

## **Multigrade Classes in the Philippines: Will It Address the Education Crisis for Reading and Numeracy?**

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### **Abstract**

*This paper is a narrative policy review and conceptual analysis that aims to explore the effectiveness of Multigrade Education in responding to the crisis in literacy and numeracy in the Philippines. Multigrade teaching has been proven to be effective in solving the problem of getting sufficient access to learning, particularly in remote and under-populated areas. This is a program in which one teacher teaches two or more different grade levels in the same classroom through the entire school year. The use of multigrade teaching has long been practiced in the Philippines in response to the shortage of teachers and access to schools in remote areas. The multigrade teaching in the Philippines has been found to have the potential to increase access to education, but further enhancement is needed. These include recruitment of additional teachers and building of classroom buildings and facilities for multi-grade education in the remote regions. Also, an integrated program into pre-service teacher education and collaboration with external stakeholders to a greater extent, as well as systemized training and support for teachers, is needed. To address the educational gaps revealed by the international assessments in reading and numeracy, where the country achieved low scores, it must establish a long-term policy aimed at continuous assistance to the teacher, strengthen the infrastructure, budget for learning resources and materials, and set up a close relationship with external actors. The multigrade program has provided training opportunities, but needs to be further refined to provide the optimal quality of education in the Philippines. Therefore, with proper support of teachers, appropriate learning materials, and inclusive policy follow-up and implementation, multigrade education is shown to be an effective way of providing access to education and promoting the development of reading skills in geographically remote areas, as suggested by the review. It also indicates, however, that the benefits of multigrade education for the national literacy and numeracy levels can be significant only if there are strong institutional supports for it.*

Keywords: multigrade classes, reading, numeracy, education

## **Introduction**

The Philippine education system continues to face serious challenges in literacy and numeracy, as reflected in the country's poor performance in international large-scale assessments such as the Program for International Student Assessment (PISA) and Southeast Asia-Primary Learning Metrics (SEA-PLM). While the pandemic intensified learning gaps, longstanding structural problems such as teacher shortages, inadequate classrooms, unequal resource distribution, and educational inaccessibility in remote communities remain central concerns. One of the longstanding strategies implemented by the Department of Education to address these inequities is multigrade education.

Multigrade classes are affected during the pandemic, which necessitate different learning modalities. Although distance learning modalities provided a crucial solution for education during the pandemic, they also revealed pre-existing disparities in access and available resources. In online distance learning, the digital divide became evident. The digital divide refers to the gap between those with access to digital technologies and those without access (Sogue & Natividad, 2024). In education, the digital divide means that students who lack access to technology and the internet are at a disadvantage compared to those who have them (Niyang Bai, 2023). In printed modular distance learning, the need for instructional supervision for teachers to maintain excellent quality and address the current shortcomings in education was highlighted in the study conducted by Talimodao and Madrigal (2021). The transition to digital platforms has underscored the need for increased investment in infrastructure and teacher training to ensure equitable and universal access to excellent education for all individuals.

Currently, the Philippines has resumed traditional face-to-face learning; however, it is still contending with the repercussions of the pandemic. The sudden onset of the pandemic exacerbated existing educational challenges, such as reading and numeracy, resulting in more learners being left behind and an increased growth of learning gaps across all levels.

While pandemic-related disruptions worsened learning poverty, the educational crisis in the Philippines predates the COVID-19 pandemic. Strong and enduring interventions in education, including multigrade, can certainly not be neglected when assessing viable routes to improving literacy and numeracy. The Southeast Asia-Primary Learning Metrics (SEA-PLM) assessment in 2019 showed that 90% of Grade 5 learners lacked basic reading skills to read simple texts or understand important ideas (Southeast Asian Ministers of Education Organization & UNICEF, 2019). In 2022, the World Bank also published a study that reaffirmed this crisis. The data they found showed that 9 out of 10

Filipino children aged 10 cannot read and understand even simple age-appropriate readings, which generally align with the term learning poverty (World Bank, 2022). It is an alarming rise of 1% on the pre-pandemic figures, which shows the negative effect of COVID-19 on educational outcomes. Additionally, the Philippines placed among the bottom 25 countries (of 81) in reading, mathematics, and science in the 2022 Program for International Student Assessment (PISA). These dismal rankings highlight the significant challenges faced by the Philippine education system and raise serious concerns about the quality of education Filipino students receive.

Lack of resources and infrastructure such as books, computers and laptops, classrooms, and the insufficient number of teachers, are believed to be among the challenges faced by the current Philippine education system in improving the quality of education (Gabriel et al., 2025; Guansing & Natividad, 2024). The study conducted by the Philippine Institute for Development Studies (2022), as cited by Navarro (2022), indicates that the school infrastructure in the Philippines is inadequate and needs to be improved. The study reveals that there has been an improvement in decongesting the schools, but there is a spatial inequality in the ratio of classroom/student ratio, which needs to be tackled. There are also additional needs for additional classrooms in certain remote areas where school buildings have not yet been constructed to quality and safety standards, despite their high demand, and existing classroom buildings become uncontrollable due to wear and tear and natural disasters. Meanwhile, the Department of Education (DepEd) has also announced the lack of classrooms in the country. According to the 2019 National School Building Inventory, the Philippines has a shortage of 167,901 classrooms (Ordonez & Tan, 2023).

Furthermore, the 2022 Programme for International Student Assessment (PISA 2022, 2023) revealed that a substantial proportion of students in the Philippines faced limitations in their learning environment. Specifically, 63% of students were enrolled in schools where principals reported a lack of digital resources and 63% in schools with inadequate or poor-quality resources, hindering instruction. Additionally, 43% of students attended schools with reported teacher shortages and 19% with inadequate or poorly qualified staff. Interestingly, the study also showed a significant negative relationship between teacher shortage and mathematics performance, where students from the schools that reported experiencing teacher shortages had poorer mathematics performance than students from the schools that reported having enough teachers.

While the Multigrade Program in Philippine Education (MPPE) has been expanded, the effectiveness of this program in achieving better learning outcomes in literacy and numeracy is still a topic of great consideration. Many previous studies have discussed the benefits and problems of multigrade classes, yet there are few syntheses on whether the

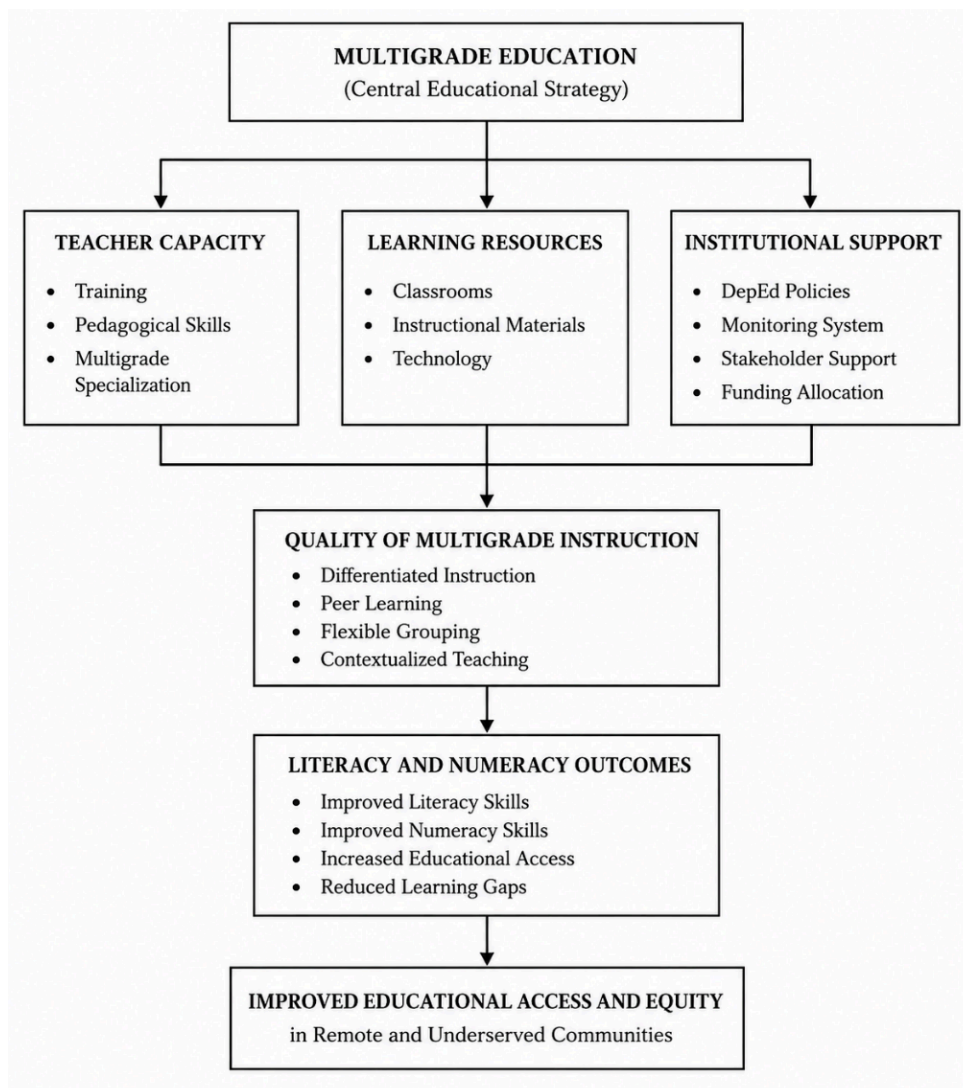
program can significantly resolve the current education crisis in the country. This paper seeks to critically study the status of multigrade classes as a response to the literacy and numeracy problem in the Philippines in relation to the existing policies, practices, teacher-related issues, classroom conditions, and educational outcomes. More concretely, the paper assesses the ability of multigrade education as an effective and viable way to enhance basic learning in disadvantaged communities.

### **Research Design**

A narrative policy review and conceptual analysis approach was used in this study. The paper compiles a literature review on multigrade education in the Philippines and outside the country from the respective governments, international assessment results, as well as policy documents on the subject. Thematic analysis was used in the study to identify the issues that were consistently identified within the multigrade classrooms with regard to teacher capacity, instructional resources, classroom conditions, and literacy and numeracy outcomes. The main purpose of the review was to critically examine the effectiveness of multigrade to address the current education crisis in the Philippines.

### *Conceptual Framework*

This paper is anchored on the assumption that multigrade education works best to enhance literacy and numeracy when using an education-based approach that takes into account interconnections among educational factors. Multigrade education itself, which is the practical educational intervention that is the main focus of this study, is thematized in the conceptual framework of this study in relation to the crisis of literacy-numeracy in the Philippines. The analysis is built on a narrative policy review and conceptual approach, and it is based on the premise that many aspects of multigrade education, such as teachers' capability, learning inputs, and school infrastructure are interlinked, as shown in the figure. Teacher capacity is defined by pedagogical capability, multigrade specialization, continuous professional development, and learning resources which are defined as classrooms, instructional resource and teaching technology that are required for good education delivery. Institutional support also refers to the policies, monitoring systems, funding criteria, and cooperation among stakeholders that, in their aggregate, impact how a multigrade program gets implemented.



**Figure 1.** Framework of the study

The framework also assumes that the conditions put forth directly impact the quality of this multigrade teaching, which will in turn impact the literacy and numeracy results of learners in geographically isolated and underserved communities. Multigrade education may be implemented with differentiation, peer-assisted learning, flexible grouping, and contextualized teaching through the use of which skills in foundation learning may improve, as well as educational access. It is also important to note that, while multigrade education can contribute to better attainment, it is not a standalone strategy that can achieve the outcome in the absence of sufficient institutional and policy support. The model thus underscores the importance of not just the availability of multigrade classes but also the quality of their setting and the institutional support of the program.

*Multigrade program in the Philippine education (MPPE)*

These educational disparities in the Philippine education system have been a perennial problem since the late 20<sup>th</sup> century. With one of the Department of Education's (DepEd) strategic measures, schools have implemented multigrade classrooms through the Multigrade Program in Philippine Education (MPPE), addressing these challenges of access to education, inadequate classroom infrastructure, teacher shortages, and other educational disparities in the Philippine basic education system. The MPPE has made a substantial impact on the DepEd's goal of providing equal access to education and maintaining its quality in approximately 19% of public elementary schools located in remote, underserved, and thinly populated communities in the Philippines since 1993 (DepEd et al., 2020).

Multigrade classes are classrooms that have one teacher teaching two or more grade levels within the same classroom throughout the school year. This is a program executed to increase access to basic education and achieve quality education results for students in remote areas who had low access to basic education, not enough to establish monograde classes. This policy was also adopted to align with the aim of the government to ensure the universalization and compulsory attendance of all Filipino children in primary school, as provided by Republic Act No. 9155 in 2001. Under this mandate, the education department has to establish functional elementary classrooms in every barangay, which can consist of multi-grade classes in some remote barangays. The creation of multigrade classes in elementary schools puts an additional workload on teachers. For this reason, multigrade teachers are given a special hardship allowance based on the DepEd Order 81, s 2009. This instruction also includes the implementation of multigrade education in accordance with the department's policy for enabling school-age children in remote villages to receive quality education, particularly when the number of students is not adequate to support the opening of monograde classes. This directive calls for the gradual incorporation of the Multigrade program in the Philippine Education system.

The intended goal of the Multigrade Program in Philippine Education (MPPE) was to expand equitable access to basic education in geographically isolated and disadvantaged areas. In terms of access, the program has achieved significant progress by allowing small schools to offer complete elementary grade levels despite limited enrollment and teacher shortages. However, the actual outcomes reveal persistent implementation gaps. Multigrade schools continue to experience shortages in classrooms, learning materials, teacher training, monitoring systems, and instructional support. As a result, improved educational access has not consistently translated into improved literacy and numeracy performance.

*Advantages and disadvantages of multigrade classroom*

While teaching a multigrade classroom presents significant challenges, several positive aspects emerge through different studies showing the advantages of multigrade classrooms in education. Proehl et al. (2013) highlighted that although transitioning to multigrade classrooms did not significantly impact student outcomes measured by absences, tardiness, or academic performance, it did foster positive changes in student behavior. These included increased nurturing behaviors towards peers, a sense of shared responsibility within the classroom and home environment, reduced disciplinary incidents, and enhanced respect for classmates. Multigrade classrooms also offer the benefit of both review and new learning opportunities within the same space, according to Gürel et al. (2014). Upper-class students solidify their understanding by revisiting past topics, while lower-class students gain exposure to new concepts without feeling overwhelmed. Another key benefit of multigrade lies in leveraging student heterogeneity (Hyry-Beihammer & Hascher, 2015). This diverse learning environment allows teachers to capitalize on individual strengths and talents to support their classmates (Natividad, 2022). Students with advanced skills can act as facilitators and "little experts" for their peers, fostering a collaborative and supportive learning environment.

Moreover, the appropriate utilization of strategies and approaches in the classroom, such as spiral curriculum, differentiated instruction, peer learning, integrated teaching, reading classes, and different groupings, can have positive effects on the behavior and academic achievement of the learners and are particularly effective in acknowledging and harnessing student heterogeneity (Hyry-Beihammer & Hascher, 2015). These approaches ensure that all learners receive appropriate instruction and support, regardless of their levels. Other advantages include a student-centered teaching-learning process, flexible education, a safe and calm atmosphere, easy implementation of innovative changes, support of individual learning speed, and flexible enrollment to school (Kalaoja & Pietarinen, 2009).

In the Philippines, some research findings show the significant positive impact of utilizing multigrade classrooms in education. According to Ballesteros and Ocampo (2016), a multigrade classroom has numerous advantages, which include access to education for children in remote and isolated villages, addressing the problem of limited access to education, providing meaningful learning experiences, and making learning more effective in multigrade classes. Also, it allows for continuous progress and provide opportunities for students to gain self-knowledge as they interact with peers of different ages; expands access to education, particularly in economically and socially disadvantaged areas, contributing to the goal of combating poverty; offer opportunities for cognitive stretching, peer tutoring, and behavior stretching, benefiting learners of different abilities and ages; and teachers

perceive benefits of multigrade teaching, including the development of self-study skills, cooperation across age groups, and discreet organization of remediation and enrichment activities.

With appropriate application of classroom strategies, such as collaborative learning, differentiated instruction, and technology integration, the abilities and skills of multigrade learners can be enhanced and allow them to compete effectively in larger schools (Naparan & Castañeda, 2021). These strategies can help multigrade learners achieve their respective grade levels' curriculum goals, foster holistic development, and connect their learning to real-life situations. In the review conducted by DepEd (2020), which examined the current situation and practices of multigrade schools in the Philippines, the findings revealed that academically, multigrade learners are performing at the same level as, and in some cases even surpassing, monograde learners in Mathematics and Araling Panlipunan sub-tests. Furthermore, in the subjects of English, Filipino, and Mother Tongue, students who were enrolled in multigrade classes achieved notably higher scores compared to students in monograde classes in all aspects of the 2014-2015 Language Assessment for Primary Grades (LAPG) examinations, except in listening comprehension in Filipino.

While multigrade education offers numerous benefits and can profoundly impact learners, challenges and areas for improvement need to be addressed. According to a study by Kucita et al. (2013), future teachers expressed their preference not to teach in multigrade schools due to several challenges. These challenges include inadequate resources, difficulties with timely adjustment to the aligned curriculum, and limited capacity building among teachers. Gürel and colleagues (2014) also had similar findings that pre-service and in-service training provided is inadequate, the level of access to the benefits of the courses is insufficient, and they struggle with accommodating individual differences. In Africa, Turkey, and the Netherlands, multigrade teachers face several hurdles including transportation difficulties, parental illiteracy, disadvantaged economic backgrounds, high teacher workload, time constraints, language barriers, and teacher-related obstacles in the teaching and learning process (Blease & Condy, 2014; Engin, 2018). The absence of parental engagement in their children's education, inadequate government funding, limited resources, underqualified teachers, and the presence of multigrade teachers are significant obstacles to achieving successful education. In Turkey, teaching English in multigrade classes is considered challenging due to the teacher's apparent lack of proficiency in the topic (Şeyma Dogan et al., 2020). Consequently, the academic achievement of children in multigrade classes is diminished (Checchi & De Paola, 2018). Khazaei et al. (2016) revealed similar disadvantages that the teachers face in multigrade classrooms: lack of time, lack of students' motivation, academic failure, lack of proper class management, inappropriate age

composition, lack of attention to students' individual needs, lack of educational facilities, lack of educational justice, and inadequate authorities' support.

In the Philippines, primary school teachers, particularly those in rural and distant areas, face challenges such as inadequate training and insufficient resources and funding (Magno, 2014). Furthermore, multigrade schools are located in isolated regions. Subsequently, multigrade teachers devise strategies to enhance their service to the pupils. They altruistically allocated a portion of their income to get educational resources for their students (Castigador, 2019). They are pooling their resources to benefit their students. During the apprenticeship period of elementary teachers, their mentors underwent training to prepare them for the real-world challenges of teaching. However, this preparation does not specifically address the complexities of teaching many grades simultaneously (Quinco-Cadosales, 2017).

In the review conducted by DepEd (2020), multigrade classrooms in the Philippines lack basic features of the classroom including WASH-in-School (WinS) facilities, teacher incentives, teaching and learning resources, including Mother Tongue- Based Multi-Lingual Education (MTB-MLE) resources, and fund allocation. Furthermore, it can be identified that there are several functions of teachers which include administrative, curriculum development, and community engagement. This may result in higher workload, higher stress, and potentially less time for targeted instruction and planning, and insufficient instructional oversight of school administrators and supervisors, such as limited access to continuous professional development, inadequate supplies for differentiated instruction, and insufficient guidance on how to implement curriculum in a multi-grade context to assess the extent to which students are learning the material. This is because teachers have no feedback or data to inform their decision-making, thereby affecting their professional development practices and ultimately student learning outcomes.

While numerous studies report positive social and behavioral outcomes in multigrade classrooms, evidence regarding academic effectiveness remains mixed. Several studies suggest that multigrade learners perform comparably or even better than monograde learners in selected language-related assessments, particularly when differentiated instruction and peer learning are effectively implemented. However, other studies indicate lower achievement in numeracy and standardized testing when teachers lack sufficient preparation, resources, and instructional support. These findings suggest that the effectiveness of multigrade education depends less on the structure itself and more on the conditions under which it is implemented.

*Class size as an indicator of multigrade class*

Several countries worldwide, including the Philippines, have adopted a multigrade teaching strategy to address challenges related to teacher shortages, insufficient school facilities, and low student enrollment (Bennell, 2022; Fargas-Malet & Bagley, 2022; Kobayashi, 2021; Şahin et al., 2022; Shareefa, 2021). The Basic Education Report (2023) said that there are currently 7,952 multigrade schools out of the 44,931 public schools in the Philippines.

Elementary schools serve as the primary settings for multigrade courses, where educators simultaneously instruct multiple classes spanning various grade levels (Motamedi & Khajouie, 2020) and students are of different age levels. The practice of teaching multiple grades has been prevalent in the Philippines since the 1920s. However, the formal implementation of the "Multigrade Program in Philippine Education (MPPE)" began in 1993 (Cabalo & Cabalo, 2019). The "DECS Order No. 38," 1993, aims to enhance accessibility to basic education by ensuring that all public elementary schools offer complete grade levels by implementing multigrade classrooms. To realize the goal of "Education for All" (EFA) and to tackle the issue of a lack of teachers, one of the alternative methods that was employed was multigrade teaching (Esguerra & Natividad, 2025; Mortazavizadeh et al., 2017). Organization, operation, and execution were in accord with the rules and guidelines given in DECS Order 96, 1997. A strategy being used by the DepEd to ensure that all school-age children, including those living in far-flung areas, are equally provided with high-quality education.

Class size is being considered, with the exception of it being remote and distant, and that monograde classes are not feasible. If the number of students is below the required minimum in classes, these are set up as multigrade classes. This is one measure that can be taken to make use of the limited supplies available and to overcome the lack of teachers. Even though this approach has led school-age children to some form or another of education, there are still educational challenges that need to be solved. One of these is its effectiveness. At a theoretical level, there could be positive or negative results for student attainment as a consequence of grade mixing. On a positive aspect, a diverse environment with varying age groups, skills, and maturity levels can enhance cognitive abilities (Balansag et al., 2018; Ballesteros & Ocampo, 2016; DepEd, 2020; Gürel et al., 2014; Hyry-Beihammer & Hascher, 2015; Kalaoja & Pietarinen, 2009; Naparan & Alinsug, 2021; O'Connor & Natividad, 2023). On the other hand, the requirement for teachers to switch between programs and interact with students of different needs or skills may diminish the effectiveness of their teaching (Blease & Condy, 2014; Checchi & De Paola, 2018; Engin, 2018). As teachers become less effective, learners' academic performance tends to decline, resulting in decreased levels

of achievement in the classroom. In the study by Checchi and De Paola (2018), students in multigrade classrooms achieve lower scores in standardized tests for literacy and numeracy compared to students in single-grade settings. The influence on reading score is very small and not always statistically significant, but there is a large and very statistically significant influence on the numeracy score.

Student load is measured in class size, which is the number of students a teacher interacts with during a set of instructions. The mean class size is an important factor in determining the classroom context of the students' learning. In the United States, small class sizes are highly regarded for their capacity to augment opportunities for students to receive personalized education from their teachers and reduce the difficulties teachers encounter while managing large student populations (National Center for Education Statistics, n.d.).

Undoubtedly, the size of classes has a marked impact on pupils' achievement. Research from the US National Council of Teachers of English (NCTE) (2014) indicated that lower class sizes resulted in better academic achievement in all areas and measures relative to higher class sizes. NCTE also believes that, with smaller class sizes, students actually benefit in terms of student performance, student engagement, long-term success, teacher retention, and cost. Students are on par, one to two months ahead in content knowledge within the classroom, and excelling in standardized testing compared to other students. It is important to mention that certain studies examine student assessment outcomes by focusing on individual student performance (Kappell, 2023; Reichel, 2023), while others analyze the performance of the entire class as a whole (Andersson & Palm, 2017; Kwak et al., 2015). This can understandably make it harder to see the different levels of attainment of students. Small class sizes are most visible among the students attending elementary school (Motamedi & Khajouie, 2020) and gain visibility and significance as students remain in small classes for longer periods. In particular, students assigned to smaller classes in the early grades of elementary school benefit from their allocation to smaller classes even if their assignment to later grades of elementary or middle school is to larger classes. Brühwiler and Blatchford (2011) and Chingos (2013) found that smaller classes were associated with greater academic gain, active learning, and better classroom behaviors. In addition, smaller class sizes enhance the academic outcomes of minority and at-risk students and English language learning students. As with writing in general, the size of class that students write in is a critical factor in the quality of writing instruction at any grade or level of education, including at college, since smaller classes are essential for students to be given ample feedback on multiple drafts (Ogunyemi, 2022).

As far as student engagement is concerned, NCTE highlighted that smaller classes provide greater student engagement and active participation and increase their interaction

with professors in contrast to passive listening. Students in smaller groups say they get on better with the teachers, and generally rate the class and the teachers better than those in larger groups. Teachers have more instructional time when there is less misbehavior in the classrooms, and the teachers are not continually “disciplining” for the duplicate lesson attendance. Smaller class sizes allow teachers to discover and track students' learning outcomes with precision and respond to a student's needs with personalized instruction. They have better access to technology and fewer times they are less distracted or uninvolved in an in-class activity due to smaller class sizes. The teachers can evaluate and monitor the learning of their students in smaller classes as well.

Academically, small class size in the early elementary grades has long-term positive impacts and is related to academic and personal success. Researchers have discovered that decreasing the number of students in a class can impact socioeconomic aspects such as income potential, enhanced civic behavior, reduced crime rates, and reliance on welfare. Being allocated to a small class also enhances the likelihood of attending college, resulting in positive outcomes. The benefits are the greatest in the interest of marginalized and underprivileged groups. For all students, the likelihood of occurrence is now 2.7% higher; for African American students, the likelihood that they attend a school with a score of 3 or more is 5.4% higher; for children in the US's lowest-thirds of institutions, it is 7.3% higher (Dynarski et al., 2013).

As for the retention of excellent teachers, the size of classes influences the retention of excellent teachers; those having larger classes are more likely to want to pursue other careers (Gürel et al., 2014; Kucita et al., 2013). Because of the changing nature of schooling, the recruitment and retention of exceptionally skilled teachers is now and forever a key issue. The educational path is becoming more of an art due to the high importance of student test scores and academic performance by school districts, and the greater impact that teachers have on students' learning.

Finally, overcrowded classrooms create difficulties for students to attend classes focused, and limit the use of alternative methods of teaching by teachers (such as cooperative learning and working in groups). It may lead to an unbalanced teaching load for teachers of smaller classrooms, high staff stress levels, and more strained relationships with the children they teach (Jones, 2017).

Prior to the onset of the COVID-19 pandemic, Philippine schools were known to be very crowded, unlike those of other Asian nations. Germany and the Philippines had a higher ratio (43.9 students per classroom) than Malaysia (31.7 students per classroom), Japan (28.6 students per classroom), and India (40 students per classroom), in the early 2000s.

Likewise, the average number of students per class in each of the Philippines' high schools was 56.1 students per class while the average class numbers for Malaysia, Thailand, Japan, and India were 34, 41.5, 33.9, and 39.8 students per classroom, respectively. The statistics have shown significant improvement over the years, especially in urban areas (Araneta & Porcalla, 2006). As of School Year 2020-2021, the national teacher-to-learner ratio is at 1:27 in elementary, 1:24 in Junior High School, and 1:27 in Senior High School (Department of Education Planning Service, 2022).

### *Teachers in multigrade class*

It is pivotal to note that the success of the implementation of a multigrade class depends on the proficiency and support provided by the teachers. When teachers lack proficiency in the topic, teaching in multigrade classes would be hard, especially in English subjects (Şeyma Dogan et al., 2020). This problem will further impede the academic development of the students since language is essential in learning other subjects (Vollmer, 2007; Caronan & Natividad, 2023). Numerous studies also reveal teachers' perspectives on teaching multigrade classes. In a study by Kucita et al. (2013), future teachers expressed their preference not to teach in multi-grade schools due to several challenges such as inadequate resources, difficulties with timely adjustment to the aligned curriculum, and limited capacity building among teachers. Gürel et al. (2014) also revealed that pre-service and in-service training provided is inadequate, the level of access to the benefits of the courses is insufficient, and teachers struggle with accommodating individual differences due to a lack of training. Blease and Condy (2014) showed in their study that in Africa, Turkey, and the Netherlands, multigrade teachers face challenges in transportation, parental illiteracy, disadvantaged economic backgrounds, high teacher workload, time constraints, language barriers, and teacher-related obstacles in the teaching and learning process.

In the Philippines, primary school teachers, particularly those in rural and distant areas, face difficulties in teaching multigrade classes such as inadequate training and insufficient resources and funding (Magno, 2014). Moreover, multigrade schools are situated in remote areas, hence posing challenges in the provision of adequate resources. In order to address this issue, multigrade teachers employ measures to improve their provision of services to students by utilizing their personal funds.

Policies that address the shortage of teachers PISA (2022), additional support for training of teachers (DepEd, 2020; Engin, 2018; Tayoni & Abocejo, 2023), curriculum alignment to pre-service teachers (Gürel et al., 2014; Kucita et al., 2013), sufficient funding of resources (DepEd, 2020; Tayoni & Abocejo, 2023), and stakeholders' support (DepEd, 2020;

Tayoni & Abocejo, 2023) are ultimately essential to successfully achieve the goal of multigrade programs in providing the students with quality education.

### *Learning resources and facilities in multigrade programs*

The difficulties linked to the implementation of multigrade courses are diverse, with recognized problems including a lack of classrooms and inadequate educational facilities, as emphasized by Naparan and Castañeda (2021). The review of the current practices of the multigrade program in Philippine education, conducted by DepEd (2020) also revealed that multigrade classrooms in the Philippines lack basic features of the classroom including WASH-in-School (WinS) facilities. Especially in rural areas, the lack of proper school infrastructure poses a major obstacle, leaving many educational institutions in an unsatisfactory condition (Tomaro, 2018). The effects of such poor facilities cannot only be taken lightly; they can also make their services unsafe, ineffective, and less efficient.

It is important to recognize the significance of the teaching environment in affecting students' learning process and their academic performance, as emphasized by du Plessis and Mestry (2019). An important factor in evaluating the impact of these circumstances is the teaching environment. The educational setting has a dramatic impact on both teachers and students, greatly influencing the quality and results of the learning process.

Poorly-equipped classrooms not only make learning more difficult for teachers, but they also make it difficult for students to learn and engage. Therefore, it is essential to have a well-equipped classroom for this reason to ensure the ideal learning environment. A classroom of this kind includes the required instructional resources that respond to students' and teachers' diverse needs. They are crucial educational resources such as various technical resources along with teaching aids for enhancing the teaching and learning experience. The benefits for teachers are numerous, particularly in that they have a set of tools that add interactivity and dynamism to their classes, and bring a dramatic increase to the effectiveness of their teaching. It can be beneficial for a student to be provided with the proper tools that encourage curiosity and promote understanding.

The need to tackle the difficulties related to insufficient classrooms and educational facilities cannot be emphasized enough. There is a need to focus on improving the educational facilities in rural communities so they can create a conducive environment for teaching and learning to be effective. However, educational stakeholders can play a very active role by ensuring that classrooms are well-equipped with cutting-edge technology and providing school staff with the tools and resources needed for extraordinary instructional excellence while contributing to students' successful learning experiences.

In summary, the findings of the literature review show that there were conflicting results in relation to the effectiveness of multigrade teaching within the context. In general, positive outcomes are linked to smaller classroom sizes, cooperative learning experiences, a focus on differentiated instruction, and support for teachers. However, the negative results are often associated with poor teacher training, poor teaching materials, teacher workload, and poor policy implementation. The results suggest that multigrade teaching itself is not good or bad, but it depends on the way it is implemented, the levels of institutional support, and socio-economic conditions.

## **Conclusion**

The reviewed studies assume a consistent pattern with regard to three major implementation gaps: inadequate teacher training, insufficient instructional materials, and weak support mechanisms in the institutions. Altogether, the gaps curtail the ability of multigrade education to enhance learning results. While a multigrade class may offer greater flexibility, opportunities for peer learning, and some access to education, it undermines the effectiveness of these classrooms when teachers are over-curricular, insufficiently trained and resourced, or are ill-equipped for the diverse range of tasks they would typically manage if they were teaching only one grade level. Hence, a successful implementation of multigrade education is not only accessible from the organizational aspect of the class but also needs to be seen through the scope of the system and policy factors.

The evidence is quite clear that at least multidistributionally addressing this challenge in the Philippines of the literacy and numeracy problem through using multigrade education is also possible to improve access to education and promote participation of learners in areas that are underserved. However, the multigrade system alone will not be a solution to the larger educational problems without a larger-scale reconstruction of teacher training, resource distribution, improvement of infrastructure, and standards in the quality of instruction.

Under certain educational and policy conditions, multigrade education can help to respond to the literacy and numeracy problems in the Philippines, especially in GIOs. The evidence analyzed in this paper indicates several aspects of how well multigrade work can increase access to school and facilitate co-learning opportunities. It really has the potential to effectively enhance learning outcomes in literacy and numeracy, but is ineffective in the face of weak institutional leadership, high student-teacher ratios, limited learning materials, and poor teacher preparation.

While the effectiveness of the multigrade approach to extending education to remote areas and sparsely attended ones has been shown, more advanced solutions are needed to make this approach work. This involves extensive restructuring of teacher education policies, ensuring that teachers have the necessary skills to meet a range of challenges faced in multigrade classrooms. In addition, it is essential to focus on providing adequate learning resources and facilities to provide a better education to students.

Engaging the community is an important component for addressing low achievement issues. Schools must build solid mechanisms of interaction and cooperation with the surrounding community. The partnership fosters a sense of ownership and accountability, and provides a deeper understanding of the communities being served and the challenges that they face.

Furthermore, to be effective in mitigating education gap imbalances highlighted by international assessments, it is crucial to have a long-term commitment to providing regular, sustained support to educators. This will involve initial training opportunities, as well as regular professional development, which ensures teachers are informed about the latest pedagogical techniques and best practices. Investing in educator development and support is an investment that directly affects the children in their care, which will help them see better long-term success and growth.

Finally, there is a need for a holistic assessment and enhancement of the Philippines' educational system. In order to create an environment for education that is more accessible and inclusive, the country should look towards increasing the availability of teachers, creating more structured education facilities, providing teacher education/training, and increasing community engagement in education. This will ensure high-quality instruction for all children, no matter where they reside, and prepare them for future challenges.

Multigrade education is therefore not to be considered as a solution to teacher shortages alone, but as a "special" mode of education, to be supported through specific investment and policies. Multigrade education can have a positive impact on the literacy and numeracy skills of marginalized learners when supported by professionally trained teachers, a sensitive curriculum design, smaller classes, adequate curriculum resources, and regular teacher professional development.

In the future, sustainable multigrade education in the Philippines could be based on a "Sustainable Multigrade Education Framework" based on four interconnected dimensions of sustainable education: (1) increase the capacity of teachers in pre-service and in-service multigrade specialization, (2) strategically allocate multigrade classrooms, digital tools and

contextually based learning resources, (3) establish responsive monitoring and assessment systems for literacy and numeracy outcomes, and (4) foster collaboration among schools, LGUs, communities, and external stakeholders. In these integrated reform processes, multigrade education could grow from an access-oriented measure to a quality-oriented system that can be a long-term reform to improve educational outcomes.

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