extrinsic motivation (r = 0.281, p = 0.097) demonstrated meaningful relationships. Only extrinsic motivation did not reach statistical significance. These findings suggest that assessment tools, when diversified and tailored to accommodate various learning styles, not only provide a clearer picture of student learning but also strengthen intrinsic motivation and reinforce self-efficacy, thereby contributing to a more holistic educational experience. These support Khursheed and Alwi's (2023) [54] position that formative, varied assessments provide students with actionable feedback that enhances self-regulation, intrinsic motivation, and academic confidence.

The Accommodation of Learning Differences was found to have a significant and consistent impact across all motivational variables. Intrinsic motivation (r = 0.608, p = 0.000), extrinsic motivation (r = 0.374, p = 0.024), goal orientation (r = 0.474, p = 0.004), interest (r = 0.491, p = 0.002), perception (r = 0.580, p = 0.000), and self-determination (r = 0.509, p = 0.002) all exhibited strong and statistically significant relationships. These outcomes highlight the value of designing learning environments that recognize and adapt to the varied cognitive, emotional, and social needs of students. This aligns with Wibowo, et al.'s (2025) [55] framework of differentiated instruction,

which emphasizes the importance of attending to student readiness, interest, and learning profile to foster meaningful engagement and academic growth.

Finally, the use of strategic engagement techniques yielded uniformly significant correlations across all motivational indicators, with values indicating moderate to strong relationships: goal orientation (r = 0.465, p = 0.004), interest (r = 0.465, p = 0.004), perception (r = 0.557, p = 0.000), and self-determination (r = 0.418, p = 0.011). These findings affirm the crucial role that active engagement plays in cultivating learners' motivation. Techniques that prompt participation, dialogue, collaboration, and reflection appear to empower students, thereby enhancing their perceived relevance of learning and their intrinsic desire to achieve academic success. As Han (2021) [56] emphasized, instructional practices that foster student involvement, autonomy, and meaningful interaction are vital in promoting sustained motivation and academic self-regulation.

Variables Tested		Computed r	P-value	Decision	Conclusion
	Intrinsic Motivation	0.358	0.032	Reject Ho	Significant
	Extrinsic Motivation	0.164	0.340	Failed to Reject Ho	Not Significant
	Goal Orientation	0.208	0.222	Failed to Reject Ho	Not Significant
Customized	Interest in the Subject	0.251	0.141	Failed to Reject Ho	Not Significant
Learning	Matter				_
	Perception of Relevance	0.248	0.093	Failed to Reject Ho	Not Significant
	Self-Determination	0.275	0.104	Failed to Reject Ho	Not Significant
	Intrinsic Motivation	0.275	0.003	Reject Ho	Significant
	Extrinsic Motivation	0.339	0.003	Reject Ho	Significant
	Goal Orientation	0.131	0.045	Reject Ho	Significant
Varied	Interest in the Subject	0.428	0.000	Reject Ho	Significant
Instructional Materials	Matter	0.428	0.009	Reject 110	Significant
	Perception of Relevance to Future Goals	0.446	0.006	Reject Ho	Significant
	Self-Determination	0.513	0.001	Reject Ho	Significant
	Intrinsic Motivation	0.537	0.001	Reject Ho	Significant
	Extrinsic Motivation	0.281	0.097	Failed to Reject Ho	Not Significant
X7	Goal Orientation	0.502	0.002	Reject Ho	Significant
Varied	Interest in the Subject	0.480	0.003	Reject Ho	Significant
Tools	Matter				
1 0015	Perception of Relevance	0.552	0.000	Reject Ho	Significant
	to Future Goals				_
	Self-Determination	0.426	0.010	Reject Ho	Significant
Accommodation of Learning Differences	Intrinsic Motivation	0.608	0.000	Reject Ho	Significant
	Extrinsic Motivation	0.370	0.026	Reject Ho	Significant
	Goal Orientation	0.474	0.004	Reject Ho	Significant
	Interest in the Subject Matter	0.491	0.002	Reject Ho	Significant
	Perception of Relevance	0.580	0.000	Reject Ho	Significant
	to Future Goals			5	0
	Self-Determination	0.509	0.002	Reject Ho	Significant
Engagement Techniques	Intrinsic Motivation	0.614	0.000	Reject Ho	Significant
	Extrinsic Motivation	0.374	0.024	Reject Ho	Significant
	Goal Orientation	0.465	0.004	Reject Ho	Significant
	Interest in the Subject	0.465	0.004	Reject Ho	Significant
	Matter			5	
	Perception of Relevance	0.557	0.000	Reject Ho	Significant

Table-10: Relationship between the Level of DI Implementation and the Students' Motivation According to Teacher-Respondents

to Future Goals				
Self-Determination	0.418	0.011	Reject Ho	Significant

3.10 Relationship between the Level of DI Implementation and the Students' Engagement According to Teacher-Respondents

Table 11 displays the statistical analysis of the relationship between the level of Differentiated Instruction (DI) implementation and the various dimensions of student engagement, as perceived by teachers. For Customized Learning, the data indicate a statistically significant relationship between the level of differentiated instruction implementation and students' affective (r = 0.380, p = 0.022), behavioral (r = 0.399, p = 0.016), and self-efficacy engagement (r = 0.406, p = 0.014), as evidenced by the rejection of the null hypothesis. This supports Mehta, et al.'s (2025) [57] assertion that tailored instruction, when aligned with students' readiness, interests, and learning profiles, enhances their emotional investment, classroom conduct, and self-perceptions of capability. Conversely, the absence of significant correlations in the cognitive (r=0.282, p=0.096) and sense of connectedness (r = 0.262, p = 0.123) domains echoes the findings of Drolet (2021) [58], who noted that while differentiated strategies can promote motivation, they must be deliberately integrated with cognitively demanding tasks and community-building initiatives to impact higher-order thinking and social engagement meaningfully.

The analysis reveals a robust and statistically significant relationship between the DI implementation and Varied Instructional Strategies and all five facets of student engagement—affective (r = 0.519, p = 0.001), behavioral (r = 0.556, p = 0.000), cognitive (r = 0.423, p = 0.010), sense of connectedness (r = 0.415, p = 0.012), and self-efficacy (r = 0.512, p = 0.001). This comprehensive pattern of significance implies that employing diverse teaching methodologies not only stimulates students' interest and motivation but also enhances participation, cognitive investment, classroom belongingness, and personal confidence. The consistency of significance across all domains suggests that varied instructional methods act as catalysts for both academic motivation and relational development, validating the inclusive and responsive nature of differentiated pedagogy (Thohir and Amalia, 2024) [59].

The findings regarding the use of Varied Assessment Tools indicate a significant relationship with most dimensions of student engagement—affective (r = 0.473, p = 0.004), behavioral (r = 0.512, p = 0.001), sense (r = 0.398, p = 0.016), and self-efficacy (r = 0.551, p = 0.001). However, cognitive engagement (r = 0.433, p = 0.080) fails to reach statistical significance. These results imply that utilizing multiple and flexible forms of assessment positively impacts students' emotional involvement, observable participation, social integration, and self-belief. However, the lack of a significant association with cognitive engagement suggests that assessments, even when diversified, may not inherently encourage deeper learning unless they are explicitly designed to promote higher-order thinking. These outcomes echo the assertions of Hess (2023) [60], who argued that while flexible assessment fosters student confidence and ownership, the depth of learning depends on the rigor embedded within the task.

The Accommodation of Learning Differences demonstrates a consistently strong and significant correlation with all indicators of student engagement: affective (r = 0.650, p = 0.000), behavioral (r = 0.615, p = 0.000), cognitive (r = 0.539, p = 0.001), sense of connectedness (r = 0.456, p = 0.005), and self-efficacy (r = 0.631, p = 0.000). These findings underscore the transformative effect of inclusivity-oriented teaching practices on fostering a fully engaged student body. By acknowledging and responding to the varied learning profiles, abilities, and paces of students, educators cultivate an environment that promotes emotional security, behavioral participation, cognitive development, belongingness, and confidence. As noted by Stingo (2024) [61], such accommodations contribute significantly to a learner-centered climate, wherein students feel valued, supported, and capable of meeting learning expectations

The data reveal statistically significant relationships between the implementation of targeted engagement techniques and all measured components of student engagement—affective (r = 0.587, p = 0.000), behavioral (r = 0.564, p = 0.000), cognitive (r = 0.540, p=0.001), sense of connectedness (r = 0.439, p = 0.007), and self-efficacy (r = 0.598, p = 0.000). These outcomes reflect the effectiveness of intentional strategies in promoting comprehensive engagement. The significant correlations across all dimensions suggest that deliberate efforts to captivate students' attention and involvement foster not only emotional and participatory responses but also cognitive depth, classroom connection, and academic self-belief. This supports the findings of LaDue, et al. (2022) [62], who emphasized that

engagement is multidimensional and best cultivated through active learning techniques and authentic, meaningful tasks.

Variables Tested		Computed r	P-value	Decision	Conclusion
Customized Learning	Affective Engagement	0.380	0.022	Reject Ho	Significant
	Behavioral Engagement	0.399	0.016	Reject Ho	Significant
	Cognitive Engagement	0.282	0.096	Failed to Reject Ho	Not Significant
	Sense of Connectedness	0.262	0.123	Failed to Reject Ho	Not Significant
	Self-Efficacy	0.406	0.014	Reject Ho	Significant
	Affective Engagement	0.519	0.001	Reject Ho	Significant
Varied	Behavioral Engagement	0.556	0.000	Reject Ho	Significant
Instructional	Cognitive Engagement	0.423	0.010	Reject Ho	Significant
Materials	Sense of Connectedness	0.415	0.012	Reject Ho	Significant
	Self-Efficacy	0.512	0.001	Reject Ho	Significant
Varied Assessment Tools	Affective Engagement	0.473	0.004	Reject Ho	Significant
	Behavioral Engagement	0.512	0.001	Reject Ho	Significant
	Cognitive Engagement	0.433	0.080	Failed to Reject Ho	Not Significant
	Sense of Connectedness	0.398	0.016	Reject Ho	Significant
	Self-Efficacy	0.551	0.001	Reject Ho	Significant
Accommodation of Learning Differences	Affective Engagement	0.650	0.000	Reject Ho	Significant
	Behavioral Engagement	0.615	0.000	Reject Ho	Significant
	Cognitive Engagement	0.539	0.001	Reject Ho	Significant
	Sense of Connectedness	0.456	<mark>0.00</mark> 5	Reject Ho	Significant
	Self-Efficacy	0.631	0.000	Reject Ho	Significant
Engagement Techniques	Affective Engagement	0.587	<mark>0.000</mark>	Reject Ho	Significant
	Behavioral Engagement	0.564	0.000	Reject Ho	Significant
	Cognitive Engagement	0.540	0.001	Reject Ho	Significant
	Sense of Connectedness	0.439	0.007	Reject Ho	Significant
	Self-Efficacy	0.598	0.000	Reject Ho	Significant

Table-11: Relationship between the Level of DI Implementation and the Students' Engagement According to Teacher-Respondents

4. CONCLUSIONS

The findings of this study demonstrate that differentiated instruction (DI) is generally well-implemented in classrooms, as evidenced by both teacher and learner perspectives, with a high overall mean score affirming the consistent use of DI strategies. While aspects such as varied assessment tools indicate opportunities for enhancement, the study affirms DI's vital role in fostering student motivation and engagement through diverse instructional methods and materials. The significant relationship between DI implementation and demographic variables such as age, sex, and grade level further underscore the necessity of tailoring pedagogical approaches to learner-specific characteristics. These conclusions resonate with established scholarship advocating for flexible, inclusive, and responsive instruction that meets varied learning needs. Notably, a deeper statistical analysis revealed that higher levels of DI implementation are positively and significantly correlated with students' motivation and engagement across all domains, especially in intrinsic motivation and behavioral engagement, thereby reinforcing those personalized pathways in education not only support academic achievement but also invigorate the learner's internal drive, emotional involvement, and participatory behavior within the classroom setting.

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