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Teacher preparedness and learning quality mediated by learning engagement in multigrade classrooms of Congressional District II: Basis for an action plan

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ABSTRACT

The study examined the effect of teacher preparedness on learning quality, with learning engagement as the mediating variable, in multigrade classrooms in Congressional District II. A non-experimental mediation design was used. A structured survey questionnaire was administered face-to-face and online using Google Forms to 96 multigrade teachers. The data were analyzed using mean, standard deviation, frequency count, and path analysis. Statistical analysis revealed that assessment and evaluation had the lowest composite mean, and that teacher preparedness was high in methods and strategies, as well as in resource utilization. However, the effects of teacher readiness on the quality of learning were not statistically significant, and the mediation analysis showed that learner engagement does not significantly moderate the relationship between teacher readiness and the quality of learning. Finally, training on inquiry-based and differentiated teaching strategies, the use of localized learning materials, and improved assessment practices should be provided by school administrators, school heads, and master teachers as instructional support, and professional collaboration among teachers should be enhanced to improve learning outcomes.

Keywords: teacher preparedness, learning engagement, learning quality, multigrade classrooms, mediation analysis, instructional strategies, classroom management.

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INTRODUCTION

Quality of learning remains a primary concern in education, particularly in multigrade classrooms where effective instruction requires teachers to employ focused competencies and innovative teaching strategies. In these learning environments, the quality of education largely depends on the competence and preparedness of teachers, whose knowledge, adaptability, and

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instructional capability are essential in addressing diverse learner needs and varying curriculum demands. The Philippine educational system has undergone several reforms aimed at improving educational quality for all learners. One of these reforms is Republic Act No. 9155, also known as the Governance of Basic Education Act of 2001, which underscores the importance of learning engagement as a significant mechanism through which teacher preparedness contributes to enhanced learning quality. Similarly, DepEd Order No. 96, s. 1997 promotes the right of every citizen to quality education at all levels and emphasizes the need to make education accessible to all learners.

In Congressional District II, several public elementary schools implement multigrade or combination classes because of low student enrollment. Although this arrangement helps prevent learner dropout, teachers, particularly those who are new or inexperienced, commonly encounter difficulties in lesson planning, classroom management, and sustaining learner engagement. These challenges may negatively affect the quality of learning in multigrade classrooms. In response to these concerns, the present study entitled "Teacher Preparedness and Learning Quality Mediated by Learning Engagement in Multigrade Classrooms of Congressional District II: Basis for an Action Plan" investigates the mediating effect of learning engagement on the relationship between teacher preparedness and learning quality. The study also aims to provide a basis for an action plan that may assist teachers and school leaders in improving instructional strategies, strengthening learner engagement, and enhancing academic achievement.

The theoretical foundations of the study are anchored on the concepts of Vygotsky and Piaget and their practical applications in education (Khadidja, 2020). Vygotsky's Sociocultural Theory provides a framework for understanding how learning occurs through social interaction and guided participation (Chen, 2025). The theory emphasizes that cognitive development is fostered through interaction with more knowledgeable individuals such as teachers. In multigrade classrooms, teacher preparedness aligns with Vygotsky's concepts of scaffolding and the zone of proximal development. Prepared teachers facilitate meaningful interactions, monitor learner progress, and gradually provide students with greater independence, thereby strengthening learner engagement and improving learning outcomes. Piaget's theory of cognitive development further supports the idea that learners construct knowledge actively through exploration and discovery. This perspective highlights the responsibility of teachers to create rich and supportive learning environments, particularly during the early stages of education (Khadidja, 2020). Teacher preparedness therefore becomes a critical factor in establishing environments that encourage learner engagement and academic success through constructivist principles.

Bandura's Self Efficacy Theory also contributes significantly to the conceptual foundation of the study by emphasizing the importance of individuals' beliefs in their own capabilities when performing tasks. Self-efficacy expectations influence behavior, persistence, and motivation, making them closely related to both social learning and cognitive development theories. In this context, teacher preparedness involves not only possessing sufficient knowledge and pedagogical skills but also understanding learners' developmental stages as proposed by Piaget and facilitating learning through social interaction and support as explained by Vygotsky. Smith et al. (2023) asserted that these theories collectively suggest that prepared teachers possess the confidence and competence necessary to apply their knowledge effectively in ways that genuinely engage learners and improve educational outcomes. The integration of these theories offers a comprehensive framework for understanding the complexities and diverse demands of multigrade teaching.

Engagement Theory further strengthens the framework of the study by emphasizing the active participation of learners in the learning process. According to Ebralidze (2023), learning is an active, social, and contextual process in which learner engagement serves as a critical

factor in facilitating meaningful and lasting learning experiences. Teachers can therefore establish meaningful learning environments by promoting learners' cognitive, emotional, and behavioral involvement. In support of this perspective, the Expectancy Value Theory discussed by Spott (2022) in the study of Socobos (2025) explains that motivation is influenced by individuals' beliefs regarding their ability to succeed and the value they attach to accomplishing specific tasks. Likewise, Self Determination Theory developed by Ryan and Deci (2017) explains that the quality of motivation significantly influences behavior, performance, engagement, and overall well-being. Motivation ranges from autonomous forms driven by personal interest and internal values to controlled forms influenced by external pressures and rewards. Niemiec and Ryan (2009) emphasized that when teachers support learners' needs for autonomy, competence, and relatedness, learners develop autonomous self-regulation, improved academic performance, and enhanced well-being.

Despite the recognized importance of multigrade teaching, several studies reveal persistent challenges experienced by teachers in such settings. Kalender and Erdem (2021) found that many teachers considered multigrade teaching to be exhausting and difficult, often resulting in unpleasant experiences and diminished motivation. Similarly, Erdem et al. (2005) reported that teachers viewed multigrade classroom management as highly challenging. These findings underscore the need for targeted support and professional development programs that can improve teachers' effectiveness in addressing the diverse needs of learners in multigrade classrooms. Bongani Thulani Gamede (2021) further observed that external stakeholders sometimes perceive multigrade instruction as less effective than monograde instruction, highlighting the importance of awareness campaigns and training initiatives that can correct misconceptions regarding multigrade education.

The present study expands previous research by examining the instructional competence, professional qualities, and personal attributes of multigrade teachers alongside contextual challenges such as inadequate infrastructure, limited digital literacy, and unequal access to training opportunities (Booc & Potane, 2023; Kumari & Pandey, 2025). Existing studies consistently point to the importance of continuous professional development and effective collaboration among teachers and school leaders in improving teaching practices, increasing learner engagement, and enhancing educational outcomes (Cabasan & Baguio, 2025; Nobis, 2021). Learner engagement has become a particularly important area of inquiry in multigrade classrooms where students of different ages, grade levels, and learning abilities are taught simultaneously. Research indicates that collaborative, differentiated, and learner centered instructional strategies positively influence engagement in these contexts. Magallanes et al. (2024) observed that gamification strategies significantly improved learners' motivation, participation, and enjoyment in multigrade classrooms. Alda and Gementiza (2023) also found that differentiated reading instruction and flexible grouping promoted cognitive and emotional engagement among Filipino learners in multigrade schools.

Further studies support the importance of inclusive and adaptive instructional practices in sustaining learner engagement. Dontogan et al. (2024) highlighted the effectiveness of peer mentoring and learner centered activities in fostering active participation and social interaction across grade levels. Similarly, Rayas et al. (2024) emphasized that teacher adaptability and creative classroom management are essential for maintaining engagement despite the challenges associated with multigrade instruction. Collectively, these findings indicate that learner engagement in multigrade classrooms is strengthened when teachers employ flexible, inclusive, and participatory approaches that accommodate diverse learner needs while encouraging collaboration and independence.

In examining learning quality within multigrade classrooms, Erdem and Kalender (2021) revealed that teachers believed students struggled to participate sufficiently during lessons because planning for multiple grade levels simultaneously was extremely difficult. UNESCO defines learning quality as the extent to which learners achieve essential outcomes such as knowledge acquisition, skill development, and critical thinking. Improving learning quality therefore requires not only effective instruction but also a comprehensive understanding of educational conditions, trends, and system strengths and weaknesses. Educational planners require evidence based analyses and effective monitoring systems capable of measuring relevant indicators that can guide policy development and facilitate meaningful comparisons across contexts and global benchmarks such as Sustainable Development Goal 4. Cabalit et al. (2025) reported that monograde learners tend to perform better in cognitive domains because of homogeneous instruction. However, Motamedi and Khajouie (2020) identified important social and academic benefits associated with multigrade classrooms. Their findings revealed that learners in multigrade settings often demonstrate greater progress in language and mathematics and that boys commonly perceived as low achievers may perform better than girls in such environments. These findings suggest that multigrade classrooms can offer unique opportunities for collaborative learning and deeper educational experiences.

Nevertheless, significant challenges continue to hinder the effectiveness of multigrade instruction. Recla and Potane (2023) revealed that multigrade teachers frequently encounter inadequate infrastructure, insufficient instructional resources, limited training opportunities, and the absence of specialized curricula and instructional materials. Inadequate facilities and teaching resources negatively affect lesson delivery and learner engagement, while poor Internet access limits the effectiveness of technology based instruction. Teachers are also burdened with heavy workloads that require preparing multiple lesson plans and individualized instructional activities. The absence of ready-made instructional and assessment tools further complicates planning and differentiation efforts. Consistent with earlier findings, Erdem et al. (2005) reiterated that teachers struggle to manage multigrade classrooms effectively, emphasizing the urgent need for targeted support, professional development opportunities, policy reforms, improved resource access, workload management, and social emotional support systems that can foster the success and well-being of both teachers and learners.

Research also emphasizes the significant role of learner engagement in promoting learning quality. According to Ebralidze (2023), engagement is a multidimensional construct encompassing cognitive, emotional, and behavioral dimensions that are interconnected and mutually reinforcing. Learners who are cognitively engaged tend to exert greater mental effort and achieve better academic performance. Likewise, behaviorally engaged learners are more likely to experience positive emotions and deeper learning experiences. Roorda et al. (2011) further identified learner engagement as a strong predictor of academic success, emotional development, and social relationships within the school environment.

Recent studies additionally reveal that teacher preparedness remains a critical factor in establishing supportive and effective learning environments in multigrade classrooms. Bagay (2024) found that many multigrade teachers lack adequate professional training and support for handling multiple grade levels effectively. Casane (2025) also discovered discrepancies between teachers' self-assessed competence and school heads' evaluations, emphasizing the need for targeted skill enhancement. Furthermore, Qangule and Letuma (2025) identified insufficient classroom management training and weak policy support as barriers limiting teachers' ability to apply adaptive teaching strategies. These findings collectively underscore the importance of teacher preparedness that extends beyond basic qualifications and highlights the necessity of continuous professional development to sustain effective multigrade teaching and meaningful learner engagement.

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Statement of the Problem

The researcher aimed to focus on mediation, as mediated by learning engagement in the context of multigrade classrooms in Congressional District II.

Specifically, this study sought to answer the following questions:

1. What is the level of teacher preparedness in terms of methods and strategies, classroom management, use of resources, and assessment/evaluation?
2. What is the level of learning engagement in multigrade classrooms in terms of behavioral, emotional, and cognitive?
3. What is the level of learning quality among learners in multigrade classrooms?
4. Does learning engagement mediate the relationship between teacher preparedness and learning quality?
5. What action plan can be proposed based on the findings of the study?

METHODOLOGY

Design

In this study, a quantitative non-experimental mediation design was adopted to gain a comprehensive understanding of the phenomenon. Quantitative non-experimental design is the study of social phenomena without the direct manipulation of the conditions that subjects are exposed to (Salmons, 2023). Subjects are not randomly assigned to groups. The goal of this design is to apply to the study of relationships among variables, without manipulating any conditions or treatments. Specifically, this study aims to determine whether learning engagement mediates the relationship between teacher preparedness and learning quality in multigrade Classrooms. In this study, a pathway analysis strategy was used to assess the direct and indirect effects among teacher preparedness, learning engagement, and learning quality in the proposed model.

Environment

This study was conducted in Congressional District II, Division of Bohol. This study is unique and challenging in the aspect of multigrade classrooms. Congressional District 2 includes the following fourteen (14) districts: Bien Unido, Buenavista I, Buenavista II, Dagohoy, Danao, Clarin District, Getafe, Inabanga North District, Inabanga South District, Sagbayan, San Isidro, San Miguel, Talibon, Trinidad, and Ubay Districts. Understanding these environments is important for examining the relationship between teacher preparedness and quality of learning mediated by learning engagement.

Respondents

The respondents in this study were 101 teachers of multigrade classrooms in Congressional District II who were given questionnaires. However, only 96 questionnaires were retrieved and considered valid for analysis, and the remaining questionnaires were not returned. This resulted in a response rate of 95.05 percent. The participants were selected purposefully to provide a comprehensive perspective on factors influencing teacher preparedness and quality in these classrooms as mediated by learning engagement.

Instruments

This study used an adapted survey questionnaire from validated sources (Dampulay, 2024; Codotco et al., 2025) to measure teacher preparedness and learning engagement in multigrade classrooms. The instrument showed acceptable reliability with coefficients above 0.70, which indicated that it was suitable for the study.

The questionnaire was divided into three parts: teacher preparedness, which measures the level of teacher preparedness on methods and strategies, classroom management, instructional resources use, and assessment and evaluation practices; learning engagement, which determines the level of learning engagement in multigrade classrooms on: behavioral engagement, emotional engagement, and cognitive engagement. On the other hand, the dependent variable of the study, learning quality, refers to the extent of learning quality among learners in multigrade classes, as shown by the learners' academic performance as indicated in their school report cards or official grades.

The study used a 4-point Likert scale to measure the level of teacher preparedness and learning engagement in the multigrade classrooms. The scale is rated as 4 (Always), 3 (Often), 2 (Sometimes), and 1 (Never), with the interpretations from very high to very low occurrence of the indicators.

For the interpretation of mean scores, the range of 3.26-4.00 was considered Very High, *2.51-3.25 is High, 1.76-2.50 is Low, and 1.00-1.75 is Very Low. These scale interpretations were used to analyze levels of teacher preparedness and learning engagement in multigrade classrooms.

The study also used the School Report Card (SRC) data of learners to determine the quality of learning and the average academic performance of learners under each teacher respondent with a consent from the parents through their school group chats. The average marks of the learners were calculated to produce a single average score to reflect the quality of learning provided by each teacher. These mean scores were then interpreted using a descriptive rating scale consistent with standard levels of performance.

In terms of interpretation of mean scores, 90-100 was interpreted as Outstanding, 85-89 as Very Satisfactory, 80-84 as Satisfactory, 75-79 as Fairly Satisfactory, and below 75 as Did Not Meet Expectations. These classifications formed the basis for determining the level of learning quality in multigrade classrooms based on the academic achievement of the learners.

Data gathering procedure

The researcher asked permission to conduct the study from the Schools Division Superintendent after the Dean of the School of Advanced Studies of Bohol Island State University endorsed the study. After approval, the letter of authorization was forwarded to the respective Public Schools District Supervisors and then to the school heads/principals of the schools that will implement multigrade classes. The researcher obtained permission and distributed the questionnaires to the teachers to collect the data needed for the study.

The researcher then conducted the survey, distributing questionnaires to the teacher-respondents through face-to-face and online methods. Questionnaires were distributed physically for clarity and a better response rate, while an online version was provided (e.g., Google Forms and Messenger) for those who could not be reached physically.

The questionnaires were administered to the respondents and comprised three (3) sections. Two parts of these included items answered by a 4-point Likert scale based on the perceptions and experiences of the respondents. The responses were analyzed to identify areas for improvement in learning engagement, which served as the basis for developing actionable

recommendations to improve teacher preparedness and learning quality in multigrade classrooms in Congressional District II.

Statistical treatment

For data analysis, the following statistical tools were used: Responses were collated, counted, and tabulated.

The level of teacher preparedness and the level of learning engagement were determined using the weighted mean and standard deviation formula. The average score was obtained by the use of the mean, and the variability and consistency of responses of the respondents were measured by the use of the standard deviation.

To describe the level of learning quality, the academic performance of the learners was based on the School Report Card. The average grades of learners of each teacher respondent were computed to get a single mean score for each teacher. Results were then classified according to a descriptive scale. Frequency and percentage were used in determining the distribution of teacher respondents by performance level. The frequency was obtained by counting the number of teacher respondents under each category based on their learners' average grades. The percentage was computed by dividing the frequency by the total number of respondents and multiplying by 100. Pathway analysis was used to examine the mediating effect of learning engagement on the relationship between teacher preparedness and learning quality. This included testing the direct effect of teacher preparedness on learning engagement, the effect of learning engagement on learning quality, and the combined effect of teacher preparedness and learning engagement on learning quality. The changes in the significance and strength of the relation between the variables determined the mediation.

The results of these analyses formed the basis for the development of a proposed action plan.

RESULTS AND DISCUSSION

The results and discussion section presents the findings of the study based on the data collected through face to face and online surveys conducted using Google Forms and the statistical analyses performed to address the specific objectives of the study. The investigation involved 96 respondents and focused on determining the levels of teacher preparedness, learning engagement, and learning quality in multigrade classrooms, as well as examining the mediating role of learning engagement in the relationship between teacher preparedness and learning quality. The analysis was grounded on descriptive and inferential statistical procedures, including the computation of means, standard deviations, frequencies, percentages, and mediation analysis using path estimates, standard errors, Z values, and p values. The interpretation of the findings was directly aligned with the study objectives and supported by relevant theoretical and empirical literature to provide a deeper understanding of instructional effectiveness and learner outcomes in multigrade classroom settings.

The level of teacher preparedness in multigrade classrooms was examined in terms of methods and strategies, classroom management, use of resources, and assessment/evaluation. The overall composite mean for teacher preparedness was 3.26 (SD=0.59), interpreted as Highly Prepared, indicating that teachers generally demonstrated a strong level of readiness in handling the complexities of multigrade instruction. In the area of methods and strategies, the composite mean was 3.29 (SD=0.58), interpreted as Highly Prepared. The highest rated item was “I integrate my lessons and make connections of other learnings across the curricula,”

indicating that teachers effectively connected concepts across subject areas to maximize instructional time and deepen learner understanding. The lowest rated item was "I practice an inquiry-based approach such as simulation, demonstration, experiment, field study, and project work," suggesting that inquiry-based instructional strategies were less frequently implemented due to time limitations, insufficient resources, or management difficulties commonly encountered in multigrade classrooms. These findings demonstrate that teachers possess the competence to adapt instruction to learners with varying grade levels, abilities, and pacing requirements within a single classroom environment. The results affirm the importance of instructional flexibility and pedagogical adaptability in multigrade teaching contexts. This finding is supported by Chen (2025), who explained through Vygotsky's Sociocultural Theory that learning occurs through meaningful social interaction and guided support. Teacher preparedness reflects Vygotsky's concept of scaffolding and the Zone of Proximal Development (ZPD), where teachers provide structured assistance tailored to learners' developmental needs, as further emphasized by Khadidja (2020).

In terms of classroom management, the composite mean was 3.27 (SD=0.59), interpreted as Highly Prepared. The highest rated statement was "I set up set of rules and regulations for controlling behavior," while the lowest rated item was "The attention span of the learners is long." The findings indicate that teachers were highly capable of establishing structured and learner-centered classroom environments that support learning despite the varying developmental stages and limited attention spans of learners in multigrade settings. The result suggests that teachers recognize the behavioral and developmental diversity of learners and respond by implementing clear classroom routines and management practices. Smith et al. (2023) emphasized that both Vygotsky's Sociocultural Theory and Piaget's Cognitive Development Theory recognize the importance of teacher preparedness in establishing learning environments that promote learner engagement and academic success. Furthermore, Bandura's Self-Efficacy Theory explains that teachers with strong confidence in their instructional abilities are more capable of managing classrooms effectively and sustaining learner participation. The findings therefore highlight the importance of teacher self-efficacy in adapting instruction and maintaining productive learning environments in multigrade classrooms.

The level of teacher preparedness in the use of resources obtained a composite mean of 3.29 (SD=0.57), interpreted as Highly Prepared. The highest rated item was "Use ICT as learning tool in my instruction," indicating that teachers effectively integrated technology into instruction to support differentiated learning and learner engagement in mixed-grade settings. The lowest rated item was "I am able to develop teaching aids," suggesting limitations in creating localized and teacher-made instructional materials. This limitation may stem from restricted access to materials, lack of technical expertise, or insufficient time to produce instructional aids appropriate for multigrade instruction. The high composite mean nevertheless demonstrates that teachers possess strong capability in utilizing available instructional resources to support learning. Smith et al. (2023), drawing from Bandura's Self-Efficacy Theory, explained that teachers with high levels of efficacy are more confident in lesson planning, classroom management, and instructional delivery. This finding also aligns with Piaget's Cognitive Learning Theory and Vygotsky's Social Learning Theory, which emphasize the importance of confident and knowledgeable teachers in promoting learner engagement and effective learning, particularly in diverse classroom settings such as multigrade classrooms.

The area of assessment/evaluation obtained a composite mean of 3.19 (SD=0.63), interpreted as Prepared. The highest rated item was "I give regular formative and summative assessment," showing that teachers consistently monitored learner progress and provided feedback to support learning development. The lowest rated item was "I developed a gamified assessment in connection with the objectives of the lesson," indicating that teachers had limited

exposure to or experience with gamified assessment approaches. This finding may be attributed to limited training opportunities, lack of digital tools, or insufficient time to design interactive and objective-aligned assessments. Magallanes et al. (2024) found that gamification strategies significantly enhanced learner motivation, participation, and enjoyment in multigrade classes, suggesting that the integration of gamified assessment practices may further strengthen learner engagement and instructional effectiveness. Chen (2025) also emphasized, through Vygotsky's ZPD, that meaningful assessment practices support learner engagement and gradual independence by allowing teachers to monitor progress and provide appropriate instructional support. The findings imply that while teachers are generally prepared in assessment practices, further professional development in innovative and technology-enhanced assessment approaches may improve learner outcomes.

Overall, the findings on teacher preparedness indicate that multigrade teachers were generally well prepared in instructional delivery, classroom management, resource utilization, and assessment practices. The consistently high ratings suggest that teachers are capable of managing the demands of multigrade classrooms effectively. However, the lower ratings in inquiry-based approaches, development of teaching aids, maintaining learner attention, and gamified assessment indicate areas requiring targeted interventions and sustained professional support. Rayas et al. (2024) emphasized that teachers who demonstrate creativity, flexibility, and adaptability in instructional management are more capable of sustaining learner engagement despite the complexities of multigrade teaching. The findings therefore highlight the importance of continuous professional development focused on weaker instructional areas to ensure more sustainable and effective learning outcomes.

The level of learning engagement among learners in multigrade classrooms was examined in terms of emotional, behavioral, and cognitive engagement. The overall composite mean was 3.21 (SD=0.62), interpreted as Engaged, indicating that learners generally demonstrated positive participation and involvement in the learning process. Emotional engagement obtained a composite mean of 3.29 (SD=0.61), interpreted as Highly Engaged. The highest rated item was "Pupils show enthusiasm and interest in learning activities," while the lowest rated item was "Pupils show motivation even when faced with challenging activities." These findings suggest that learners demonstrate positive emotional responses toward learning activities that are manageable and interesting but experience difficulty sustaining motivation during challenging tasks. Ebralidze M. (2023), through Engagement Theory, explained that learner engagement involves emotional investment, positive feelings toward learning, and active participation. The findings imply that although learners are emotionally engaged, sustaining motivation during difficult academic tasks remains a challenge. Emotional engagement alone therefore may not be sufficient to ensure sustained and complete learner involvement.

Behavioral engagement obtained a composite mean of 3.23 (SD=0.60), interpreted as Engaged. The highest rated item was "Pupils attend class regularly and on time," while the lowest rated item was "Pupils maintain focus and attention during class activities." The findings indicate that learners actively participated in classroom activities and demonstrated positive attendance behaviors despite occasional difficulties in sustaining focus and concentration during instructional tasks. According to Socobos (2025), Self-Determination Theory (SDT) explains that learner engagement and perseverance increase when teachers support learners' needs for autonomy, competence, and relatedness. The findings suggest that multigrade teachers were generally successful in creating classroom environments that encouraged active learner participation and involvement. The results further indicate that the classroom environment supported the development of intrinsic motivation among learners.

Cognitive engagement obtained a composite mean of 3.10 (SD=0.66), interpreted as Engaged. The highest rated statement was "Pupils ask questions that show curiosity and deeper thinking," indicating that learners demonstrated intellectual involvement and curiosity during instruction. However, the lowest rated item was "Pupils explore topics or ideas beyond the classroom content," suggesting that learners had limited practice in independent inquiry and extending learning beyond classroom discussions. Although learners displayed cognitive engagement within classroom instruction, the findings reveal that the development of self-directed learning and independent exploration remains an area requiring improvement. Socobos (2025), through Expectancy-Value Theory (EVT), explained that learners become more engaged when they believe they can succeed and when they perceive value in the learning task. This suggests that teachers need to strengthen learners' confidence and sense of purpose to further enhance cognitive engagement and independent learning behaviors.

The overall findings on learner engagement emphasize the importance of creating learning environments that promote emotional, behavioral, and cognitive involvement among learners in multigrade classrooms. Although all dimensions were interpreted as either Engaged or Highly Engaged, slight differences across engagement domains indicate the need for targeted interventions to strengthen weaker areas such as sustaining attention, maintaining motivation during difficult tasks, and encouraging independent inquiry. Erdem et al. (2005) emphasized the importance of professional development opportunities that enhance teachers' capacity to address diverse learner needs. Strengthening teacher effectiveness in these areas may contribute to more holistic learner development and sustained engagement across all dimensions.

The level of learning quality among learners in multigrade classrooms was evaluated using learners' academic performance based on the grading scale. The findings revealed that 81 learners or 84.38% were classified under the Very Satisfactory level (85-89), 13 learners or 13.54% attained the Outstanding level (90-100), and 2 learners or 2.08% were categorized under the Satisfactory level (80-84). No learners were classified under the Fairly Satisfactory level (75-79) or the Did Not Meet Expectations category (Below 75). These findings demonstrate that the majority of learners achieved high academic performance in multigrade classrooms, indicating positive learning quality outcomes.

The high percentage of learners classified under the Very Satisfactory and Outstanding levels suggests that learners were well adjusted to the multigrade classroom environment and capable of achieving positive academic outcomes despite the challenges associated with multigrade instruction. Khadidja (2020), through Constructivist Theory, explained that learning is an adaptive and developmental process in which learners construct understanding through interaction and experience. The findings indicate that learners in multigrade classrooms successfully adapted to diverse instructional experiences and interactions that enhanced their cognitive development and academic performance. The absence of learners in the Fairly Satisfactory and Did Not Meet Expectations categories further suggest that the multigrade learning environment generally supported at least satisfactory academic achievement among all learners.

The results on learning quality are consistent with the findings on teacher preparedness and learner engagement. The high levels of teacher preparedness reported in Table 1 likely contributed to effective instructional delivery, organized classroom management, and meaningful assessment practices that supported learner achievement. Smith et al. (2023) emphasized that teacher preparedness is essential in fostering environments that encourage learner engagement and academic success, consistent with the constructivist principles of Piaget and Vygotsky. Similarly, the engaged levels of emotional, behavioral, and cognitive engagement reported in Table 2 indicate that learners were actively involved in learning activities, maintained interest in instruction, and demonstrated deeper thinking skills. These

engagement behaviors likely contributed to the positive academic outcomes observed in the study.

The findings also support the conclusions of Motamedi and Khajouie (2020), who emphasized the academic advantages of multigrade classrooms. However, the results differ from the findings of Cabalit et al. (2025) and Bongani Thulani Gamede (2021), who concluded that monograde learners performed better in cognitive domains and that multigrade instruction was less effective than monograde classroom arrangements. The present findings therefore contribute evidence that multigrade classrooms, when supported by prepared teachers and engaged learners, can produce high levels of academic achievement and meaningful learning outcomes.

The mediation analysis examining learning engagement as a mediator between teacher preparedness and learning quality revealed complex relationships among the variables. The indirect effect obtained an estimate of 0.486 with SE=0.467, Z=1.04, and p=0.298, interpreted as Not Significant, leading to the decision to Do not Reject H_0. This finding indicates that learning engagement does not significantly mediate the relationship between teacher preparedness and learning quality. Similarly, the direct effect obtained an estimate of 1.152 with SE=0.621, Z=1.86, and p=0.063, interpreted as Not Significant, resulting in the decision to Do not Reject H_0. This suggests that teacher preparedness alone does not significantly predict learning quality. However, the total effect obtained an estimate of 1.638 with SE=0.414, Z=3.96, and p<.001, interpreted as Significant, leading to the decision to Reject H_0. This indicates that teacher preparedness and learning quality are significantly associated when considered together.

The path estimates further showed that teacher preparedness significantly affected learning engagement, with an estimate of 0.862, SE=0.0779, Z=11.08, and p<.001, interpreted as Significant with the decision to Reject H_0. This finding demonstrates that more prepared teachers are more likely to facilitate engaged learners in multigrade classrooms. However, learning engagement did not significantly affect learning quality, with an estimate of 0.564, SE=0.5389, Z=1.05, and p=0.296, interpreted as Not Significant with the decision to Do not Reject H_0. Additionally, teacher preparedness did not significantly affect learning quality directly, with an estimate of 1.152, SE=0.6206, Z=1.86, and p=0.063, interpreted as Not Significant with the decision to Do not Reject H_0. These findings collectively indicate that learning engagement does not function as a mediating mechanism between teacher preparedness and learning quality.

The results imply that although teacher preparedness significantly enhances learner engagement, this engagement does not necessarily translate into improved learning quality within the context of the study. Other factors beyond teacher preparedness and learner engagement may contribute more directly to learning quality outcomes. These may include instructional strategies, classroom management approaches, class size, availability of instructional materials, school resources, learner characteristics, and broader educational conditions. The findings support UNESCO's assertion that improving learning quality requires a comprehensive understanding of educational contexts, system strengths, and institutional limitations rather than focusing solely on instructional effectiveness. Although Roorda et al. (2011) identified learning engagement as a strong predictor of academic success, the present findings suggest that engagement alone may not sufficiently explain variations in learning quality in multigrade classrooms.

Overall, the results of the study reveal that multigrade teachers demonstrated high levels of preparedness in instructional methods, classroom management, use of resources, and assessment practices, while learners displayed engaged levels of emotional, behavioral, and

cognitive participation in learning activities. The high percentages of learners classified under Very Satisfactory and Outstanding performance levels indicate positive learning quality outcomes within multigrade classrooms. The findings further demonstrate that teacher preparedness significantly influences learner engagement, although learning engagement does not mediate the relationship between teacher preparedness and learning quality. These results highlight the importance of sustaining teacher preparedness and strengthening targeted instructional interventions to address weaker areas such as inquiry-based instruction, learner attention, independent inquiry, and gamified assessment practices. The study contributes to the growing body of literature on multigrade education by providing evidence that well-prepared teachers and engaged learners can support positive academic outcomes in multigrade settings. At the same time, the findings emphasize the need to explore additional factors influencing learning quality, thereby providing direction for future investigations and the development of more comprehensive educational interventions for multigrade classrooms.

CONCLUSION

The findings of the study revealed that learning engagement does not mediate the relationship between preparedness and learning quality. This indicates that while teacher preparedness remains an important determinant of learning quality, its influence may not necessarily operate through learners' engagement. The results further suggest that other factors beyond engagement may contribute more significantly to the improvement of learning quality in multigrade classrooms. Variations in the level of engagement among respondents were observed during the conduct of the study, which may have affected the consistency of responses and the overall interpretation of the findings. Moreover, teachers assigned in multigrade classrooms reported limited access to instructional materials and reference resources necessary to address the diverse needs of learners effectively. This condition highlights the importance of adequate educational resources in supporting instructional effectiveness and improving learner outcomes in multigrade settings. The findings therefore emphasize that quality learning in multigrade education is not solely dependent on engagement, but is also influenced by teacher preparedness, availability of instructional resources, and the overall quality of instructional support provided within the school environment.

The study further underscores the importance of strengthening instructional practices and professional support systems to enhance learning quality among learners in multigrade classrooms. School administrators are encouraged to initiate responsive programs and training activities focused on improving instructional delivery, particularly in inquiry-based teaching practices, the development and utilization of sustainable and localized instructional materials, gamified assessment strategies aligned with lesson objectives, and classroom approaches that sustain learners' attention and participation. Such initiatives may contribute to the enhancement of instructional effectiveness and learner performance. In addition, Master Teachers may provide continuous instructional coaching and professional guidance, especially for newly hired teachers, to reinforce practices that promote behavioral, cognitive, and emotional engagement among learners. Through collaborative professional support, teachers may be guided in designing activities that maintain learners' interest, stimulate critical thinking, and foster positive attitudes toward learning.

The findings also indicate that multigrade teachers should continue sustaining effective teaching practices that contribute to favorable learning outcomes while engaging in reflective teaching practices, documentation of effective classroom strategies, and collaborative learning through Learning Action Cell (LAC) sessions and other professional development activities. Likewise, School Principals and School Heads play a significant role in strengthening instructional supervision and monitoring to ensure that effective classroom practices are

maintained and continuously improved. Targeted interventions should also be implemented for learners performing at a satisfactory level so that all learners may achieve at least a very satisfactory level of performance. Furthermore, the proposed lesson plan developed in the study may be adopted and implemented by school heads to support effective instruction, strengthen learner engagement, and improve overall learning outcomes in multigrade classrooms.

Finally, the study highlights the need for future research to explore other possible mediating variables that may better explain the relationship between teacher preparedness and learning quality. Replication of the study in different educational contexts is likewise recommended to determine the consistency and applicability of the findings across various learning environments. Follow up studies examining the long-term effects of engagement and instructional strategies may also provide deeper insights into sustaining quality learning outcomes. In addition, future researchers are encouraged to incorporate qualitative methods such as interviews alongside survey instruments to allow respondents to express their actual classroom experiences and perspectives more comprehensively. The integration of qualitative approaches may strengthen the validity, depth, and interpretation of future findings and contribute to a more comprehensive understanding of learning quality in multigrade education.

REFERENCES

Alda, R., & Gementiza, J. I. (2023). Reading instruction in multigrade classes: A narrative inquiry. Interdisciplinary Research Review, 18(3). https://ph02.tci-thaijo.org/index.php/jtir/article/view/248620

Bagay, J. A. (2025). Challenges and adaptive strategies into the multifaceted experiences of multigrade teachers: A phenomenological study. AIDE Interdisciplinary Research Journal, 10, 237–260. https://doi.org/10.56648/aide-irj.v10i1.164

Booc, L. C., & Potane, J. D. (2023). Teachers' challenges and practices in handling multigrade classes: A systematic review. ASEAN Journal of Open and Distance Learning, 15(1), 73–87. https://www.academia.edu/114342212/Teachers_Challenges_and_Practices_in_Handling_Multigrade_Classes_A_Systematic_Review

Gamede, B. T., & Uleanya, C. (2021). Review of the impact of stakeholders' participation in rural school education. Zenodo. https://doi.org/10.5281/zenodo.4734190

Cabalit, J. M. A., et al. (2025). Learner engagement and academic achievement: A comparative analysis of multigrade and monograde classrooms in Philippine elementary schools. https://doi.org/10.5281/zenodo.17465307

Cabasan, M. G. E., & Baguio, J. B. (2025). Structural culture viewpoint of school heads and direction practices of teachers in public elementary schools. Asian Journal of Education and Social Studies, 51(5), 1–11. https://doi.org/10.9734/ajess/2025/v51i51894

Casane, L. L. (2025). Instructional competence, professional and personal characteristics of teachers in multigrade classes. Asian Journal of Education and Social Studies, 51(5), 817–829. https://doi.org/10.9734/ajess/2025/v51i51962

Chen, B.-C. (2025). Using Vygotsky's sociocultural theory to explore ethnic cultural representation in Taiwanese preschool children's play. Frontiers in Education, 10, 1569322. https://doi.org/10.3389/feduc.2025.1569322

Codotco, J., & Castro, J. (2025). Classroom leadership techniques and their influence on engagement of multi-grade pupils. International Journal of Open-Access, Interdisciplinary and New Educational Discoveries of ETCOR Educational Research Center (iJOINED ETCOR). https://doi.org/10.63498/etcor509

Dampulay, K. H. (2024). Pedagogical skills of multigrade teachers in the selected districts of Unit IV, Division of Ilocos Sur: Basis for teacher's development plan. IJFMR - International Journal for Multidisciplinary Research, 6(6). https://doi.org/10.36948/ijfmr.2024.v06i06.33653

Di Domenico, S. I., & Ryan, R. M. (2017). The emerging neuroscience of intrinsic motivation: A new frontier in self-determination research. Frontiers in Human Neuroscience, 11. https://doi.org/10.3389/fnhum.2017.00145

Domingo-Peñafiel, L., Farré-Riera, L., Carrete-Marín, N., & Simó-Gil, N. (2025). Innovation and inclusion in multigrade settings: A case study in a secondary rural school in Catalonia. International Journal of Educational Research, 134, 102767. https://doi.org/10.1016/j.ijer.2025.102767

Dontogan, T. G., Lunio-Toctocan, C. T., Ricardo, K. R. D., & Saldo, M. L. (2024). Inclusive pedagogy: Systematic review on exploring stakeholder engagement in multigrade classroom teaching. Cognizance Journal of Multidisciplinary Studies, 4(4), 222–234. https://doi.org/10.47760/cognizance.2024.v04i04.015

Ebralidze, M. (2023). Engagement theory in education: Integrative perspectives on behavioral, cognitive, and emotional engagement. Educational Psychology Review, 35(2), 259–274.

Erdem, E., & Kalender, B. (2021). Challenges faced by classroom teachers in multigrade classrooms: A case study. Journal of Pedagogical Research, 5(4), 76–91. https://doi.org/10.33902/JPR.2021473490

Galve, J. M., Iballa, J., Galon, M. A., Casimsiman, R., Casimsiman, R. J., Amparo, M., Duetes, R. M., Geraldizo, I., & Ampo, W. M. (2025). Multi-grade teachers' experiences in multi-grade classrooms in public schools in the Philippines. Journal of Interdisciplinary Perspectives, 3(10), 387–394. https://doi.org/10.69569/jip.2025.605

Khadidja, K. (2020). Constructivist theories of Piaget and Vygotsky: Implications for pedagogical practices. Psychological & Educational Studies, 13(3). https://dspace.univ-ouargla.dz/jspui/bitstream/123456789/23988/1/P23F.pdf

Kumari, J., & Pandey, C. P. (2025). Capacity building of teachers: The promise and pathways of NEP 2020. Asian Journal of Education and Social Studies, 51(5), 236–245. https://doi.org/10.9734/ajess/2025/v51i519

Magallanes, M. L. P., Magadan, A. G. A., Absin, J. M. V., Paña, V. G. R., Pagara, C. R. A., & Salarda, I. B. (2024). Enhancing student engagement through gamification strategies in multi-grade classroom. International Journal of Research and Innovation in Social Science, 8(8), 2387–2393. https://doi.org/10.47772/IJRISS.2024.8080180

Motamedi, V., & Khajouie, F. (2020). Comparative analysis of the results of multigrade and singlegrade classes based on indicators of educational productivity and efficiency: A case study of Bandar Abbas city primary and secondary schools. Journal of Education and Learning (EduLearn), 14(2), 227–233. https://doi.org/10.11591/edulearn.v14i2.15871

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. Theory and Research in Education, 7(2), 133–144. https://selfdeterminationtheory.org/SDT/documents/2009_NiemiecRyan_TRE.pdf

Philippine Constitution: Article XIV. (2009, January 10). The 1987 Constitution of the Philippines. https://philippineconstitution1987.wordpress.com/2009/01/11/philippine-constitution-article-xiv/

Qangule, T., & Letuma, M. C. (2025). One teacher, many grades: Foundation phase teachers' experiences in multigrade classroom management. Frontiers in Education, 10, 1685825. https://doi.org/10.3389/feduc.2025.1685825

Quality learning: What you need to know. (n.d.). UNESCO. Retrieved April 13, 2026, from https://www.unesco.org/en/quality-learning/need-know

Quantitative research with nonexperimental designs. (n.d.). Sage Research Methods Community. Retrieved April 20, 2026, from https://researchmethodscommunity.sagepub.com/blog/quantitative-research-with-non-experimental-designs

Rayas, R. M. C., Inciso, H. R., Servano, K. J. B., Ranille, J. M., Sumeguin, R. A. S., & Espiritu, M. G. (2025). Exploring diverse factors affecting teachers in teaching multi-grade classes. East Asian Journal of Multidisciplinary Research, 4(6), 2421–2436. https://doi.org/10.55927/eajmr.v4i6.194

Republic Act No. 9155. (n.d.). Retrieved April 10, 2026, from https://lawphil.net/statutes/repacts/ra2001/ra_9155_2001.html

Recla, L. C. B., & Potane, J. D. (2023). Teachers' challenges and practices in handling multigrade classes: A systematic review. ASEAN Journal of Open and Distance Learning, 15(1), 73–87. https://ajodl.oum.edu.my/

Roorda, D. L., Koomen, H. M. Y., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. Review of Educational Research, 81(4), 493–529. https://doi.org/10.3102/0034654311421793

Smith, M. J., Liehr, P. R., & Carpenter, R. D. (2023). Middle range theory for nursing. Springer Publishing Company.

Socobos, J. (2025). Instructional effectiveness, learners' motivation and engagement: Basis for an action plan.