

Multigrade Teaching Environment: Unleashing the Impact on Students' Literacy Outcomes in Under Resource Areas

Ruth Salamat*

Alia Majeed**

Abstract

Multigrade teaching in Pakistan is important because it tackles the nation's particular literacy needs particularly in underprivileged areas. Multigrade teaching has emerged as a viable way to educate all pupils considering teacher shortages, packed classrooms, and inadequate school facilities, especially in rural and low-income metropolitan regions. Comprehending multigrade teaching in Pakistan provides valuable perspectives on how to modify education to surmount these obstacles and attain inclusive, high-quality education for everyone. Present research was done to study the impact of multigrade teaching on the students' literacy outcomes in rural areas. The objectives of this research were to a) assess the impact of multigrade teaching in improving students' literacy outcomes; and) identify the challenges faced by teachers in implementing multigrade teaching. This study was delimited to all the multigrade teachers of urban and rural areas of Islamabad, Rawalpindi and AJK. A questionnaire was prepared for Head teachers and teachers for collection of data. The convenient sampling method was applied by selecting 40 teachers. The validity and reliability of the instrument was checked by the experts. The findings of the study showed that majority of the public-school teachers agreed that multigrade teaching enhances students' literacy skills. However, good planning, effect teaching strategies and activities improve the teaching learning process and learners' outcomes in multigrade teaching. However, time management, provision of quality educational facilities, technology-embedded learning environment and are big challenges in improving multigrade teaching.

Keywords: *Multigrade Teaching, Academic Achievement, Perception*

* (Principal, Islamabad Model College for Girls, Banigala, Islamabad.
eshban.ruth1@gmail.com)

** (EST, Girls Middle School, District Poonch, AJK.
aliamajeedziakhan22@gmail.com)

Introduction

In Multigrade teaching, a single teacher teaches students in multiple grades in the same classroom, is a widely used approach in Pakistan, particularly in rural and remote areas because of limited resources and staff. In Economic constraints and the shortage of sufficient teachers, multigrade classrooms have become a single solution, particularly in primary education. In these situations, it becomes necessary for teachers to teach different age groups and levels, and to make adaptive and flexible learning possible.

Multigrade teaching is usually connected with rural areas in Pakistan; however, in urban areas like Rawalpindi multigrade classrooms are also in practice, due to different issues such as teacher shortages, over-crowded classrooms and lack of infrastructure. Institutions' overcrowded condition becomes a source of unique issues, such as addressing varied learning abilities, managing large class sizes, and maintaining students' engagement. Teachers need to be efficient in managing the time, in differentiated instructions and how to adapt to the curriculum.

To manage the multigrade classrooms effectively, efforts are going to be made regarding teachers' training and resources. But due to lack of tailored instructional materials, minimal professional development and limited support is becoming a great hindrance in achieving the goal (Nawab & Baig, 2011).

Literature Review

In Pakistan Multigrade teaching is widespread, especially in underscored schools and rural areas where a single teacher teaches students at many grade levels. This is because of the inadequate classroom space and shortage of qualified teachers. According to recent surveys, multigrade classrooms are found in over 40% of Pakistan's elementary schools, mostly in isolated areas like Gilgit-Baltistan. Most of the teachers lack specialized training for dealing with grade issues, which affects the efficacy of classroom management and the quality of instruction.

In Pakistan's educational reforms Multigrade teaching techniques are included to teacher training programs, such as the Association Degree in Education (ADE) and Bachelor of Education (B.Ed) programs, to solve this issue. Despite all these efforts, teachers' preparatory programs still focus on mono grade teaching, so application of multigrade teaching is difficult (Nawab & Baig, 2011).

According to initiatives currently noted by ASER Pakistan (2023) show the minor declination of n multigrade teaching in cosmopolitan governments. To improve the quality of multigrade teaching, there is a need for continuous assistance, modification in curriculum and training programs. Especially in areas where there are overcrowded classrooms and there is a shortage of teaching faculty.

Multigrade teaching is a teaching approach, where a single teacher teaches students from more than one grade levels in a single classroom, especially in remote areas due to lack of resources. Multigrade teaching is a single approach to meet the challenges of the shortages such as teachers' shortages, lack of infrastructure. Recent studies have shown that multigrade teaching, when effectively managed, can enhance student performance by enhancing intergenerational communication, promoting autonomy, and learning of the fundamentals from their younger peers.

Studies have proved that multigrade classroom setting helps in improving learning outcomes of students in literacy and numeracy. It was found that multigrade classes in Scotland results in improvements in literacy and numeracy for first graders. (Borbely, Gehrsitz, McIntyre, & Roy, 2023). Studies show that multigrade teaching environment enhances peers' cooperative learning. In this setting the older students by helping the younger students improve their own learning and their concepts get clearer. Peer support and scaffolding in multigrade classrooms lead to cognitive support for both older and younger students. This enhances self-esteem and independent work habits in students. Multigrade teaching allows teachers to make instructions more personal and flexible for the differentiated learning in the classroom where there are students from different grade levels. Multigrade classrooms, where older students help the younger peers, develop a sense of leadership amongst the students. They become cooperative and collaborative leaders for society later. In multigrade environments develop a spirit of teamwork, consequently it builds a strong character of students, where they all take care of others and develop a sense of integrity and togetherness (Adventist Christian School, 2022).

In multigrade classrooms students meet others' learning experiences and due to grade differences acquire many life skills from their peers. As social learning theory says children learn from their social circle, as wide as it enhances the knowledge as well. In Multigrade classes teachers create effective curriculum, syllabus, strategies and lesson plans. It is easy to communicate instructions as other graders can make many things clear while the teacher is explaining to other grade students. Higher graders can improve their learning skills while teachers are teaching low graders.

Despite challenges faced by multigrade teachers, research has proved that multigrade teaching is effective in improving students' academic performance, especially in marginalized and rural settings. It requires systematic support through teachers' training, use of advanced technologies and adaptive curriculum planning. (Bajpai & Pandey, 2023)

Significance and Rationale

In Pakistan the multigrade teaching process needs to address is crucial as it is related to the Pakistani nation's particular educational problems, specifically in underserved areas. In low-income cosmopolitan areas like rural areas of Islamabad, GB and Rawalpindi Multigrade teaching has emerged to play a vital role to enhance the literacy rate and to encompass the shortage of teachers, overcrowded classrooms, and lack of infrastructure. Multigrade teaching proves a blessing to overcome the hindrances in attaining quality and inclusive education in Pakistan. The justification for researching multigrade teaching in Pakistan puts an emphasis on, how it can handle the situation where there is a shortage of teaching faculty, resources and the classrooms are overcrowded particularly underserved areas. Multigrade classrooms can make education more flexible and accessible, accommodating a wide range of learning styles. To achieve the SDGs of high-quality education, it is necessary to implement this approach effectively, for which well-prepared teachers and government assistance are vital.

Problem Statement

In Pakistan Multigrade teaching is widespread, especially in underserved schools and rural areas where a single teacher teaches students at many grade levels. This is because of the inadequate classroom space and shortage of qualified teachers. According to recent surveys, multigrade classrooms are found in over 40% of Pakistan's elementary schools, mostly in isolated areas like Gilgit-Baltistan. Most of the teachers lack specialized training for dealing with grade issues, which affects the efficacy of classroom management and the quality of instruction. In Pakistan's educational reforms Multigrade teaching techniques are included to teacher training programs, such as the Association Degree in Education (ADE) and Bachelor of Education (B.Ed) programs, to solve this issue. Despite all these efforts, teachers' preparatory programs still focus on mono grade teaching, so the application of multigrade teaching in this scenario is difficult. (Nawab & Baig, 2011). According to initiatives currently noted by ASER Pakistan 2023 show the minor declination of n multigrade teaching in cosmopolitan governments. To improve the quality

of multigrade teaching, there is a need for continuous assistance, modification in curriculum and training programs. Especially in areas where there are overcrowded classrooms and there is a shortage of teaching faculty. (ASER Pakistan, 2023).

Objectives and Research Questions

1. To assess the impact of multigrade teaching in improving students' literacy outcomes.
2. To identify the challenges faced by teachers in implementing multigrade teaching.

Following research questions were made to achieve the objectives:

- RQ1: How does multigrade teaching impact the literacy performance of students?
- RQ2: What are the literacy outcomes for students in multigrade classrooms compared to multigrade classrooms?
- RQ3: What challenges do teachers encounter in managing and delivering lessons in multigrade teaching?
- RQ4: How do classroom size, teaching resources, and infrastructure influence multigrade teaching?

Methodology

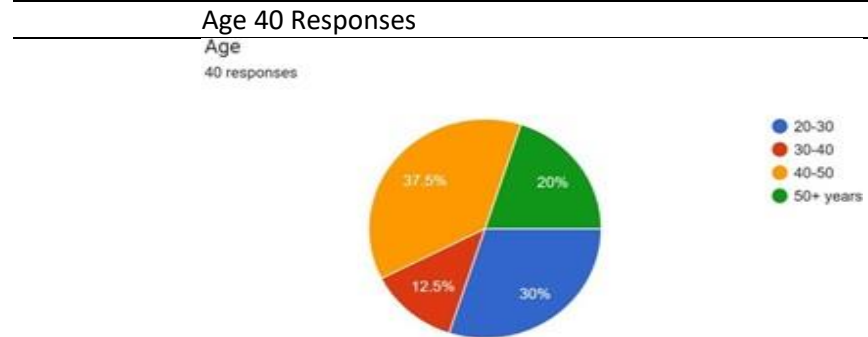
In our research we conducted our study through qualitative research design. An open-ended questionnaire was designed containing questions exploring the challenges faced by teachers in multigrade teaching. We collected the data from the selected population and analyzed the results on the database. The study was conducted on the selected population of multigrade teaching schools of urban and rural areas. The sample of our study was the teachers having experience of multigrade teaching in rural areas. Our sample size was 40 teachers who had multigrade teaching experience for more than five years. We conducted twenty questions apart from the participants' personal experience related to the research problem exploring the perceptions and challenges in multigrade teaching faced by the teachers in urban and rural areas. The sample of our study was the teachers of rural areas having experience of multigrade teaching. We collected data through open-ended questionnaires by using google docs. Administered questionnaire to respondents to gather data on their perceptions and attitudes towards multigrade teaching. Data was analyzed under themes and codes by using thematic analysis.

Results

Demographic data is presented below:

Figure 1

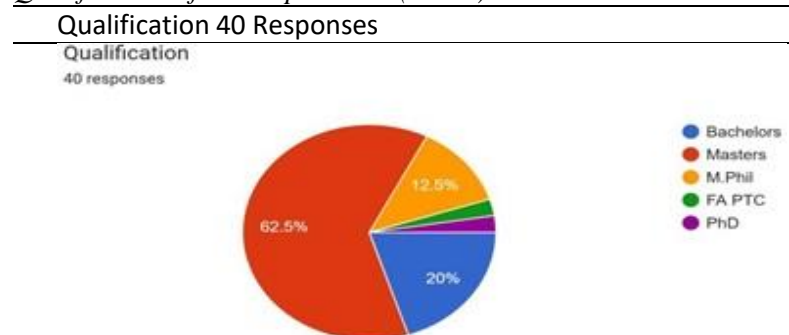
Age ranges of Participants (N=40)



According to this graph 37% of the teachers about are aged between 40-45 in our study, 20% of the respondents were 50+, 12.5% of the respondents were aged between 30-40, and 30% of the respondents were aged between 20-30

Figure 2

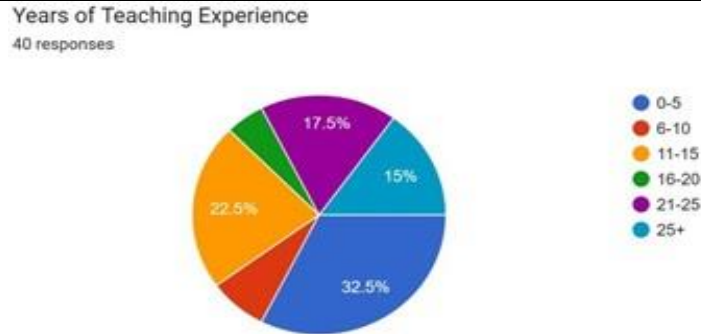
Qualification of the respondents (N=40)



According to the above graph, about 20% of the respondents were qualified bachelors, 62% were qualified masters, and 12.5% were M.Phil qualified, in our study sample

Figure 3
Teaching Experience of Rural Areas (N=40)

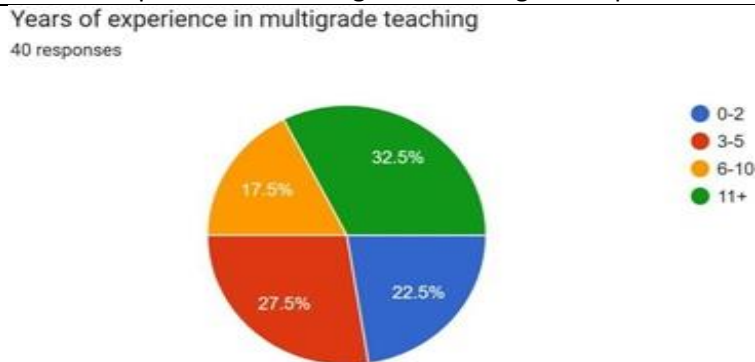
Years of teaching experience 40 Responses



According to the above graph, almost 32% of the teachers have teaching experience of (0-5) years, 15% of the teachers have (25) years of teaching experience, 17.5% of teachers have (21-25) years of teaching experience, 22.5% of the teachers have almost (11-15) years of teaching experience, in our study.

Figure 4
Teaching Experience of Urban Areas (N=40)

Years of experiences in Multigrade teaching 40 Responses

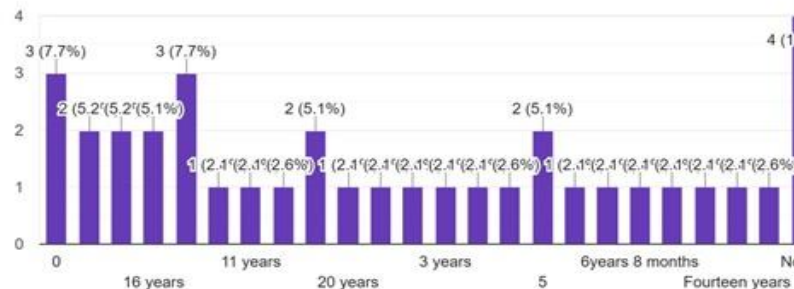


According to the graph about 22% of the teachers have (0-2) years of teaching experience in multigrade teaching, 32% of the teachers have (11+) years of experience of multigrade teaching, 27% of the teachers have (3-5) years of teaching experience of multigrade teaching, 17.5% of the teachers have only (3-5) years of teaching experience in multigrade teaching, in our study.

Figure 5*Experience of teaching in multigrade in rural areas:*

Years of experiences in Multigrade teaching in rural areas 39 Responses

years of experience of multigrade teaching in rural areas
39 responses



According to this graph about 5.1% of the teachers have 3 years of teaching experience in multigrade teaching in rural areas, 2.6% of the teachers have only 6 years of experience in multigrade teaching in rural areas, 7.7% of the teachers have 11 years of experience of teaching in multigrade teaching in our study.

Table 1*Teachers' Perception towards Multigrade Teaching (N=40)*

Perception	Percentage
Very Positive	17.5%
Positive	57.5%
Neutral	20 %
Negative	3%
Very Negative	2%

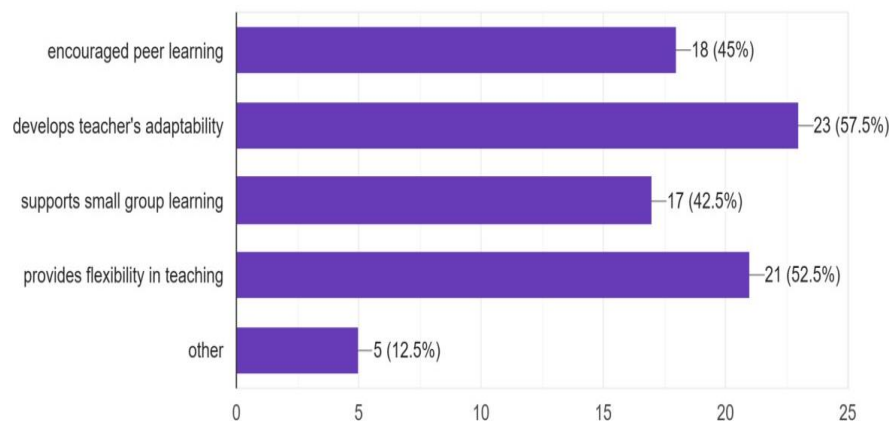
According to this, 17.5 % of teachers experience very positively in multigrade teaching, 57.5 % of teachers experienced positively in multigrade teaching 20% respond as neutral in multigrade teaching, 03% teachers respond negative about experience in multigrade teaching, 02% teachers respond very negative about the teaching experience in multigrade teaching.

Perception of Multigrade Teaching. The purpose of this theme was to know the perception about multigrade teaching of teachers from urban and rural areas who have more than 10 years of experience of multigrade teaching especially in rural areas. For this theme sub-themes were designed to go to the depth of this theme.

Experience with Multigrade Teaching. To know what the experience of teachers regarding multigrade is teaching. How do they perceive it. 5-point Likert scale was constructed, and the finding is as in the table

Figure 6

Multigrade teaching in Literacy Enhancement and Teaching Skills

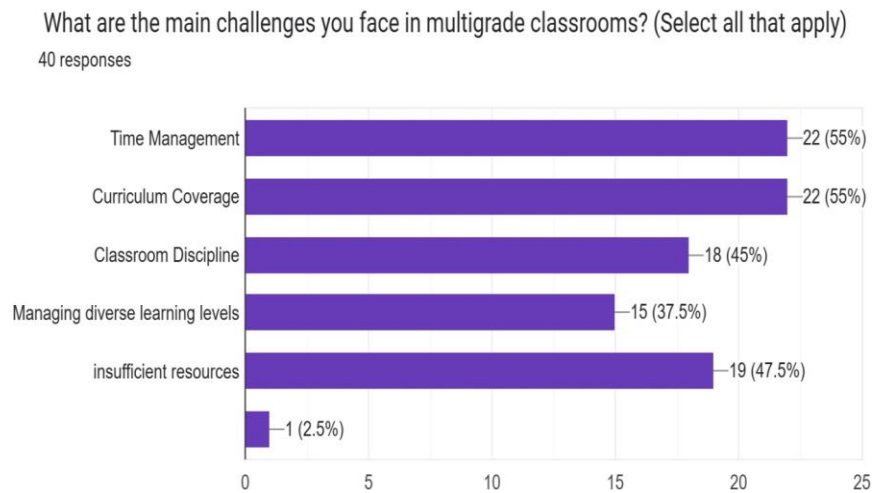


The figure presents data on how much multigrade teaching is beneficial in improving the students' literacy skills and enhancing teachers' teaching process. According to this figure, the main advantage of multigrade teaching was reported by 57% of respondents in favor of developing teachers' adaptability. It indicated that multigrade teaching is adaptable to teaching styles of teachers. Next main prospect of multigrade teaching was indicated by 52% of participants who indicated that it provides flexibility in teaching, another 45% people showed that multigrade teaching encourages peer learning, 42% people are in favor of supporting small groups of learning. Another significant feature was indicated by 57% of respondents that multigrade teaching is fruitful to enhance group learning literacy environment. This is a significant finding as this is the basic philosophical method of multigrade teaching. This indicates that students work in peer learning groups in which senior grade students teach junior

grade classmates resulting in improvement in literacy skills and concept clarification. for the advantage of multigrade teaching, 52% are in support of providing flexibility in teaching in multigrade teaching, 45% people are in favor of encouraging peer learning, 42% people are in favor of supporting small groups of learning

Figure 7

Challenges encountered by Teachers in multigrade teaching practices (N=40)



According to this figure, there are two common challenges faced by the majority (55%) of teachers. These are time management and curriculum coverage. This is because teachers are following thematic teaching in which two or more grades' curriculum is taught under specific themes, that's why they lack time to cover the desired content in stipulated time frame. Another important issue was reported by 47.5% of teachers that they have insufficient resources in multigrade teaching. Since Pakistan is a developing country and we are not allocating as much budgetary amount to multigrade teaching as it is desired. Most of the time, NGOs are participating in financial assistance, that's why it is recommended that the government should allocate more budget and finances to make multigrade teaching more effective and efficient. The next prevailing challenge appeared in terms of classroom discipline in which 45% of the teachers indicated that they face classroom discipline problems in multigrade

teaching. This issue is again associated with combining different grades in one class who have different ages and grades. Junior level students are sitting with senior students and at times there is overcrowded class which creates discipline problems for a single teacher teaching the whole time. Next moderately significant issue was managing diverse learning level which was indicated by 37% of the teachers that they face the challenge of managing diverse learning level in multigrade teaching. Overall, it is concluded from this table that time management, curriculum coverage and provision of lack of finances are main challenges faced by teachers. In this regard, it is recommended that proper implementation policies are needed for multigrade teaching so that literacy environment may be made more conducive and effective

Findings

According to the results most teachers are in favor of multigrade teaching, indicating its strengths as:

- A huge majority of 57% of teachers are in favor of developing teachers' adaptability for the advantage of multigrade teaching
- Most of the 52% are in favor of providing flexibility in teaching in multigrade teaching
- Moderately 45% of teachers supported encouraging peer learning in multigrade teaching
- Moderate level of 42% of teachers are in favor of supporting small groups learning in multigrade teaching
- According to the results 20% of the teachers are in favor of using peer teaching sometimes in multigrade teaching
- Low level of (18%) teachers supported for often using all strategies for the improvement of teaching methods in multigrade teaching
- The results of 12% of teachers indicated the need for using group work for the effectiveness of teaching in multigrade teaching
- According to the results 20% of the teachers believe that multigrade teaching impact student learning very positively in multigrade teaching
- A major proportion of 55% of the teachers believed that multigrade teaching impact student learning positively in multigrade teaching
- A significant proportion of the results: 25% of the teachers believe that multigrade teaching impact students learning neutral
- No one responded that multigrade teaching has no impact on student learning in multigrade teaching

- Findings on Challenges:
- According to the results 55% of teachers face the challenge of time management in multigrade teaching.
- A major proportion of 55% of the teachers faced curriculum coverage challenges in multigrade teaching
- As per results, some of the 37% of the teachers face the challenge of managing diverse learning levels in multigrade teaching
- A moderate proportion of 47.5% of the teachers face insufficient resources in multigrade teaching.

Discussion

The purpose of the study was to describe the impact of multigrade teaching on students' literacy skills and learning acquisition. At secondary level in rural areas. The objectives of the study were to investigate the latest issues regarding class management and classroom discipline, and the role of technology in improving learning of the students in multigrade teaching. The result of this study shows that due to the lack of time, teachers are unable to manage classroom discipline. Most of the teachers agreed that the use of innovative teaching. Style also affects the learning in multigrade teaching. Majority of teachers agreed that the use of cooperative work and peer teaching improve learning of the learners in multigrade teaching. Majority of teachers agreed that multigrade teaching impact student learning positively in multigrade teaching. Majority of teachers agreed that the teachers face curriculum coverage challenges in multigrade teaching, in the favor of differentiated instruction in multigrade teaching

Conclusion

After research and a study on the topic of the impact of multigrade teaching on the student's literacy and learning, the researchers concluded based on the data that:

1. Multigrade teaching is adaptable to teaching styles of teachers. It provides flexibility in teaching, encourages peer learning, supports small groups of learning, and enhances group learning literacy environment. This indicates that students work in peer learning groups in which senior grade students teach junior grade classmates resulting in improvement in literacy skills and concept clarification. So, multigrade teaching is an effective and flexible literacy learning environment for more than two grades' students.
2. There are certain challenges faced by teachers. These are time management issues, curriculum coverage challenges because teachers use thematic teaching in which two or more grades' curriculum is taught under specific themes, that's why they lack time to cover the desired content in stipulated time frame. Another significant challenge appeared in terms of insufficient resources in multigrade teaching. So, it is recommended that the government should allocate more budget and finances to make multigrade teaching more effective and efficient. For teachers, classroom discipline is a serious problem which is associated with combining different grades in one class who have different ages and grades. Junior level students are sitting with senior students and at times there is overcrowded class which creates discipline problems for a single teacher teaching the whole time. Teachers also face challenges of managing diverse learning levels. Overall, it is concluded from this table that time management, curriculum coverage and provision of lack of finances are main challenges faced by teachers.

Recommendations

In the light of conclusion, the following recommendations are made:

- Teachers may use effective lesson planning for multigrade teaching.
- Proper implementation policies are needed for multigrade teaching so that literacy environment may be made more conducive and effective.
- A good learning environment and good educational facilities can enhance learning. The use of innovating teaching style may be used to attract the students' attention which is a leading factor that affects the teaching learning process.

- Teachers may be encouraged to develop activities for class according to their level in each class.
- There may be emphasis to promote group work and cooperative learning in class.
- There may be provision of proper financial resources to promote effective peer teaching by using technological aids in multigrade teaching for effective learning outcomes.
- There may be regular PTMs in which teachers may be in contact with parents regarding the effectiveness of multigrade teaching in rural areas.
- Further research on factors which decrease the effectiveness of multigrade teaching in rural areas.
- Future studies on the strategies that improve the learning grades of the students in multigrade teaching comparison of both in rural and urban areas.

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