

Teachers' Assessment of Reading Proficiency and Numeracy Skills among Learners in Multigrade Schools: Challenges and Intervention Needs

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Publication history:

Received: September 10, 2026

Revised: October 5, 2026

Accepted: October 8, 2026

Published: October 9, 2026

International Journal of Sustainable and Integrated Studies, Vol. 1, No. 3, pp. 245–254, October 2026.

Abstract

This study examined teachers' assessments of reading proficiency and numeracy skills among learners in multigrade schools, focusing on instructional challenges and intervention needs in the District of Atok, Schools Division Office of Benguet, Philippines. Anchored in Differentiated Instruction, Vygotsky's Zone of Proximal Development, and the Teaching at the Right Level approach, the study adopted a quantitative descriptive-survey design involving 48 multigrade teachers as the intended respondents. A structured questionnaire was developed to assess perceived foundational competencies, instructional difficulties, and intervention priorities, with descriptive statistics employed for analysis. Using questionnaire responses, the findings indicated high teacher-rated reading proficiency ($M = 4.02$) and numeracy skills ($M = 3.95$), with word recognition and number recognition emerging as relative strengths. Reading comprehension and mathematical problem-solving received comparatively lower ratings, indicating areas requiring additional instructional attention. Instructional challenges were rated high ($M = 3.83$), particularly limited teaching time, learner diversity, and insufficient differentiated learning materials. Intervention needs received a very high rating ($M = 4.38$), emphasizing contextualized instructional materials, structured remediation, teacher professional development, and collaborative learning support. The study proposes a contextualized reading and numeracy intervention framework to strengthen foundational learning in multigrade classrooms. It supports Sustainable Development Goal 4 (Quality Education), SDG 10 (Reduced Inequalities), and SDG 17 (Partnerships for the Goals) by promoting inclusive instruction, equitable learning opportunities, and stakeholder collaboration. Its potential sustainability contributions involve improving educational continuity, institutional responsiveness, and community participation.

Keywords: Contextualized Instruction; Educational Sustainability; Instructional Challenges; Intervention Needs; Multigrade Education; Numeracy Skills; Reading Proficiency

1. Introduction

Reading proficiency and numeracy skills are essential foundations of academic achievement, critical thinking, and lifelong learning. However, developing these competencies remains challenging in multigrade schools, where teachers simultaneously manage learners from different grade levels with varying abilities and instructional needs. International and national assessments continue to reveal substantial gaps in foundational learning, emphasizing the importance of differentiated instruction and targeted educational interventions (World Bank et al., 2022; OECD, 2023). In the Philippines, multigrade education provides learning opportunities in communities where conventional single-grade classroom arrangements may not be feasible, although teachers often encounter difficulties associated with curriculum delivery, instructional time, and resource availability. Within this context,

the present study examines teachers' assessments of learners' reading proficiency and numeracy skills, instructional challenges, and intervention needs among 48 multigrade teachers in the District of Atok, Schools Division Office (SDO) of Benguet. Through a descriptive-survey approach, the study seeks to provide an evidence-based foundation for developing a contextualized intervention framework responsive to the instructional realities of multigrade schools.

Foundational reading and numeracy competencies are essential for academic achievement, critical thinking, and lifelong learning. Reading proficiency involves word recognition, fluency, accuracy, and comprehension, while numeracy encompasses number recognition, mathematical operations, numerical reasoning, and problem-solving. UNICEF (2023) emphasized that foundational learning supports educational development and meaningful participation in society. However, World Bank et al. (2022) estimated that learning poverty in low- and middle-income countries increased from 57% before the COVID-19 pandemic to approximately 70% in 2022. In the Philippines, OECD (2023) reported that only 24% of Filipino students attained minimum reading proficiency and 16% achieved minimum mathematics proficiency in PISA 2022, compared with OECD averages of 74% and 69%, respectively. Similarly, UNICEF and SEAMEO (2025) reported improvements among Filipino Grade 5 learners, with higher mathematics proficiency increasing from 17% in 2019 to 26% in 2024, while the highest reading proficiency band increased from 10% to 14%. Despite these improvements, substantial learning gaps remain, highlighting the importance of targeted foundational learning interventions. Multigrade schools present additional instructional challenges because teachers simultaneously handle learners from different grade levels, abilities, and developmental stages. This arrangement requires differentiated instruction, effective classroom management, and appropriate learning resources. Rondero and Casupanan (2024) identified learner diversity, instructional preparation, classroom management, and teacher burnout as significant challenges in geographically isolated multigrade schools. Similarly, Bunglay and Cutab (2025) reported increased teaching workloads and inadequate instructional materials while emphasizing the importance of flexible teaching strategies and stakeholder collaboration. These findings highlight the need to understand teachers' assessments of learners' foundational competencies and the challenges affecting instructional delivery. In response to persistent learning deficiencies, the Department of Education implemented the MATATAG Curriculum and introduced learning recovery initiatives, including the Academic Recovery and Accessible Learning (ARAL) Program under Republic Act No. 12028, to strengthen literacy and numeracy competencies (DepEd, 2024). However, national assessments and educational reforms may not fully reflect the specific learning needs of individual multigrade schools. Therefore, the present study focuses on 48 multigrade teachers in the District of Atok, SDO Benguet, to examine their assessments of learners' reading proficiency and numeracy skills, identify instructional challenges, and determine appropriate intervention needs. The study aims to provide a foundation for developing contextualized instructional strategies that support equitable and sustainable foundational learning in multigrade classrooms.

Recent literature on foundational learning and multigrade education highlights the importance of learners' competencies, differentiated instruction, teacher preparedness, and institutional support in improving educational outcomes. UNICEF (2023), in its analysis of foundational learning policies across 94 low- and middle-income countries, emphasized systematic assessment, effective instructional practices, and coordinated interventions to address learning deficiencies. Multigrade classrooms present additional challenges because teachers simultaneously manage different grade levels, learning abilities, and curricular requirements. Rondero and Casupanan (2024) identified classroom management, instructional time, learner diversity, and teacher burnout as major concerns among multigrade teachers in Zambales. Similarly, Bunglay and Cutab (2025), in their study involving 32 rural multigrade teachers, reported increased workloads and insufficient instructional resources while recognizing the benefits of flexible teaching strategies and stakeholder collaboration. Teacher preparedness and instructional support are equally important in addressing foundational learning difficulties. Ruelan and Ebisa (2025), in their investigation involving 42 multigrade teachers in Lanao del Norte, identified challenges related to teaching responsibilities, curriculum alignment, time constraints, and learning materials. Hermosa and Sanchez (2025) likewise emphasized learner diversity, limited professional development, classroom management, and insufficient parental support. These findings demonstrate the importance of strengthening teachers' instructional capacity and providing appropriate resources to support reading and numeracy development in multigrade classrooms. Differentiated and contextualized instruction also emerges as an essential approach to addressing diverse learning needs. Maynopas and Escote (2024) identified learner grouping, culturally responsive activities, local-language translation, and instructional integration as effective practices among multigrade teachers serving Indigenous Peoples communities. Similarly, UNICEF (2024) emphasized the Teaching at the Right Level approach, which aligns instructional activities with learners' demonstrated competencies rather than grade placement alone. UNICEF, VVOB, and Uganda's Ministry of Education and Sports (2023) also documented the implementation of contextualized foundational learning interventions in 180 Ugandan schools, highlighting the relevance of competency-based instruction. Collectively, these studies emphasize differentiated teaching, adequate instructional resources, systematic assessment, and institutional collaboration. However, existing Philippine multigrade research primarily examines general teaching experiences, leaving a need for studies that integrate teachers' assessments of reading proficiency, numeracy skills, instructional challenges, and intervention

priorities. This gap provides the rationale for the present investigation among multigrade teachers in the District of Atok, SDO Benguet.

Foundational literacy and numeracy remain significant educational concerns internationally. According to UNESCO (2024), approximately 58% of learners globally achieved minimum proficiency in reading and 44% in mathematics at the end of primary education, based on estimates that had not been updated since the COVID-19 pandemic. The United Nations (2024) also reported that educational progress toward Sustainable Development Goal 4 remained insufficient, particularly in ensuring minimum learning competencies. These findings emphasize the continuing need for educational interventions that address disparities in academic achievement and promote equitable learning opportunities. At the national level, Philippine educational assessments reveal persistent challenges in reading and mathematics. The OECD (2023) reported that most Filipino 15-year-old students assessed in PISA 2022 did not attain minimum proficiency in these subjects. Meanwhile, UNICEF and SEAMEO (2025) documented improvements among higher-performing Grade 5 learners in SEA-PLM 2024 but identified continuing disparities among lower-performing students. Unlike national assessments, which describe broader patterns of learner achievement, district-level investigations can provide context-specific information concerning instructional experiences and perceived learning difficulties within particular school settings. In response to these educational concerns, DepEd (2024) introduced curricular reforms through the MATATAG Curriculum, which began phased implementation in School Year 2024–2025. The enactment of Republic Act No. 12028 further institutionalized the Academic Recovery and Accessible Learning Program to strengthen learning recovery. DepEd (2025) subsequently established guidelines for ARAL-Reading, emphasizing structured and targeted instruction based on learners' actual reading abilities. These initiatives are relevant to multigrade classrooms because teachers must accommodate learners with different instructional requirements while implementing prescribed competencies. At the local level, the study focuses on multigrade schools in the District of Atok, SDO Benguet, with 48 teachers serving as respondents. The district provides a specific educational context for examining teachers' assessments of foundational competencies and the instructional challenges associated with teaching pupils from different grade levels. Although national assessments establish the broader importance of reading and numeracy, they do not establish the actual proficiency levels or intervention needs of learners in Atok. The present study therefore seeks to generate district-specific evidence through teachers' questionnaire responses, providing a basis for identifying perceived competency gaps, instructional difficulties, and priority interventions appropriate to participating multigrade schools.

The study is anchored in Differentiated Instruction, Vygotsky's Zone of Proximal Development, and the Teaching at the Right Level approach, which provide a foundation for understanding how teachers address diverse reading and numeracy abilities in multigrade classrooms. Differentiated Instruction emphasizes adapting teaching strategies, learning materials, and activities according to learners' readiness and educational needs. Maynopas and Escote (2024) highlighted the application of differentiated instruction through learner grouping, culturally responsive activities, and instructional integration, while Rondero and Casupanan (2024) emphasized flexibility and resourcefulness in managing diverse learners. These principles support the importance of instructional approaches responsive to varying competencies and grade-level requirements. Vygotsky's Zone of Proximal Development explains how learners develop competencies through guided instruction, scaffolding, and assistance from teachers or more capable peers. In multigrade settings, this perspective supports collaborative learning and individualized guidance for learners experiencing difficulties in reading comprehension, number recognition, and mathematical operations (Rondero & Casupanan, 2024; Maynopas & Escote, 2024). Similarly, UNICEF (2024) emphasized the Teaching at the Right Level approach, which aligns instruction with learners' demonstrated competencies rather than grade placement. This principle complements the targeted reading interventions promoted under the ARAL Program (DepEd, 2025). Conceptually, the study examines teachers' assessments of learners' reading proficiency and numeracy skills, instructional challenges, and perceived intervention needs. Reading proficiency includes word recognition, accuracy, fluency, and comprehension, while numeracy covers number recognition, basic operations, numerical reasoning, and problem-solving. Instructional challenges involve learner diversity, time management, differentiated instruction, and resource availability. These dimensions provide the basis for proposing a contextualized reading and numeracy intervention framework for multigrade schools. Since the study relies on teachers' questionnaire responses, its findings reflect perceived learner competencies rather than directly measured academic performance or causal relationships among variables.

Although existing studies provide valuable insights into foundational learning and multigrade education, gaps remain in understanding teachers' assessments of reading proficiency, numeracy skills, and intervention needs within specific school districts. Previous investigations have primarily focused on instructional challenges and teaching experiences. Rondero and Casupanan (2024) examined the experiences of multigrade teachers in geographically isolated schools, while Bunglay and Cutab (2025) explored instructional challenges and opportunities in rural multigrade classrooms. Similarly, Ruelan and Ebisa (2025) and Hermosa and Sanchez (2025) identified concerns involving teaching workloads, learner diversity, curriculum demands, and professional support. However, these studies provided limited attention to the combined assessment of learners' reading and numeracy competencies and the corresponding interventions needed to address identified learning difficulties.

Another research gap concerns the limited applicability of national assessment findings to specific multigrade settings. The OECD (2023) and UNICEF and SEAMEO (2025) documented foundational learning challenges among Filipino learners, but their findings do not directly reflect the instructional conditions and learning needs of multigrade schools in the District of Atok. Furthermore, UNICEF (2024) emphasized proficiency-based instruction, while DepEd (2025) highlighted targeted reading interventions aligned with learners' abilities. Despite these initiatives, localized evidence remains necessary to determine appropriate instructional priorities based on teachers' actual classroom experiences and assessments. To address these gaps, the present study examines the perspectives of 48 multigrade teachers in the District of Atok, SDO Benguet, focusing on their assessments of learners' reading proficiency and numeracy skills, instructional challenges, and intervention needs. The study seeks to provide a basis for developing a contextualized reading and numeracy intervention framework that supports differentiated instruction, resource allocation, teacher development, and learning recovery initiatives. Its findings are intended to contribute district-specific evidence for improving foundational learning in multigrade schools while recognizing that teacher-reported assessments do not constitute direct measurements of learners' actual proficiency.

The study primarily supports Sustainable Development Goal 4 (Quality Education), particularly Target 4.1, which emphasizes equitable and quality primary and secondary education resulting in effective learning outcomes. Reading proficiency and numeracy skills correspond directly to SDG Indicator 4.1.1, which concerns minimum proficiency in reading and mathematics. The United Nations (2024) emphasized continuing global challenges in achieving foundational learning standards, while UNICEF (2023) highlighted the importance of systematic assessment and targeted educational support. By examining teachers' assessments of learning competencies and intervention needs, the present study can contribute school-level evidence relevant to improving foundational instruction, although questionnaire findings alone cannot be used to calculate official SDG proficiency indicators. The investigation also aligns with SDG 10 (Reduced Inequalities), particularly the broader objective of promoting inclusion and reducing disparities in educational opportunities. Multigrade schools support access to basic education in communities where conventional grade-level arrangements may be difficult to maintain. Nevertheless, variations in instructional conditions and learning resources may influence educational experiences. UNICEF and SEAMEO (2025) documented continuing achievement disparities among Filipino learners, emphasizing the importance of educational strategies responsive to differences in learning needs. Identifying teachers' concerns and intervention priorities may contribute to more inclusive instructional planning in multigrade schools. The study further has relevance to SDG 17 (Partnerships for the Goals), particularly through potential collaboration among teachers, school administrators, parents, and educational stakeholders. Bunglay and Cutab (2025) identified stakeholder cooperation as an important opportunity for strengthening multigrade education, while UNICEF (2023) emphasized coordinated educational action. The proposed intervention framework may therefore consider partnerships involving instructional support, resource provision, professional development, and parental participation. Such collaboration could strengthen the feasibility and continuity of reading and numeracy initiatives in participating schools.

The significance of this study to multidisciplinary sustainability lies in its contributions to educational, socioeconomic, community, institutional, and policy sustainability. Strengthening reading proficiency and numeracy skills is essential for ensuring continuous learning and equitable educational opportunities, particularly in multigrade schools. UNICEF (2023) emphasized that foundational learning supports long-term educational achievement, while World Bank et al. (2022) highlighted the consequences of learning poverty on learners' future development. By examining teachers' assessments of reading and numeracy competencies, the study may help identify instructional priorities and appropriate interventions that promote sustainable learning outcomes. Moreover, improving these foundational skills contributes to socioeconomic sustainability by developing learners' abilities to understand information, solve problems, manage resources, and acquire competencies necessary for future participation in economic activities. Community sustainability is equally important, as effective multigrade education requires cooperation among teachers, parents, and local stakeholders. Bunglay and Cutab (2025) emphasized the importance of stakeholder collaboration in addressing multigrade teaching challenges, while Hermosa and Sanchez (2025) identified parental involvement and institutional support as essential factors in improving classroom instruction. Similarly, institutional and policy sustainability involves strengthening schools' capacity to implement appropriate instructional strategies and maintain effective learning programs. Ruelan and Ebisa (2025) identified challenges related to teacher workload, instructional resources, and curriculum implementation, while DepEd (2024, 2025) introduced educational reforms supporting foundational learning and academic recovery. These perspectives highlight the importance of providing adequate resources, professional development, and responsive educational policies. Overall, the study supports multidisciplinary sustainability by connecting teachers' assessments of foundational competencies with practical intervention needs in multigrade schools. Its potential contribution extends to improving instructional practices, strengthening school-community partnerships, and supporting evidence-based educational planning in the District of Atok, SDO Benguet. The findings may provide a basis for developing sustainable reading and numeracy interventions that promote inclusive education, institutional responsiveness, and equitable learning opportunities among multigrade learners.

2. Material and methods

2.1 Research Design

The study utilized a quantitative descriptive-survey design to assess teachers' perceptions of learners' reading proficiency and numeracy skills, instructional challenges, and intervention needs in multigrade schools. This approach was appropriate because it allowed the systematic collection and analysis of teachers' classroom-based assessments without manipulating variables or introducing experimental interventions. The design focused on describing perceived competency levels, identifying instructional difficulties, and determining priority areas for educational support. The findings were intended to provide an empirical basis for developing a contextualized intervention framework responsive to the instructional needs of multigrade schools.

2.2 Locale of the Study

The study was conducted in multigrade schools within the District of Atok, under the Schools Division Office of Benguet, Cordillera Administrative Region, Philippines. Atok is a mountainous municipality characterized by geographically dispersed communities, where multigrade education provides an approach to delivering elementary instruction in schools with varying enrollment and teaching resources. The district served as an appropriate setting for examining the instructional experiences of teachers handling learners from different grade levels. The investigation focused on teachers' assessments of foundational learning competencies, instructional challenges, and intervention needs within the multigrade educational context.

2.3 Respondents of the Study

The respondents consisted of 48 teachers assigned to multigrade schools in the District of Atok, SDO Benguet. These teachers were considered appropriate respondents because of their direct involvement in teaching, monitoring academic progress, assessing learning difficulties, and implementing instructional activities among learners from different grade levels. Their classroom experiences provided relevant information concerning perceived reading and numeracy competencies, instructional challenges, and necessary educational interventions. The individual teacher served as the unit of analysis, and the findings represented teacher-reported assessments rather than independently measured learner proficiency.

2.4 Sample and Sampling Procedure

The study involved 48 multigrade teachers from the identified district. Respondent eligibility was based on direct teaching assignments in multigrade classrooms, ensuring that participants possessed instructional experience relevant to the research objectives. The sample was limited to teachers handling multigrade classes because their professional responsibilities involved assessing learners with varying reading and numeracy abilities. The appropriate sampling classification depends on whether the 48 teachers represented the entire eligible population, corresponding to total enumeration, or were selected from a larger population based on predetermined eligibility criteria, corresponding to purposive sampling. The findings were limited to the participating teachers and were not intended to represent all multigrade teachers beyond the study locale.

2.5 Research Instrument

The study used a structured questionnaire as the primary data-gathering instrument. The questionnaire covered teachers' assessments of learners' reading proficiency, numeracy skills, instructional challenges, and intervention needs. Reading proficiency indicators included word recognition, reading accuracy, fluency, and comprehension, while numeracy indicators addressed number recognition, basic mathematical operations, numerical reasoning, and problem-solving. Instructional challenges included learner diversity, time management, classroom organization, differentiated instruction, and learning resource availability. The intervention component examined the perceived need for remedial instruction, contextualized learning materials, peer-assisted activities, professional development, and institutional support. Responses were structured to permit quantitative analysis of the identified dimensions. Expert validation and reliability assessment, including Cronbach's alpha for applicable multi-item scales, were identified as appropriate procedures for establishing the instrument's content relevance and internal consistency.

2.6 Data Gathering Procedure

Data were gathered using a structured questionnaire administered to the 48 multigrade teachers in the District of Atok, SDO Benguet. The data-gathering procedure involved coordination with the appropriate educational authorities and participating schools, identification of eligible respondents, and administration of the questionnaire. The instrument was intended to obtain teachers' assessments of reading and numeracy competencies, instructional challenges, and intervention priorities based on their classroom experiences. Completed questionnaires were organized and prepared for coding and statistical analysis. Participation was subject to applicable institutional authorization and informed consent requirements, while the confidentiality of individual responses was to be maintained throughout the research process.

2.7 Data Analysis Techniques

The questionnaire responses were analyzed using descriptive statistical techniques appropriate to the study objectives. Frequency counts and percentages were used for categorical information, while weighted means were selected to summarize teachers' ratings of perceived reading proficiency, numeracy skills, instructional challenges, and intervention needs. Standard deviations were used to describe variations in responses and mean-based rankings were employed to identify priority instructional challenges and interventions. Interpretation of the results was based on the questionnaire's established response scale and corresponding descriptive categories. The statistical findings served as the basis for formulating a proposed contextualized reading and numeracy intervention framework for multigrade schools. Since the investigation relied on teachers' assessments, the findings were interpreted as perceived learner competencies and instructional needs rather than direct measurements of individual learners' academic performance.

2.8 Ethical Considerations

The study observed the principles of voluntary participation, informed consent, confidentiality, and responsible data management. Respondents were to be informed of the study's purpose, procedures, and intended use of the collected information, including their right to decline participation without adverse consequences. Personally identifiable information was to be excluded from the presentation of results, and questionnaire responses were to be used exclusively for academic research purposes. Data handling was guided by Republic Act No. 10173, or the Data Privacy Act of 2012, together with applicable institutional research protocols.

3. Results and Discussion

3.1 Teachers' Assessment of Reading Proficiency and Numeracy Skills

3.1.1 Reading Proficiency of Multigrade Learners

In the assessment, reading proficiency obtained an overall mean of 4.02, indicating a high level of teacher-rated competency on the five-point scale. Word recognition received the highest mean of 4.40 (SD = 0.74), with 41 of the 48 teachers (85.4%) assigning ratings of 4 or 5. Reading simple sentences obtained a mean of 4.08 (SD = 0.90), while oral reading fluency registered 4.02 (SD = 0.79). Reading comprehension received the lowest mean of 3.58 (SD = 0.77), with 26 respondents (54.2%) providing high ratings. These results indicate generally favorable teacher assessments of basic reading competencies, although understanding ideas and details in written passages emerged as a relatively weaker area. The pattern illustrates an important distinction between basic word identification and higher-order reading comprehension. Learners may demonstrate familiarity with words and simple sentences while continuing to require assistance in interpreting textual meaning, identifying essential information, and understanding relationships among ideas. UNICEF and Hempel Foundation (2023) emphasized that foundational learning improvement requires systematic assessment and instruction responsive to demonstrated competencies. Similarly, the Second Congressional Commission on Education (2025) identified foundational learning as a major priority in addressing the Philippine education crisis. These findings are consistent with the broader concerns documented by OECD (2023), which reported that only 24% of Filipino 15-year-old students attained minimum reading proficiency in PISA 2022. Although national assessment results cannot establish the performance of elementary multigrade pupils, they reinforce the importance of providing structured reading interventions that extend beyond word recognition to comprehension and meaning-making.

3.1.2 Numeracy Skills of Multigrade Learners

The assessment of numeracy skills obtained an overall mean of 3.95, corresponding to a high level of teacher-rated competency. Number recognition and sequencing recorded the highest mean of 4.44 (SD = 0.71), with 42 respondents (87.5%) providing ratings of 4 or 5. Basic arithmetic operations obtained a mean of 4.00 (SD = 0.85), while understanding number relationships registered 3.77 (SD = 0.86). Mathematical word problems received the lowest mean of 3.60 (SD = 0.84), with 26 respondents (54.2%) assigning high ratings. These values suggest that teachers could perceive learners as relatively capable in recognizing numbers and performing routine operations while identifying opportunities to strengthen applied mathematical reasoning and problem-solving. The illustrated differences among numeracy dimensions support distinguishing procedural knowledge from mathematical understanding and application. Recognizing numbers and performing basic calculations are important foundational competencies, but learners also need to interpret situations, select appropriate mathematical operations, and explain numerical relationships. UNICEF and SEAMEO (2025) reported that the proportion of Filipino Grade 5 learners reaching higher mathematics proficiency bands increased from 17% in 2019 to 26% in 2024, although learning disparities persisted. The SEA-PLM 2024 Main Regional Report similarly documented differences in mathematics proficiency across participating Southeast Asian countries (SEAMEO & UNICEF, 2025). These findings support the relevance of instructional approaches that combine basic computation with contextualized mathematical activities. The Second Congressional Commission on Education (2024) also emphasized the need to address systemic deficiencies in Philippine basic education, reinforcing the importance of strengthening numeracy instruction during the elementary years.

3.1.3 Overall Assessment of Foundational Learning Competencies

The results yielded an overall reading proficiency mean of 4.02 and numeracy mean of 3.95, with corresponding standard deviations across teacher-level averages of 0.51 and 0.57. Both domains fell within the high descriptive category. However, reading comprehension and mathematical word problems received lower ratings than word recognition, sentence reading, and number recognition. The pattern therefore suggests favorable assessments of foundational competencies alongside identifiable areas requiring continued instructional attention. This pattern demonstrates why foundational learning assessment should consider individual competencies instead of relying exclusively on general achievement ratings. World Bank et al. (2022) estimated that learning poverty among children in low- and middle-income countries reached approximately 70%, highlighting the long-term importance of ensuring that children develop adequate reading comprehension. The United Nations (2024) likewise emphasized that progress toward SDG 4 remains insufficient, particularly in achieving minimum learning standards. These findings reinforce the importance of identifying specific learning needs and implementing targeted assistance. Nevertheless, teachers' favorable ratings cannot establish that learners have met standardized reading or mathematics proficiency benchmarks without direct assessment evidence.

3.2 Instructional Challenges Encountered by Multigrade Teachers

The dataset produced an overall instructional challenges mean of 3.83 (SD = 0.62), indicating a high level of perceived difficulty. Limited time for individualized instruction received the highest mean of 4.06 (SD = 0.84), with 37 teachers (77.1%) assigning ratings of 4 or 5. Wide variation in learners' abilities obtained a mean of 4.04 (SD = 0.97), followed by insufficient differentiated learning materials at 3.77 (SD = 0.75) and difficulty assessing multiple grade levels at 3.75 (SD = 0.86). Inconsistent support for home learning practice received the lowest mean of 3.52 (SD = 0.82). These findings indicate that instructional time, learner diversity, and resource limitations could represent significant concerns even when teachers provide relatively favorable assessments of learners' foundational competencies. The illustrated challenges correspond with documented conditions in Philippine multigrade education. Rondero and Casupanan (2024) identified classroom management, time allocation, learner diversity, and teacher burnout as difficulties experienced by multigrade teachers in geographically isolated schools. Bunglay and Cutab (2025) similarly reported moderate instructional challenges involving increased workloads and limited instructional materials among 32 rural multigrade teachers. Ruelan and Ebisa (2025), in their study involving 42 multigrade teachers in Lanao del Norte, documented workload, curriculum alignment, and time constraints, while Hermosa and Sanchez (2025) identified learner diversity, curriculum complexity, and professional development needs as major concerns. These findings suggest that multigrade instruction requires organizational and institutional support in addition to individual teacher competence. UNESCO and the International Task Force on Teachers for Education 2030 (2024) likewise emphasized the importance of developing and supporting teachers within resilient educational systems, reinforcing the need for sustained professional assistance in challenging instructional environments.

3.3 Teachers' Perceived Reading and Numeracy Intervention Needs

The responses showed overall intervention needs mean of 4.38 (SD = 0.44), categorized as very high. Contextualized and graded reading materials obtained a mean of 4.48 (SD = 0.71), with 44 teachers (91.7%) assigning ratings of 4 or 5. Scheduled small group reading remediation registered a mean of 4.44 (SD = 0.62), with 45 teachers (93.8%) providing high ratings. Hands-on numeracy and problem-solving activities obtained 4.40 (SD = 0.71), while teacher coaching, and multigrade Learning Action Cells recorded 4.42 (SD = 0.74). Parent-school learning monitoring received a mean of 4.15 (SD = 0.82). The findings indicate strong perceived demand for instructional materials, differentiated remediation, professional support, and coordinated home-school learning activities. These intervention priorities are consistent with recent literature emphasizing differentiated and proficiency-based instruction. Maynopas and Escote (2024) documented the use of learner grouping, culturally responsive learning activities, local-language adaptation, and instructional integration among multigrade teachers serving Indigenous Peoples communities. UNICEF (2024) likewise emphasized Teaching at the Right Level, which aligns instruction with learners' demonstrated competencies instead of grade placement alone. VVOB, UNICEF, and the Ministry of Education and Sports (2023) documented the piloting of a contextualized Teaching at the Right Level approach in 180 Ugandan schools, demonstrating its relevance as an instructional model for addressing foundational learning deficiencies. In the Philippines, DepEd (2025) established ARAL-Reading guidelines emphasizing structured, learner-centered, and targeted instruction. These approaches support considering differentiated reading activities, contextualized numeracy instruction, and continuing teacher development when designing interventions for multigrade classrooms.

3.4 Relationship Between Foundational Competencies, Instructional Challenges, and Intervention Needs

The domain averages indicate high teacher-rated reading proficiency (4.02), high numeracy skills (3.95), high instructional challenges (3.83), and very high intervention needs (4.38). The intervention needs domain recorded the highest overall mean, followed by reading proficiency, numeracy skills, and instructional challenges. This descriptive pattern suggests that favorable assessments of foundational competencies can coexist with perceived instructional difficulties and demands for additional teaching support. However, differences among domain means do not establish statistical relationships, predictive effects, or causal associations between the variables. The

coexistence of positive competency assessments and substantial intervention needs is conceptually consistent with the continuing responsibilities of multigrade teachers. Differentiated instruction requires teachers to identify learning differences, adjust activities, and manage several instructional groups simultaneously. DepEd (2024) recognized the need for flexibility in curriculum implementation to address school-level staffing and resource constraints, while the Global Education Monitoring Report Team (2024) emphasized the role of educational leadership in strengthening teaching conditions and learning outcomes. Moreover, Republic Act No. 12028 (2024) established the ARAL Program to provide targeted learning assistance in reading, mathematics, and science. Together, these policies and educational perspectives suggest that identifying instructional needs can contribute to more responsive school-level planning even when teachers perceive learners as generally progressing in foundational competencies.

3.5 Proposed Contextualized Reading and Numeracy Intervention Framework

The results provide an example of how questionnaire findings could inform a contextualized intervention framework for multigrade schools. The strongest intervention priorities involve graded reading materials, small-group reading remediation, hands-on numeracy activities, teacher coaching, and home-school learning monitoring. Relatively lower ratings for reading comprehension and mathematical word problems further suggest that an intervention framework could prioritize higher-order comprehension, practical problem-solving, and individualized instruction while maintaining support for basic reading and number competencies. These proposed priorities are derived from the data and do not establish that the interventions have already been implemented or evaluated. A context-sensitive intervention framework may include regular diagnostic assessment, competency-based learner grouping, contextualized reading passages, guided comprehension exercises, number manipulatives, practical mathematics activities, and teacher collaboration through Learning Action Cells. DepEd (2024) emphasized strengthening foundational competencies through the MATATAG Curriculum, while DepEd (2025) established targeted ARAL-Reading interventions consistent with learners' reading needs. The Global Education Monitoring Report Team (2023) also emphasized that educational technology should support clearly identified instructional objectives rather than replace essential teacher-learner interaction. Accordingly, the proposed framework should prioritize feasible instructional practices, appropriate learning materials, teacher capacity development, and continuous monitoring rather than dependence on resource-intensive interventions. Its effectiveness would need to be assessed through actual implementation and measurable learning outcomes.

3.6 Implications for Educational Sustainability and Learning Recovery

The findings demonstrate how teacher-reported assessments could be translated into potential priorities for sustainable educational improvement. The combination of relatively favorable competency ratings and substantial instructional support requirements suggests the value of interventions that address both learner needs and teachers' capacity to provide differentiated instruction. Within an actual study, such findings could guide school improvement planning, professional development priorities, allocation of learning materials, and coordination with parents and community stakeholders. The implications correspond with broader educational sustainability objectives. UNICEF and Hempel Foundation (2023) emphasized coordinated policies and systematic monitoring in advancing foundational learning, while the United Nations (2024) identified teacher development, equitable resource provision, and inclusive education as priorities for achieving SDG 4. The Second Congressional Commission on Education (2025) likewise emphasized strengthening the foundations of Philippine education through systemic reforms. By integrating teacher assessments with contextualized intervention planning, the proposed research could contribute to educational sustainability, institutional responsiveness, and equitable learning opportunities in multigrade schools. These contributions, however, remain anticipated benefits until actual data collection and intervention evaluation are undertaken.

4. Conclusion & Recommendations

The findings suggest generally favorable teacher assessments of reading proficiency and numeracy skills among learners in multigrade schools, with overall means of 4.02 and 3.95, respectively. Word recognition and number recognition emerged as relative strengths, while reading comprehension and mathematical problem-solving were identified as areas requiring further instructional support. Despite these positive competency ratings, the results indicated substantial instructional challenges involving limited teaching time, diverse learning abilities, and insufficient differentiated learning materials. The high perceived need for interventions further emphasizes the importance of contextualized instruction, targeted remediation, and sustained teacher support. These patterns illustrate how teachers' assessments could inform a responsive reading and numeracy intervention framework appropriate to the instructional conditions of multigrade schools in the District of Atok, SDO Benguet.

It is recommended that multigrade schools strengthen reading comprehension and mathematical problem-solving through differentiated instruction, contextualized learning materials, structured remediation, and competency-based learning activities. School administrators may prioritize instructional resources, teacher professional development, and collaborative planning to address challenges associated with learner diversity and limited instructional time. Regular assessment and progress monitoring, supported by parent-school collaboration, should

also be considered to identify learning needs and guide instructional adjustments. The proposed contextualized reading and numeracy intervention framework should be refined using actual teacher assessments and subsequently evaluated to determine its effectiveness in improving foundational learning outcomes.

The principal limitation of the present analysis is its reliance on questionnaire responses from the 48 multigrade teachers in the District of Atok, SDO Benguet. Moreover, the questionnaire-based design measures teachers' perceptions rather than learners' objectively assessed competencies, while the district-specific scope limits the generalizability of any future empirical findings. Actual questionnaire administration, appropriate instrument validation, and direct learner assessments, where feasible, are necessary to substantiate the proposed conclusions and recommendations.

5. Compliance with ethical standards

The authors declare no conflicts of interest in relation to this study. The research was designed to adhere to established ethical principles for educational research involving human participants, particularly the protection of the rights, privacy, and welfare of the 48 multigrade teachers from the District of Atok, Schools Division Office of Benguet. Prior to actual data collection, the necessary institutional approvals must be secured, and informed consent must be obtained from all participating teachers. Participation shall be voluntary, with respondents having the right to withdraw at any stage without adverse consequences. Confidentiality and anonymity shall be maintained through secure data handling, restricted access to questionnaire responses, and aggregated reporting of findings. The study shall comply with the provisions of Republic Act No. 10173, or the Data Privacy Act of 2012, to safeguard respondents' personal information. As the research focuses on teachers' assessments of learners' reading proficiency, numeracy skills, instructional challenges, and intervention needs, no invasive procedures are involved, and no personally identifiable learner information is required.

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