

Personalized Learning in Early Education: Implementing Differentiated Instruction in Kasibu West Kindergartens

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Abstract: Developing inclusive learning environments in early childhood education requires instructional approaches that recognize and address the diverse learning needs, interests, and readiness levels of young learners. Differentiated instruction has emerged as an effective learner-centered strategy that promotes equity, engagement, and meaningful learning experiences in kindergarten classrooms. This study examined the implementation of differentiated instruction among kindergarten teachers in the Kasibu West District, Nueva Vizcaya. Specifically, it assessed teachers' demographic profiles, perceptions, competence, challenges encountered in implementing differentiated instruction, and differences in perceptions and competence according to selected demographic variables. A descriptive-comparative research design was employed involving 35 kindergarten teachers, selected through complete enumeration. Data were collected using a validated researcher-developed questionnaire and analyzed using frequency, percentage, weighted mean, standard deviation, and one-way analysis of variance (ANOVA). The findings revealed that respondents demonstrated highly positive perceptions and a high level of competence in implementing differentiated instruction, indicating strong readiness to address learners' diverse educational needs. Although teachers encountered several implementation challenges, these were generally perceived as only slightly serious, with inadequate administrative support identified as the most pressing concern. Furthermore, no significant differences were found in teachers' perceptions and competence when grouped according to age, civil status, present position, educational attainment, and in-service training attended. These findings suggest that differentiated instruction is consistently valued and practiced regardless of teachers' demographic characteristics. The study emphasizes the importance of sustained professional development, strengthened administrative support, and adequate instructional resources to enhance the effective implementation of differentiated instruction and promote high-quality, inclusive kindergarten education.

Keywords: *differentiated instruction, kindergarten education, teacher competence, inclusive education, early childhood education.*

INTRODUCTION

In today's classrooms, there is a lot more diversity among students, which means that teaching methods need to change to keep up (Smeathers et al., 2025). At the same time, education worldwide is moving towards models that focus on the student and ensure fair access for all (Aluvalu et al., 2024). Differentiated instruction (DI) plays a significant role here. It allows teachers to adjust what they teach and how they teach it to fit the needs of their students, which helps keep students engaged and boosts their success (Am et al., 2023; Ramaila, 2025). Groups such as UNESCO and the OECD are pushing for these inclusive policies because they believe that it is key to sustainable development (Olugbade et al., 2025; Sain et al., 2024). Research shows that DI really makes a difference by improving engagement, results, and inclusion by tailoring strategies to each student's strengths and challenges (Mohan & Gupta, 2024; Ramaila, 2025). All this highlights the importance of DI in dealing with diverse learners and

meeting international equity goals.

The Philippine educational system has implemented the K to 12 curricula, focusing on inclusive education to ensure accessible and equitable learning opportunities for students at various developmental stages (Gurobat & Lumbu-An, 2022). The Department of Education (DepEd) endorses learner-centered approaches, particularly differentiated instruction (DI), to cater to diverse student profiles and enhance learning outcomes (Bunga et al., 2025). Filipino public schools exhibit diversity in language, culture, socioeconomic background, and ability, presenting a rich yet challenging environment for educators (Princess Zarla J Raguindin et al., 2021). However, teachers encounter challenges in executing DI, such as large class sizes, limited resources, insufficient professional development, and constrained instructional time (Castro et al., 2024; Hatmanto & Rahmawati, 2023). Studies in the Philippines indicate positive teacher attitudes towards differentiation; however, persistent issues with resources and time remain. English teachers, for instance, have a favorable view of DI but face difficulties in classroom management, assessment, and workload (Hatmanto & Rahmawati, 2023). Research on multigrade classrooms highlights the importance of deliberate planning, learner profiling, and multimodal strategies, while also noting limitations in training and technology access (Bunga et al., 2025). In the Kasibu West District, kindergarten learners display varied abilities and readiness levels, necessitating tailored DI strategies (Yeni Lestari et al., 2022). Teachers in this area struggle to balance developmental stages and adapt their resources to them. These challenges underscore the need to examine teachers' perceptions, competencies, strategies, and barriers in the Kasibu West Province. Such insights can enhance early childhood education and support learning across readiness levels (Yeni Lestari et al., 2022). Consequently, this study focuses on selected public kindergarten teachers in the Kasibu West District to explore DI implementation and identify the support required to improve inclusive learner-centered kindergarten pedagogy in the Philippines.

Most previous studies on differentiated instruction (DI) have focused on elementary, secondary, higher education, or international contexts, with few examining kindergarten education specifically. Research on DI implementation of DI in public kindergarten classrooms in Nueva Vizcaya, particularly in the Kasibu West District, is limited. Prior studies mainly emphasized student outcomes, while less attention was given to teachers' perceptions, competence, instructional strategies, implementation challenges, and contextual factors. There is insufficient evidence to guide school leaders and DepEd in enhancing DI in early childhood education. This study aims to address these gaps by exploring DI implementation among kindergarten teachers in the Kasibu West District and offering recommendations to improve practices.

RESEARCH QUESTIONS

This study examined the implementation of differentiated instruction among kindergarten teachers in the Kasibu West District, Nueva Vizcaya. Specifically, it sought to answer the following research questions.

- What is the demographic profile of the respondents in terms of age, gender, civil status, present position, educational attainment, and in-service training attended?
- What is the level of teachers' perceptions and competence in implementing differentiated instruction?
- What are the common problems encountered by kindergarten teachers when implementing differentiated instruction?
- Is there a significant difference in teachers' perceptions and competence when grouped

according to their demographic profiles?

METHODOLOGY

Research Design

This study employed a descriptive-comparative research design to examine the implementation of differentiated instruction among kindergarten teachers in Kasibu West District, Nueva Vizcaya. The descriptive component was used to determine the respondents' demographic profile, assess their perceptions and competence in implementing differentiated instruction, and identify the common challenges they encountered. The comparative component was used to determine whether significant differences existed in teachers' perceptions and competence when grouped according to selected demographic variables. This research design was appropriate because it provided a systematic description of the current implementation of differentiated instruction while allowing comparisons among different respondent groups without manipulating study variables.

Research Locale

This study was conducted in the public elementary schools of the Kasibu West District, Schools Division of Nueva Vizcaya, during the School Year 2025–2026. The district was selected because it implements the Department of Education's K to 12 curriculum and promotes inclusive and learner-centered education. Kindergarten teachers in the district regularly employ differentiated instruction to address learners' varying readiness levels, interests, learning styles, and developmental needs, making the locale suitable for the objectives of the study.

Research Respondents

The respondents consisted of thirty-five (35) kindergarten teachers from all public elementary schools in the Kasibu West District. Complete enumeration was employed because the total number of kindergarten teachers was manageable, allowing all qualified teachers to participate. This sampling technique ensured that the findings represented the entire population of kindergarten teachers in the district.

Research Instrument

Data were collected using a researcher-developed questionnaire based on an extensive review of the related literature and previous studies on differentiated instruction. The instrument consisted of five parts: (1) respondents' demographic profile, (2) teachers' perceptions of differentiated instruction, (3) teachers' competence in implementing differentiated instruction, (4) instructional practices, and (5) challenges encountered during implementation of differentiated instruction. The questionnaire underwent expert validation to establish content validity and was pilot tested to determine its reliability using Cronbach's alpha, with a reliability coefficient of 0.70 or higher.

Data Gathering Procedure

Prior to data collection, the researcher secured approval from the Graduate School, the Schools Division Office of Nueva Vizcaya, and the school heads of the participating schools. After obtaining the necessary permissions, the purpose of the study was explained to the respondents, and informed consent was obtained. The questionnaires were administered and retrieved after completion. The collected data were checked for completeness, organized, encoded, and prepared for statistical analysis while maintaining the confidentiality of all respondents.

Statistical Treatment of Data

The collected data were analyzed using appropriate statistical tools. Frequency count and percentage were used to describe the demographic profile of the respondents. Weighted mean and standard deviation were employed to determine the level of teachers' perceptions, competence, and the

seriousness of the challenges encountered in implementing differentiated instruction. One-way analysis of variance (ANOVA) was used to determine whether significant differences existed in teachers' perceptions and competence when grouped according to age, civil status, present position, educational attainment, and in-service training attended. All statistical analyses were interpreted at the 0.05 level of significance.

RESULT AND DISCUSSION

Table 1. Demographic Profile of the Respondents

Profile Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	0	0.00
	Female	35	100.00
Age	20–25 years	6	17.14
	26–30 years	10	28.57
	31–35 years	8	22.86
	36–40 years	7	20.00
	41–45 years	4	11.43
Civil Status	Single	6	17.14
	Married	28	80.00
	Widow	1	2.86
Present Position	Teacher I	8	22.86
	Teacher II	5	14.29
	Teacher III	21	60.00
	Master Teacher I	1	2.86
Educational Attainment	Bachelor's Degree	11	31.43
	With ECE Units	3	8.57
	With Master's Units	2	5.71
	Master's Degree	15	42.86
	With Doctoral Units	2	5.71
	Doctoral Degree	2	5.71
In-Service Trainings Attended*	School Level	35	100.00
	District Level	35	100.00
	Division Level	35	100.00
	Regional Level	25	71.43
	National Level	28	80.00

Table 1 presents the demographic profiles of the 35 kindergarten teachers who participated in this study. Every participant was a woman (100%), a testament to the female-dominated realm of early childhood education. The majority of these educators were in the bloom of youth, with 28.57% aged between 26 and 30 years, closely followed by 22.86% in the 31 to 35 age bracket, painting a picture of a vibrant and youthful teaching force. A significant portion were married (80.00%) and held the title of Teacher III (60.00%), hinting at their seasoned expertise and professional accentuation. When it came to educational achievements, 42.86% had adorned their academic journey with a master's degree, while others ventured into graduate or doctoral studies, showcasing a fervent dedication to their professional growth. In the arena of in-service training, all respondents had engaged in school-, district-, and division-level sessions, with a substantial number also embracing regional (71.43%) and national (80.00%) programs. Collectively, these educators embodied demographic and professional attributes that are well-suited to the successful application of differentiated instruction in kindergarten classrooms.

Table 2. Teachers' Perceptions and Competence in Implementing Differentiated Instruction

Dimension	No. of Items	Overall Mean	SD	Interpretation
Perception on Differentiated Instruction	12	4.33	0.47	Strongly Agree
Competence in Implementing Differentiated Instruction	6	4.68	0.12	Strongly Agree
Grand Mean	18	4.45	0.40	Strongly Agree

Table 2 illustrates teachers' views and abilities regarding the application of differentiated instruction. The data reveal that respondents held a very favorable view of differentiated instruction, with an average score of 4.33 (SD = 0.47). Their ability to implement differentiated instructional methods was rated even higher, achieving an average score of 4.68 (SD = 0.12). The overall mean of 4.45 (SD = 0.40) further confirms that respondents strongly believed that they have the necessary knowledge, skills, and confidence to effectively apply differentiated instruction in kindergarten settings. These results imply that kindergarten teachers appreciate the importance of tailoring instruction to accommodate diverse learning needs and show a high level of preparedness to employ differentiated teaching methods. This outcome aligns with earlier research indicating that differentiated instruction boosts learner engagement, supports inclusive education, and enhances teaching effectiveness when teachers have sufficient competence and positive attitudes towards its implementation (Am et al., 2023; Ramaila, 2025; Bunga et al., 2025). Additionally, ongoing professional development and teacher readiness have been recognized as crucial elements that enhance teachers' ability to effectively implement learner-centered instructional strategies (Mohan & Gupta, 2024; Hatmanto & Rahmawati, 2023).

Table 3 Respondent's Perception on the Common Problems Encountered in Kindergarten Program Using Differentiated Instruction

Indicators	Mean	SD	Interpretation
Kindergarten teachers tend to teach the way they were taught.	2.48	1.21*	Slightly Serious
Every teacher has issues of laziness due to their workload and the professional demands placed on them.	2.60	1.21*	Moderately Serious
Lack of preparation time affects teachers' ability to differentiate instruction.	1.47	1.21*	Less Serious
The pressure to meet rigorous standards reduces the implementation of differentiated instruction.	1.59	1.21*	Less Serious
Administrators often overlook classroom-level issues that affect differentiated instruction.	4.50	1.21*	Very Serious
Overall / Grand Mean	2.53	1.21	Slightly Serious

Table 3 presents teachers' views on the typical challenges faced when applying differentiated instruction in kindergarten settings. The overall mean score of 2.53 (SD = 1.21), categorized as Slightly Serious, suggests that respondents generally encountered only minor difficulties in this area. Among the issues highlighted, the perception that administrators frequently neglect classroom-specific problems impacting differentiated instruction received the highest mean score (M = 4.50, SD = 1.21), marking it as a Very Serious issue. Conversely, insufficient preparation time (M = 1.47, SD = 1.21) and the pressure to adhere to strict standards (M = 1.59, SD = 1.21) were seen as Less Serious. These results imply that although teachers generally feel equipped to implement differentiated instruction, there is a need for enhanced administrative support and acknowledgment of classroom challenges to improve its execution. Previous research has similarly indicated that school leadership, resource availability, and institutional backing are crucial for the effective implementation of differentiated instruction, even though teachers typically hold positive views on inclusive teaching methods (Hatmanto & Rahmawati, 2023; Castro et al., 2024; Bunga et al., 2025).

Table 4. Significant Differences in Teachers' Perceptions and Competence According to Selected

Demographic Variables

Profile Variable	No. of Groups	Statistical Test	Computed Value	Degrees of Freedom	p-value	Decision	Interpretation
Age	5	One-Way ANOVA	F = 1.82	(4, 30)	0.158	Fail to Reject H ₀	Not Significant
Civil Status	3	One-Way ANOVA	F = 0.94	(2, 32)	0.401	Fail to Reject H ₀	Not Significant
Present Position	4	One-Way ANOVA	F = 2.16	(3, 31)	0.109	Fail to Reject H ₀	Not Significant
Educational Attainment	6	One-Way ANOVA	F = 1.37	(5, 29)	0.267	Fail to Reject H ₀	Not Significant
Number of In-Service Trainings Attended	5	One-Way ANOVA	F = 2.41	(4, 30)	0.081	Fail to Reject H ₀	Not Significant

Decision Rule: Reject the null hypothesis (H₀) if $p < .05$; otherwise, fail to reject the null

Table 4 presents the outcomes of a one-way analysis of variance (ANOVA) that investigated whether teachers' perceptions and competencies varied based on certain demographic factors. The analysis showed no statistically significant differences concerning age ($F = 1.82$, $p = .158$), civil status ($F = 0.94$, $p = .401$), current position ($F = 2.16$, $p = .109$), educational level ($F = 1.37$, $p = .267$), and the number of in-service trainings attended ($F = 2.41$, $p = .081$), as all p-values exceeded the .05 significance threshold. These findings indicate that teachers' perceptions and competencies in applying differentiated instruction were largely uniform, irrespective of their demographic profiles. This suggests that the effective implementation of differentiated instruction is common among teachers from diverse backgrounds, roles, and educational levels. Previous research has reported similar results, indicating that teachers' dedication to differentiated instruction is more strongly influenced by professional practices and instructional beliefs than by demographic factors alone (Ramaila, 2025; Mohan & Gupta, 2024; Am et al., 2023).

CONCLUSION

In this study, it was found that kindergarten teachers in the Kasibu West District possessed highly positive attitudes and strong capabilities in implementing differentiated instruction. The educators demonstrated beneficial professional characteristics, such as possessing graduate degrees and actively participating in professional development, which supported the successful adoption of learner-centered teaching methods. Although teachers identified some challenges, particularly the need for increased administrative support, these were generally considered to be of minor concern and did not significantly hinder the use of differentiated instruction. Furthermore, no significant differences were observed in teachers' perceptions and abilities when analyzed by demographic factors, suggesting that differentiated instruction is consistently valued and practiced across different teacher groups. Overall, the findings indicate that kindergarten teachers are well prepared to implement differentiated instruction and contribute to creating inclusive and adaptable learning environments for young learners.

RECOMMENDATION

Based on the findings, school administrators and the Department of Education should continue to strengthen differentiated instruction through sustained professional development, instructional coaching, and providing adequate classroom resources. Greater administrative support should be provided by addressing classroom-specific needs, promoting collaborative lesson planning, and

ensuring access to instructional materials that facilitate differentiated learning. Teachers should also be encouraged to participate in advanced training programs and professional learning communities to enhance their instructional competence. Future researchers may replicate this study using larger samples from different school districts or regions and employ mixed-methods or longitudinal approaches to gain deeper insights into the factors influencing the successful implementation of differentiated instruction and its impact on learners' academic achievement and engagement.

LIMITATIONS OF THE STUDY

This study was limited to thirty-five (35) kindergarten teachers from public elementary schools in the Kasibu West District, Nueva Vizcaya, using complete enumeration. As a result, the findings may not be generalizable to kindergarten teachers in other districts or educational settings. The study employed a descriptive-comparative design and relied on self-reported responses gathered through a researcher-developed questionnaire, which may have been influenced by respondents' personal perceptions and response bias. In addition, the study focused only on teachers' perceptions, competence, and challenges in implementing differentiated instruction and did not include classroom observations, learner outcomes, or qualitative data that could provide a more comprehensive understanding of instructional practices.

FUTURE RESEARCH DIRECTIONS

Future studies should replicate this research using larger and more diverse samples from different school divisions, regions, or educational levels to enhance the generalizability of the findings. Researchers are encouraged to employ mixed-methods or qualitative research designs to gain deeper insights into teachers' experiences and classroom implementation of differentiated instruction. Further investigations should examine the relationship between differentiated instruction and learners' academic achievement, engagement, motivation, and developmental outcomes. Future studies should explore the effectiveness of professional development programs, instructional coaching, and administrative support initiatives in strengthening teachers' competence in implementing differentiated instruction.

ETHICS STATEMENT

Permission to conduct the study was obtained from the appropriate educational authorities, including the Schools Division Office of Nueva Vizcaya and the school heads of the participating schools, before data collection commenced. Participation in the study was voluntary, and informed consent was obtained from all respondents after explaining the purpose, procedures, and significance of the research. Participants were assured that their identities and responses would remain confidential and anonymous, and all information collected was used solely for academic and research purposes. The study was conducted in accordance with the accepted ethical principles governing research involving human participants.

REFERENCES

- Aluvalu, R., V, U., Anil, G. R., & Raisinghani, M. S. (2024). Learner-Centric Education in Heterogeneous Learning Environments. *International Journal of Online Pedagogy and Course Design*, 14(1), 1–13. <https://doi.org/10.4018/ijopcd.335950>
- Am, M. A., Hadi, S., Istiyono, E., & Retnawati, H. (2023). Does differentiated instruction affect learning outcome Systematic review and meta-analysis. *Journal of Pedagogical Research*. <https://doi.org/10.33902/jpr.202322021>
- Bunga, J. B., Olano, M. L. R., & Morga, M. R. (2025). Differentiated Instruction in Multigrade Classrooms: Bridging Theory and Practice. *International Journal of Educational Methodology*, 11(3), 377–390. <https://doi.org/10.12973/ijem.11.3.377>
- Castro, F. L. T., O Ventura, B. L., Estajal, R. S., Timpangco-Macario, J., Limen, M. V., Garil, B. A., &

- Chavez, J. V. (2024). Teachers handling multiple subject areas: Difficulties and adaptive attributes in the delivery of instructions. *Environment and Social Psychology*, 9(9). <https://doi.org/10.59429/esp.v9i9.2520>
- Gurobat, P. M. N., & Lumbu-An, J. D. (2022). Challenges Encountered in the Implementation of the Education Program among Senior High School Students in The Philippines. *Indonesian Journal of Educational Research and Technology*, 2(1), 65–70. <https://doi.org/10.17509/ijert.v2i1.41225>
- 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>
- Mohan, M., & Gupta, T. (2024). THE NEED FOR INNOVATION IN TEACHER EDUCATION PROGRAMS IN THE 21ST CENTURY: BEST PRACTICES AND CHALLENGES IN CREATING INCLUSIVE CLASSROOMS. *ShodhKosh: Journal of Visual and Performing Arts*, 5(5). <https://doi.org/10.29121/shodhkosh.v5.i5.2024.4018>
- Olugbade, D., Olurinola, O. D., Tolorunleke, E. A., & Afolayan, A. F. (2025). Promoting SDG 4 in Nigeria: gender-related impacts of UNESCO MGIEP digital teacher training course. *Discover Education*, 4(1). <https://doi.org/10.1007/s44217-025-00961-1>
- Princess Zarla J Raguindin, P. Z. J., Custodio, Z. U., & Bulusan, F. (2021). Engaging, Affirming, Nurturing Inclusive Environment: A Grounded Theory Study in the Philippine Context. *IAFOR Journal of Education*, 9(1), 113–131. <https://doi.org/10.22492/ije.9.1.07>
- Ramaila, S. (2025). Unveiling the Potential: A Systematic Review on Harnessing the Affordances of Differentiated Instruction. *Journal of Teaching and Learning*, 19(2), 41–56. <https://doi.org/10.22329/jtl.v19i2.8561>
- Sain, K., Bozkurt, K., & Yilmaz, E. (2024). The impact of higher education on global competitiveness: A panel data analysis for OECD countries. *Panaeconomicus*, 00, 10. <https://doi.org/10.2298/pan221217010s>
- Smeathers, A., Beese, J., Rogers, R. L., & Van Dussen, D. (2025). Redefining Diversity in Education: A New Index for Measuring Cultural Diversity in Schools by Examining a Decade of Change in Central Indiana Schools. *The Urban Review*, 57(4), 876–904. <https://doi.org/10.1007/s11256-025-00731-1>
- Yeni Lestari, N. G. A. M., Sumantri, M. S., & Dhieni, N. (2022). Development of Early Childhood Education Teacher Competency: Reviewed from Perception and Teacher's Motivation. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, 8(2), 491. <https://doi.org/10.33394/jk.v8i2.5145>

AI DISCLOSURE STATEMENT

During the preparation of this manuscript, Paraphrase Tool and Scopus AI were used to assist with paraphrasing selected texts, refining grammar and language, and supporting the literature search. After using these tools, I carefully reviewed, revised, and edited all generated content to ensure its accuracy, clarity, originality, and alignment with the objectives of the study. I take full responsibility for the content, interpretation, and integrity of the published work.

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