

Diverse Learning Needs Through Adaptive Teaching Approach Among Grade 5 Learners at Batangas State University Integrated High School

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Abstract

This study examined how adaptive teaching approaches address the diverse learning needs of Grade 5 learners at Batangas State University Integrated School. Employing a descriptive research design, the study involved forty-three (43) Grade 5 learners and ten (10) teachers as participants. Data were gathered using survey questionnaires, observation guides, and document analysis checklists. The findings revealed that teachers identify learners' learning needs primarily through analyzing formative assessment results (WM = 3.54) and observing learner readiness (WM = 3.43), with a composite mean of 3.31 interpreted as Agree. Adaptive teaching strategies were found to be Highly Effective, with differentiated instruction obtaining a composite mean of 3.61, use of technology at 3.80, and peer-assisted learning at 3.89. Adaptive teaching approaches demonstrated a Highly Impactful effect on learners' academic performance, engagement, and overall learning experience, with a composite mean of 3.72. However, teachers encountered notable challenges in implementation, particularly managing large class sizes (WM = 3.77), time constraints (WM = 3.55), and limited technological resources (WM = 3.43), with an overall composite mean of 3.47 interpreted as Challenging. Based on these findings, five intervention activities were proposed: Learning Needs Mapping and Competency Alignment Workshop, Mastery-Focused Differentiation Planning Sessions, Feedback-in-Action Digital Support Program, Structured Peer Interaction and Relationship-Building Initiative, and Adaptive Teaching Sustainability and Support Program. The study concludes that while adaptive teaching approaches are perceived as highly effective and impactful, their sustained implementation requires stronger institutional support, adequate resources, and practical structures that enable teachers to respond effectively to learner diversity. Recommendations include integrating learning needs mapping into lesson planning, scheduling collaborative planning sessions for teachers, maximizing accessible technology tools, strengthening structured peer-assisted learning, and establishing support mechanisms such as Learning Action Cell (LAC) discussions to sustain adaptive teaching practices.

Keywords: *Adaptive Teaching, Differentiated Instruction, Diverse Learning Needs, Peer-Assisted Learning, Technology Integration, Grade 5 Learners, Inclusive Education*

Introduction

Education systems across the world continue to grapple with the reality that learners enter classrooms with varying abilities, backgrounds, interests, and learning capacities. Differences in cognitive development, learning styles, language proficiency, socio-economic status, and access to learning resources significantly influence how students engage with lessons and demonstrate understanding. As classrooms become increasingly diverse, the traditional “one-size-fits-all” approach to teaching proves insufficient in meeting the needs of all learners. Consequently, educators are challenged to adopt teaching approaches that are responsive, flexible, and inclusive to promote meaningful learning for every child.

In the Philippine context, learner diversity has become more pronounced due to expanded access to basic education, inclusive education initiatives, and policy reforms that aim to ensure that no learner is left behind. With the implementation of the K to 12 Basic Education Program under Republic Act No. 10533, schools are expected to provide developmentally appropriate, learner-centered, and inclusive instruction. However, while access to education has improved, disparities in learning outcomes remain evident, particularly in foundational skills such as reading comprehension, numeracy, and critical thinking. These challenges highlight the need for instructional approaches that recognize and respond to diverse learning needs rather than treating learners as a homogeneous group.

The Department of Education (DepEd) has consistently emphasized the importance of inclusive and adaptive teaching practices. DepEd Order No. 72, s. 2009, which institutionalized Inclusive Education in the Philippines, underscores the responsibility of schools to address learner diversity by modifying teaching strategies, learning materials, and assessment practices. More recently, Republic Act No. 11650, otherwise known as the Inclusive Education Act of 2022, strengthened this commitment by mandating the provision of inclusive education for learners with disabilities and those with special learning needs within regular schools. While the law specifically highlights learners with disabilities, its principles reinforce a broader understanding that diversity exists across all classrooms and must be addressed through responsive teaching practices.

Moreover, while numerous policies advocate inclusive and adaptive instruction, there is a need for localized, school-based studies that examine how these policies are enacted at the classroom level. Research focusing on Grade 5 learners allows for a deeper understanding of how adaptive teaching strategies influence academic performance, engagement, and overall learning experience during a crucial stage of elementary education. It also enables the identification of practical challenges faced by teachers, such as time constraints, resource limitations, and varying levels of learner readiness.

The present study is therefore grounded in the need to bridge the gap between policy, theory, and classroom practice. By examining diverse learning needs and the effectiveness of adaptive teaching strategies—specifically, differentiated instruction, the use of technology, and

peer-assisted learning—this research aims to generate evidence-based insights that can inform instructional planning and teacher support.

This study aims to examine how adaptive teaching approaches address the diverse learning needs of Grade 5 learners at Batangas State University Integrated School.

Specifically, it seeks to:

1. What are the most common learning needs among learners in diverse classrooms, and how do teachers identify them?
2. How effective are specific adaptive teaching strategies in addressing diverse learning needs, relative to:
 - 2.1 Differentiated instruction,
 - 2.2 Use of technology, and
 - 2.3 Peer-assisted learning?
3. How do adaptive teaching approaches impact learners' academic performance, engagement, and overall learning experience?
4. What challenges do teachers face in implementing adaptive teaching approaches, and how can these challenges be mitigated?
5. Based on the findings, what intervention may be proposed?

Methodology

Research Design

This study employed a **descriptive research design** to examine how adaptive teaching approaches address the diverse learning needs of Grade 5 learners at Batangas State University Integrated School. The descriptive approach was considered appropriate since the study seeks to describe existing classroom practices, identify common learning needs, and examine how specific adaptive teaching strategies are used to respond to learner diversity. Rather than manipulating variables, the study focuses on understanding current conditions and instructional practices as they naturally occur in the classroom setting.

Participants

The subjects of this study consist of **forty-three (43) Grade 5 learners** and **ten (10) teachers** from Batangas State University Integrated School during the school year covered by the research. The Grade 5 learners were selected because they belong to a learning environment characterized by varied abilities, learning styles, levels of readiness, and classroom engagement. At this level, learners are expected to demonstrate increased independence and more advanced cognitive skills; however, differences in learning needs remain evident, making this group suitable for examining the use of adaptive teaching approaches.

Research Instrument

To gather the necessary data for this study, the researcher utilized a set of carefully prepared research instruments, including **survey questionnaires, observation guides, and document analysis checklists**. These instruments were developed based on the objectives and research questions of the study to ensure that the data collected directly addressed the identification of diverse learning needs, the use of adaptive teaching approaches, and their effects on learners' academic performance, engagement, and overall learning experience.

Data Collection Procedure

The researcher started the data collection process by preparing a formal letter addressed to the school head of Batangas State University Integrated School requesting permission to conduct the study and administer the questionnaire to the identified participants. After approval was granted, the researcher coordinated with the Grade 5 teachers and concerned personnel to determine an appropriate schedule for administering the questionnaire. The scheduling was arranged to avoid disrupting regular teaching responsibilities and to ensure that the respondents could answer the instrument thoughtfully.

Once the schedule was finalized, the researcher personally distributed the questionnaires to the ten (10) teacher-respondents. Before they answered the instrument, the researcher explained the purpose of the study and clarified that participation was voluntary. The respondents were also informed that all collected information would be treated with confidentiality and would be used solely for academic purposes. In addition, instructions were discussed to ensure that each item was properly understood and that responses were based on actual classroom practices and experiences.

Data Analysis

To gather the necessary data for this study, the researcher utilized a set of carefully prepared research instruments, including survey questionnaires, observation guides, and document analysis checklists. These instruments were developed based on the objectives and research questions of the study to ensure that the data collected directly addressed the identification of diverse learning needs, the use of adaptive teaching approaches, and their effects on learners' academic performance, engagement, and overall learning experience.

Results

Section 1: Identification of Learners' Learning Needs

Table 1 presents the results on how teachers identify the learning needs of Grade 5 learners in the classroom. The highest-rated indicator, "*analyzing results from formative assessments*," obtained a weighted mean of 3.54, interpreted as Strongly Agree, and ranked first. The composite mean of 3.31, interpreted as Agree, reflects that teachers generally use multiple strategies to identify learners' learning needs.

Section 2: Effectiveness of Adaptive Teaching Strategies

This section presents the findings on the effectiveness of adaptive teaching strategies in addressing the diverse learning needs of Grade 5 learners. The discussion focuses on how differentiated instruction, the use of technology, and peer-assisted learning support learners' understanding, participation, and mastery of lesson objectives. The results provide insight into the extent to which these strategies contribute to more responsive and inclusive classroom instruction.

2.1 Effectiveness of Differentiated Instruction

Table 2 presents the assessment of the effectiveness of differentiated instruction as an adaptive teaching strategy in addressing the diverse learning needs of Grade 5 learners. The data reflect teachers' perceptions of how differentiated instruction supports instructional adjustment, learner engagement, and mastery of lesson objectives. The highest-ranked indicator, "adjusting lesson tasks based on learner ability," obtained a weighted mean of 3.84, interpreted as Highly Effective, and ranked first. This result indicates that teachers strongly perceive differentiated instruction as effective when lesson tasks are aligned with learners' abilities. The composite mean of 3.61, interpreted as Highly Effective, reflects the overall effectiveness of differentiated instruction as an adaptive teaching strategy. This result supports the literature, which consistently identifies differentiated instruction as a key approach in addressing learner diversity and promoting equitable learning outcomes (Hardy et al., 2020; Tomlinson & Moon, 2022; Deunk et al., 2020).

2.2 Effectiveness of the Use of Technology

Table 3 presents the assessment of the effectiveness of differentiated instruction as an adaptive teaching strategy in addressing the diverse learning needs of Grade 5 learners. The data reflect teachers' perceptions of how differentiated instruction supports instructional adjustment, learner engagement, and mastery of lesson objectives. The results are organized according to weighted mean values, ranked from highest to lowest, and are discussed alongside relevant literature to contextualize the findings. The highest-ranked indicator, "*adjusting lesson tasks based on learner ability*," obtained a weighted mean of 3.84, interpreted as Highly Effective, and ranked first. This result indicates that teachers strongly perceive differentiated instruction as

effective when lesson tasks are aligned with learners' abilities. This finding is consistent with Tomlinson and Moon (2022), who emphasized that task adjustment is a core feature of effective differentiation, allowing learners to access content at an appropriate level while working toward shared learning goals. The indicator "*accommodating different learning paces in class*" ranked fifth, with a weighted mean of 3.70, interpreted as Highly Effective. This finding indicates that differentiated instruction allows teachers to manage differences in learning pace effectively. Tomlinson and Moon (2022) noted that pacing adjustments are essential in differentiated classrooms, as they reduce learner frustration and provide sufficient challenge for both fast and slow learners.

2.3 Effectiveness of Peer-Assisted Learning

Table 4 presents the assessment of the effectiveness of peer-assisted learning as an adaptive teaching strategy in addressing the diverse learning needs of Grade 5 learners. The data reflect teachers' perceptions of how structured peer interaction supports understanding, participation, engagement, and social development in the classroom. The indicators are arranged according to weighted mean values, ranked from highest to lowest, and are discussed in relation to relevant literature to provide context and explanation for the findings. Closely following, "*encouraging collaboration among learners*" ranked second with a weighted mean of 3.94, also interpreted as Highly Effective. This indicates that peer-assisted learning effectively promotes collaboration in the classroom. According to Suprayogi, Valcke, and Godwin (2022), collaborative learning environments allow teachers to address learner diversity more effectively by fostering shared problem-solving and mutual support. The result reflects the value of collaboration in creating inclusive learning spaces where learners actively contribute to one another's learning.

Section 3: Impact of Adaptive Teaching on Learners

This section presents the findings on the common learning needs observed among Grade 5 learners and the ways teachers identify these needs in the classroom. The discussion focuses on teachers' observations of learners' readiness, learning pace, participation, comprehension, and performance across different classroom activities. The results provide a clear picture of existing learning differences and serve as a basis for understanding how adaptive teaching approaches are applied to address these needs.

Table 5 presents the perceived impact of adaptive teaching approaches on Grade 5 learners in terms of academic performance, engagement, and overall learning experience. The data summarize teachers' assessments of how adaptive teaching influences learners' confidence, understanding, participation, and learning behaviors. The indicators are arranged based on weighted mean scores, ranked from highest to lowest, and the discussion is supported by related literature to explain the results.

The composite mean of 3.72, interpreted as Highly Impactful, reflects the overall strong impact of adaptive teaching approaches on Grade 5 learners. This result supports the literature, which consistently recognizes adaptive teaching strategies as effective in improving engagement,

understanding, and learning outcomes when instruction is adjusted to learner needs (Deunk et al., 2020; Schindler et al., 2020; Tomlinson & Moon, 2022; Rohrbeck et al., 2021). The findings indicate that adaptive teaching not only supports academic outcomes but also strengthens learners' confidence, attitudes, and participation, which are essential for sustained learning success.

Section 4: Challenges in Implementing Adaptive Teaching Approaches

This section presents the findings on the common learning needs observed among Grade 5 learners and the ways teachers identify these needs in the classroom. The discussion focuses on teachers' observations of learners' readiness, learning pace, participation, comprehension, and performance across different classroom activities. The results provide a clear picture of existing learning differences and serve as a basis for understanding how adaptive teaching approaches are applied to address these needs.

Table 6 presents the challenges encountered by teachers in implementing adaptive teaching approaches in Grade 5 classrooms. The data describe the factors that make adaptive teaching difficult to apply consistently, including class size, time, resources, assessment demands, and classroom management. The indicators are arranged according to weighted mean scores and ranking, and the discussion is supported by related literature to explain why these challenges persist in classroom practice.

The composite mean of 3.47, interpreted as Challenging, reflects that teachers generally experience notable difficulties in implementing adaptive teaching approaches, with certain barriers standing out more strongly. The pattern of results aligns with the literature, which highlights class size, time limitations, access to resources, and the demands of monitoring and adjustment as persistent constraints in adaptive teaching implementation (Hardy et al., 2020; Schindler et al., 2020; Suprayogi et al., 2022). The findings imply that while teachers recognize the value of adaptive teaching, sustaining it in daily practice requires stronger support systems, adequate resources, and practical structures that help teachers respond to learner diversity without compromising instructional goals.

Section 5: Challenges in Implementing Adaptive Teaching Approaches

This section presents the proposed intervention activities developed from the findings of the study, with particular attention given to the areas that showed the lowest ratings and the most significant challenges in implementing adaptive teaching approaches. While the results indicate that adaptive teaching strategies are generally effective in addressing diverse learning needs, certain aspects of practice require focused support and refinement. Therefore, the proposed activities are intended to strengthen teachers' capacity to identify learning needs accurately, apply adaptive strategies more consistently, and address classroom constraints in a practical and sustainable manner. These interventions are designed to support teachers in enhancing instructional responsiveness and to further improve learners' academic performance, engagement, and overall learning experience.

5.1 Learning Needs Mapping and Competency Alignment Workshop

This activity is proposed in response to the findings showing that comparing learner performance against expected competencies received the lowest rating in the identification of learning needs. Although teachers regularly observe learner readiness and analyze formative assessment results, aligning these observations with curriculum competencies remains a challenge. The workshop aims to help teachers bridge this gap by strengthening their ability to connect identified learning needs with specific Grade 5 learning standards, ensuring that instructional adjustments are both responsive and goal-oriented.

5.2 Mastery-Focused Differentiation Planning Sessions

This activity is designed to address the relatively lower rating of differentiated instruction in strengthening mastery of lesson objectives. While teachers effectively adjust tasks and accommodate varied readiness levels, ensuring consistent mastery across learners requires more focused planning. The activity emphasizes collaborative lesson design that targets mastery through differentiated tasks, allowing teachers to refine strategies that help learners achieve intended outcomes without lowering expectations.

5.3 Feedback-in-Action Digital Support Program

This activity responds to the finding that providing immediate feedback through technology, although effective, ranked lower compared to other technology-related indicators. The program aims to support teachers in maximizing available digital tools to deliver timely and meaningful feedback within daily lessons. By strengthening feedback practices, teachers can better guide learners' progress and support independent learning, even within limited instructional time.

5.4 Structured Peer Interaction and Relationship-Building Initiative

This activity is proposed to address the lower rating of peer-assisted learning in developing positive learner relationships. While peer interaction strongly reinforces understanding and engagement, the quality of relationships among learners requires deliberate support. The initiative focuses on structuring peer activities in ways that promote respect, shared responsibility, and positive communication, ensuring that collaboration contributes not only to academic learning but also to social development.

5.5 Adaptive Teaching Sustainability and Support Program

This activity is developed in response to the major challenges identified in implementing adaptive teaching, particularly managing large class sizes and sustaining adaptive practices across lessons. Although teachers recognize the value of adaptive strategies, maintaining these practices consistently remains difficult. The program aims to provide ongoing support through

collaboration, shared resources, and peer mentoring, enabling teachers to apply adaptive teaching approaches more sustainably within real classroom conditions.

Discussion

Based on the findings of the study, the following recommendations are proposed to further strengthen adaptive teaching practices and address the challenges identified in the Grade 5 classrooms of Batangas State University Integrated School:

1. Teachers may consistently integrate simple learning needs mapping tools into their regular lesson planning to ensure that identified learner needs are clearly aligned with expected competencies. By regularly reviewing assessment results and learner outputs in relation to curriculum standards, instructional adjustments can become more targeted and purposeful.
2. School administrators may support the continued use of differentiated instruction by scheduling regular collaborative planning sessions where teachers can share practical strategies, lesson designs, and materials that promote mastery of lesson objectives. These sessions can help sustain effective practices without requiring extensive additional preparation time.
3. Teachers are encouraged to maximize available and accessible technological tools, such as basic digital quizzes, presentation software, or online worksheets, to provide timely feedback and support independent learning. Even with limited resources, purposeful and consistent use of technology can enhance instructional efficiency and learner engagement.
4. Structured peer-assisted learning activities may be further strengthened by assigning clear roles and expectations during group work. This can help improve learner relationships, ensure balanced participation, and maintain classroom organization, particularly in large classes.
5. School leaders may establish support mechanisms, such as Learning Action Cell (LAC) discussions or peer mentoring, that focus on managing large class sizes and sustaining adaptive teaching practices across lessons. These collaborative platforms can provide teachers with opportunities to share challenges, reflect on classroom experiences, and identify practical solutions suited to their context.
6. Future implementation of the proposed intervention activities may be monitored and evaluated regularly to determine their effectiveness and sustainability. Feedback from teachers and learners can be used to refine the activities and ensure that adaptive teaching remains responsive to evolving classroom needs.

Conclusion

Based on the findings of the study, the following conclusions were drawn:

1. The identification of learners' learning needs among Grade 5 learners at Batangas State University Integrated School was generally evident, with a composite mean of 3.31, which is interpreted as Agree.

2. The adaptive teaching strategies employed were found to be highly effective in terms of differentiated instruction, use of technology, and peer-assisted learning.

3. Adaptive teaching approaches were perceived to have a highly impactful effect on learners, with a composite mean of 3.72, interpreted as Highly Impactful.

4. Despite the overall effectiveness and positive impact of adaptive teaching approaches, teachers encountered notable challenges in their implementation, particularly in managing large class sizes, accessing adequate technological resources, and sustaining adaptive practices across lessons.

5. To address the identified gaps and challenges, five intervention activities were proposed: Learning Needs Mapping and Competency Alignment Workshop, Mastery-Focused Differentiation Planning Sessions, Feedback-in-Action Digital Support Program, Structured Peer Interaction and Relationship-Building Initiative, and Adaptive Teaching Sustainability and Support Program.