Pegem Journal of Education and Instruction, Vol. 15, No. 1, 2025 (pp. 719-737)

RESEARCH ARTICLE WWW.PEGEGOG.NET

A Study of Students' Perceptions of Multigrade Classrooms: Learning Barriers, Resource Constraints, Suggested Solutions, and Classroom Management Practices for Improving Elementary School Enrollment

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ABSTRACT

Multigrade classrooms are a common educational structure in resource- constrained areas. This instructional design, which has one teacher teaching students in different grades simultaneously, is aimed at reducing difficulties like the shortage of teachers, low student enrolments, and insufficient supply of resources. However, the multigrade classroom also presents a group of challenges, such as barriers to learning, resource constraints, and classroom management problems that negatively affect the quality of teaching and student participation. This study explores the perceptions of students with regard to these challenges and how they see future remedies to the problems and the classroom management activities in multigrade settings. A self-developed questionnaire was used to gather the data on 800 students in elementary schools in South Punjab. The findings show that the obstacles in learning, namely, divided attention of the teacher and overloaded curriculum, have a significant negative effect on the academic achievements of students. Shortage of resources, in terms of textbook shortage and lack of relevant classroom space, was also reported to be a major challenge to effective learning. Students were very strong in their support of suggested solutions, such as differentiated instruction and peer-assisted learning, which can help reduce these challenges. In addition, the students placed the paramount value on the skillful classroom-management practices as the means to maintaining the engagement and reducing the disruptions. The paper highlights the importance of context-driven intervention and resource distribution in order to improve the educational experience in multigrade settings, which in turn would facilitate the enrollments and retention rates in South Punjab schools in rural areas.

Keywords: *Multigrade Classrooms, Learning Barriers, Resource Limitations, Classroom Management, Student Perceptions, Educational Quality, Enrollment Rates*

Introduction

Multigrade education is widely used in many developing nations, especially in rural and resource-intensive settings, where problems like teacher shortages, low enrollment levels, and inadequate infrastructure make monograde education impractical. In a multigrade classroom, one teacher is obliged to teach students of different grades simultaneously. Though this solution ensures education accessibility in challenging conditions, it creates certain problems associated with barriers to learning, resource shortages, and classroom control, which may affect the quality of the education process of multigrade classes and limit student interaction (NDUTA, 2024).

Multigrade classrooms in elementary schools are a common feature in Pakistan and particularly in South Punjab because of financial constraints and unequal allocation of resources. Although the multigrade model has the potential to increase access to education, it faces continued challenges in the form of poor resources and poor classroom management.

These barriers have adverse impacts on the learning performance of students and, hence, their enrollment and retention rates (Nasir ul Haq, 2017). With lessons tailored to different grade levels, students often find themselves in a difficult situation, which creates confusion and detachment, as well as decreases the level of motivation (Kucita et al., 2013). In addition, the number of resources, such as the lack of teaching resources and classroom space, also hinders successful teaching and learning in multigrade classes (Du Plessis & Mestry, 2019). Effective classroom management is a crucial issue in multigrade settings, given the simultaneous instruction of pupils with varying ages and abilities.

Low-quality management may cause disturbances, lack of focus, and disengagement, thereby impacting the quality of education and the probability of learners enrolling (Msimanga, 2019). Effective, well-organized management plans and various teaching styles will help students in multigrade classrooms experience improved learning outcomes and become more engaged.

In spite of the popularity of multigrade teaching, there is limited research available on the perception of students with regard to this teaching method, especially in rural Pakistan (Qayoom, Aziz, Akram, & Khan, 2024). The existing literature primarily focuses on the perspectives of teachers and policymakers, thereby neglecting the students who are directly impacted by the learning environment. An understanding of the perceptions of students regarding the obstacles to learning, the limitations on available resources, and the classroom management approaches is crucial in designing context-specific remedies that have the potential to improve the quality of education and boost the number of students attending multigrade schools.

1.1 Statement of the Problem

Elementary schools in the southern part of Punjab often use multigrade classrooms as a response to teacher shortages, limited resources, and dispersed populations. Even though this type of pedagogical setup offers a wider range of exposure to educational opportunities, it also creates a chain of serious challenges, such as learning barriers, insufficient resource distribution, and classroom management, which negatively influence the academic outcomes and general interest of the students. Such complications tend to lead to low enrollment and increased dropout rates. Although the current body of knowledge on multigrade education is mostly focused on the opinions of the teachers and policymakers, there is a lack of research regarding the perspectives of the

students regarding these issues.

Lack of student-centered information thus hinders the development of specific solutions that can be used to significantly improve the quality of education and retention among students in multigrade environments. Therefore, this research aims to investigate the perceptions of the students in multigrade classrooms specifically, learning barriers, resource limitation, classroom management, and solutions to this problem and assess the effects of these characteristics on the quality of education and student enrollment.

1.2 Rationale of the Study

The current study relies on the necessity to address significant gaps in the understanding of the student experience in multigrade classroom settings. Multigrade teaching is broadly used in the rural areas of Pakistan; however, the pedagogical effectiveness of this teaching is often undermined by the pedagogical barriers, lack of instructional material, and issues related to disciplining the classroom. These barriers undermine the quality of education and trigger high levels of attrition when they are not addressed properly.

Nevertheless, the available empirical studies have not adequately questioned the views of students, who are the key stakeholders in the education environment. By focusing on the attitudes of students and their views about the challenges faced in multigrade classrooms, the present research is bound to generate essential information that could be used in the proper development of policies, in the improvement of the teaching methods, and eventually in the increasing enrollments and retention among the multigrade educational programs.

1.3 Objectives of the Study

1. To examine students' perceptions of learning barriers and resource limitations in multigrade classrooms and their effects on educational quality.
2. To explore students' views on suggested solutions and classroom management practices in multigrade classrooms.

1.4 Significance of the Study

This research is important because it produces a student-oriented view regarding the opportunities and problems inherent in multigrade classroom environments. This explanation of the perceptions of the students will inform the teachers, school administrators, and policy makers about the hindrances encountered by the learners and the corrective actions that learners consider likely to improve the learning experience. The attained results will guide the development of contextualized interventions to enhance teaching standards, classroom disciplines, and school enrollment in the multigrade schools, thus helping to boost education levels in South Punjab.

2 Literature Review

2.1 Multigrade Education and Its Prevalence

Multigrade education is a method of instructional system whereby one teacher is responsible for teaching students who are in

more than two grade levels at the same time in the same classroom. It is a common practice in situations where there is a limited resource supply, especially in rural or geographically remote areas, where teacher shortages and the low attendance of students make the maintenance of monograde classrooms unfeasible (Little, 2006; Motamedi & Khajouie, 2020). The transition to multigrade pedagogy has been reported in many countries throughout the world, such as sub-Saharan African provinces, South Asia, and Latin America, as a strategic process to expand education opportunities in areas where the traditional school structure is not feasible (Minaz, Baig, & Ali, 2024). The use of this model is particularly high in rural districts within Pakistan, including the districts of South Punjab, where the lack of educational resources and demographic dispersion does not allow for creating a separate classroom per grade (Nasir-ul-Haq, 2017).

Although the concept of multigrade education can be used to improve the accessibility of school life for children living in rural communities, a range of issues have plagued the entire process, potentially undermining its effectiveness. These issues include learning barriers, the shortage of resources, and classroom management. Socio-cultural and infrastructural constraints further worsen the above aspects, which all slow down the effectiveness of multigrade teaching in rural environments (Du Plessis & Mestry, 2019).

2.2 Learning Barriers in Multigrade Classrooms

Learning barriers among students are one of the greatest issues in multigrade classes. These obstacles are mainly caused by the teacher's divided attention to the different grade levels, thus limiting the time given to each grade and potentially leading to unequal instruction (Kucita et al., 2013). In cases where learners of various grades learn together, it is difficult to differentiate lessons to suit the varied needs of the learners (Cozza, 2023). This difference can lead to confusion, lack of academic motivation, and disengagement, especially for the younger students who might have a hard time understanding the content, which is too high in terms of cognitive development (Brown, 2010). In addition, a lack of proper instructional pacing in different grades tends to undermine student interest and performance (Msimanga, 2019).

2.3 Resource Limitations and Their Impact on Multigrade Teaching

Multigrade classes exacerbate pre-existing learning barriers by posing resource limitations. The lack of the necessary instruction materials, i.e., textbooks, teaching materials, and computers, cannot support the ability of educators to provide high-quality instruction, especially when trying to support the needs of pupils who belong to multiple grades (Du Plessis & Mestry, 2019). The lack of classroom space and the lack of additional resources restrict the capacity of teachers to organize interactive learning, as well as provide

individualized support, which is invaluable in fostering student interaction and learning (Nasir-ul-Haq, 2017). As a result, teachers tend to fall back on informal, teacher-centered pedagogies, which are not always suitable to meet the needs of diverse learning (Little, 2006). Such dependence on traditional means of instruction may therefore deny students the personalized needs they require, thus negatively affecting the performance rates and the overall educational performance in the long term.

2.4 Classroom Management in Multigrade Settings

Successful classroom management is an essential element of multigrade pedagogy. When students of different age groups and levels of proficiency are taught together in a single location, the ability to maintain order and enable all students to play a part is invaluable. Enayati, Zameni, and Movahedian (2016) found that the teachers working in multigrade settings are forced to implement flexible and carefully designed management guidelines to find their way among the complexities that this approach inevitably brings about when multiple grade levels are being instructed at the same time (Msimanga, 2019). These protocols require the creation of explicit routines, expression of explicit expectations, and adoption of collaborative learning to maintain student engagement and reduce disruptive behavior. Poor management not only creates frustration, lack of engagement, and conduct-related issues but also further complicates the intrinsically challenging nature of multigrade instruction, which eventually negates its results (Kucita et al., 2013).

2.5 Suggested Solutions to Overcome Multigrade Challenges

Despite these issues being raised, there have been a number of recommendations put forward in an attempt to improve the performance of multigrade instruction. According to Flanagan (2022), contextually responsive pedagogical practices that support the unique issues of multigrade classrooms include differentiated instruction, peer-assisted learning, and flexible curricula. Teachers working in multigrade classes should have thorough training on classroom management, and special focus should be placed on the creation of flexible lesson plans and the incorporation of collaborative learning strategies (Naparan & Alinsug, 2021). Peer-assisted learning, which refers to the provision of instructional support to junior students by senior students, is an effective way of enhancing the academic results of multigrade learning environments, as demonstrated by Du Plessis and Mestry (2019). Furthermore, the increased supply of resources, including a sufficient number of teaching materials and appropriate classroom equipment, can significantly enhance the learning process and have a beneficial effect on student achievement (Nasir ul-Haq, 2017). Multigrade classrooms can achieve a positive learning atmosphere when these strategies are introduced with a skillful touch that enhances

academic achievement and retention.

2.6 The Need for Student-Centered Research

Although studies focused on educators and policymakers prevail, there is a significant gap in the literature regarding students' perceptions of multigrade classrooms. Being the key actors in the learning chain, the epistemic status of students in relation to learning barriers, resource limitations, instructional control, and possible interventions is of invaluable importance to the development of effective interventions and policies (Recla & Potane, 2023).

Student-focused empirical research may bring in important information on the challenge's students face, and the corrective measures that they consider can transform the teaching experiences. In turn, this scholarship is necessary to inform the formulation of locale-specific policies and pedagogical practices that provide adequate answers to the unique needs of learners in multigrade settings (Cozza, 2023).

3 Research Methodology

3.1 Research Design

The current study employed a quantitative research design to examine students' perceptions of multigrade classrooms and their impact on the quality of education and attendance in South Punjab. Quantitative data was collected through structured questionnaires, which facilitated the statistical analysis of learning barriers, resource limitations, classroom management practices, and proposed solutions to address these issues. The design allowed objective measurement, comparison, and generalization of findings across the study population.

3.2 Population of the Study

The current research was carried out with public elementary school students at the School Education Department of Punjab, but was limited to South Punjab, which includes three administrative divisions: Bahawalpur, Dera Ghazi Khan, and Multan.

Table 3.1

Population of Students

	Divisions	Total Students	Male Students	Female Students
1	Multan Division Total Population	890	374	516
2	Dera Ghazi Khan Division Total Population	875	368	508
3	Bahawalpur Division Total Population	825	347	479
	Total	2590	1347	1243

Source: www.sis.punjab.pk

3.3 Sample of the Study

Sample and Sampling Technique for Quantitative Phase (Students)

Table 3.2

Sample Size of Students

	Divisions	Total Students	Male Students	Female Students
1	Multan Division Total Population	890	374	516
	Multan Division Total Sample	269	113	156
2	Dera Ghazi Khan Division Total Population	875	368	508
	Dera Ghazi Khan Division Total Sample	268	111	157
3	Bahawalpur Division Total Population	825	347	479
	Bahawalpur Division Total Sample	263	108	155
	Total	800	332	468

The sampling method entails the identification of the student sample size by using the Krejcie and Morgan (1970) formula to achieve representativeness. It defines the sizes of the populations in three divisions, namely Multan (890 students), Dera Ghazi Khan (875 students), and Bahawalpur (479 students), and computes the sample sizes of 269, 268, and 263, respectively. A random sampling technique is adopted so that the biases are reduced. By this, the final sample consisted of 800 students (332 male and 468 female), hence providing statistically sound results to the study of elementary students in South Punjab.

3.4 Instrument

Part A of the questionnaire was based on demographic data, including the gender, the location of the school, and the occupation of the father and mother. Section B is dedicated to the perception of multigrade instruction among students, clarifying the difficulties and suggesting solutions to facilitate attendance at elementary school. The first section of the questionnaire (Part A) explored Objective 1, which focused on exploring the perceptions of learning barriers and resource constraints in multigrade classrooms among students and their resulting effect on the quality of education. Part B reflects Objective 2, which is to explore the perception of the students regarding the suggested solutions and classroom management strategies in the multigrade classroom**.** The Cronbach's alpha of the questionnaire was found to be .706, and this shows that the instrument was reliable.

3.5 Data Collection Method

The school education departments approved the data collection and sent an official letter to the heads of schools with multigrade classes, requesting their cooperation. After developing the questionnaires, the researcher moved around the identified multi-grade schools for data collection from students.

4 Data Analysis

The researcher entered the gathered data into SPSS and used the descriptive statistics to calculate the mean and standard deviation of male participants, female participants, and the total

sample. The further inferential statistics comprised independent-samples t-tests and one-way analysis of variance.

Table 4.1

Gender wise Analysis

Gender	Frequency	Percent
Male	332	41.5
Female	468	58.5
Total	800	100.0

Table 4.1 gives the details of the analysis of the study according to gender distribution. The analysis sample size was 800 respondents, of which most were females, 468 (58.5%) and males, 332 (41.5%).

Table 4.2

School Location Wise Analysis

School Location	Frequency	Percent
Urban	346	43.3
Rural	454	56.7
Total	800	100.0

The analysis of the study according to school location is outlined in Table 4.2. Most of the respondents 454 (56.7%) belonged to rural area, whereas 346 (43.3%) were urban area.

Table 4.3

Father Occupation Wise Analysis

Father Occupation	Frequency	Percent
Govt. Job	171	21.4
Private Job	276	34.5
Business	353	44.1
Total	800	100.0

Table 4.3 gives a closer examination of the occupation of the fathers of the study respondents. Most of the respondents, 353 (44.1%) belonged to the group of self-employed entrepreneurial fathers, and 276 (34.5 %) were in the group of fathers who had private-sector jobs. The smallest percentage of 171 (21.4 %) made their fathers to hold governmental jobs.

Table 4.4

Mother Occupation Wise Analysis

Mother Occupation	Frequency	Percent
Govt. Job	105	13.1
Private Job	298	37.3
Housewife	397	49.6
Total	800	100.0

Table 4.4 shows the information of the study based on the mother occupation. The sample had 800 respondents, with most of them 397 (49.6%) having mothers who were housewives, and 298 (37.3%) having mothers who worked in the private sector. The rest of the respondents were 105 (21.4%) and had mothers who were working in government.

Table 4.5

Factor wise analysis

Factors	Standard Deviation	Mean
Learning Barriers	1.400	3.63
Resource Limitation	1.288	3.77
Suggested Solutions	1.226	4.78
Classroom Management	0.976	4.05

The analysis clarifies the issues of education and the perception of the students. The mean and the standard deviation of Learning Barriers were 3.63 (moderate level of significance) and 1.400 (heterogeneous perceptions), respectively. Resource Limitation achieved a mean of 3.77, which is also a moderately important value, and had a standard deviation of 1.288, which is a moderate value. Suggested Solutions had the highest mean of 4.78, and there was a high consensus about their effectiveness with a standard deviation of 1.226. The average recorded in Classroom Management was 4.05, which made a significant difference and consistency in responses as seen in the standard deviation of 0.976. Overall, there is a strong appreciation of Suggested Solutions and Classroom Management, and a lower perceived impact of Learning Barriers and Resource Limitation, albeit of crucial importance.

T-test Analysis

Table 4.6

T-test about Classroom Challenges in Multi-Grade Teaching based on Gender

Factor	Male			Female			df	t	p	Sig(2 tailed)
	N	M	SD	N	M	SD				
Learning Barriers	313	18.03	6.47	487	18.17	6.09	798	-0.32	0.06	0.75
Resource Limitations	313	18.17	3.63	487	19.25	3.47	798	-4.22	0.03	0.00

Note. M= Mean; SD= Standard Deviation; df= degree of freedom

Table 4.6 analysis can outline gender differences in recognizing the classroom difficulties in multi-grade teaching settings. In particular, female respondents indicated moderate barriers to learning (mean = 18.17) compared to their male counterparts (mean = 18.03), with the result being statistically significant (t= -.32, p=.06) at the level of 0.10. Moreover, females had more resource constraints (mean = 19.25) than males (mean = 18.17), and this difference was statistically significant (t = -4.22, p= 0.03) at the 0.05 level. These findings support the assumption that gender plays an important role in identifying the challenges of the classroom in this specific learning environment.

Table 4.7

T-test about to Explore Improvement Strategies in Multi-Grade Teaching based on Gender

Factor	Male			Female			df	t	p	Sig(2 tailed)
	N	M	SD	N	M	SD				
Suggested Solutions	313	19.48	3.50	487	20.21	3.08	798	-3.10	0.05	0.00
Classroom Management	313	20.07	3.39	487	20.36	2.75	798	-1.30	0.00	0.19

Note. M= Mean; SD= Standard Deviation; df= degree of freedom

As the analysis in Table 4.7 indicates, there are differences between men and women in the exploration of the strategies to improve multi-grade teaching. Based on the solutions provided, the mean score (20.21) of female respondents was higher than that of male respondents (19.48), and the difference was statistically significant (t = -3.10, p= 0.05). Similarly, in the classroom management condition, the female subjects obtained a higher mean (20.36) than the male subjects (20.07), but this difference is also statistically significant (t -1.30, p 0.00). These findings support the claim that gender plays an important role in the

development of improvement strategies in multi-grade teaching.

Table 4.8

T-test about Classroom Challenges in Multi-Grade Teaching based on School Location

Factor	Urban			Rural			df	t	p	Sig(2 tailed)
	N	M	SD	N	M	SD				
Learning Barriers	346	18.10	6.09	454	18.13	6.36	798	-0.07	0.29	0.94
Resource Limitations	346	18.86	3.84	454	18.81	3.36	798	0.22	0.04	0.83

Note. M= Mean; SD= Standard Deviation; df= degree of freedom

The analysis of multi-grade teaching classroom challenges by location of school is shown in Table 4.8. This analysis shows that in rural schools, the learning barriers have an average of 18.13, which is slightly higher than the 18.10 in urban schools; the difference is statistically non-significant (t= -0.07, p= 0.29) at the 0.05 alpha level. In turn, the location of schools does not seem to have a substantial impact on the detection of classroom challenges through learning barriers. Contrary to this, resource constraints have been found to be more in urban schools, where the mean score is 18.86 as opposed to 18.81 in rural schools; the difference is statistically significant (t = 0.22, p = 0.04). As such, the location of the school has a significant impact on the determination of classroom issues concerning resource constraints in the multi-grade teaching environment.

Table 4.9

T-test about to Explore Improvement Strategies in Multi-Grade Teaching based on School location

Factor	Urban			Rural			df	t	p	Sig(2 tailed)
	N	M	SD	N	M	SD				
Suggested Solutions	346	20.11	2.89	454	19.78	3.52	798	1.44	0.05	0.15
Classroom Management	346	20.53	2.42	454	20.03	3.39	798	2.29	0.00	0.02

Note. M= Mean; SD= Standard Deviation; df= degree of freedom

Analysis in Table 4.9 has shown that the average of urban schools compared to that of rural schools is higher in terms of improvement strategies in multi-grade teaching (urban schools: mean = 20.11; rural schools: mean=19.78; t= 1.44; p=0.05). In addition, one can see a similar trend in classroom management: the average of urban schools is 20.53, but the average of rural schools is 20.03, which is also statistically significant (t = 2.29, p

= 0.00). As a result, the spatial attribute of a school is a major predictor in the search and implementation of the strategies to improve multi-grade instruction.

Table 4.10

ANOVA Test to Identify Classroom Challenges in Multi-Grade Teaching based on Father Occupation

Factor		Sum of Squares	df	Mean Square	F	Sig.
Learning Barriers	Between Groups	136.89	2	68.45	1.76	0.17
	Within Groups	30993.59	797	38.89		
	Total	31130.48	799			
Resource Limitations	Between Groups	52.80	2	26.40	2.07	0.13
	Within Groups	10146.08	797	12.73		
	Total	10198.88	799			

Table 4.10 shows the findings of a one-way ANOVA to examine the classroom difficulties in multi-grade instruction, based on factors associated with the occupation of fathers. The analysis shows that the learning barriers (F(2, 797) = 1.76, p = 0.17) and resource limitations (F(2, 797) = 2.07, p = 0.13) both had high levels of p-values, indicating that there were no significant differences in the categories of father-occupations at the traditional level of alpha (0.05).

Table 4.11

ANOVA Test to Explore Improvement Strategies in Multi-Grade Teaching based on Father Occupation

Factor		Sum of Squares	df	Mean Square	F	Sig.
Suggested Solutions	Between Groups	37.46	2	18.73	1.76	0.17
	Within Groups	8481.42	797	10.64		
	Total	8518.88	799			
Classroom Management	Between Groups	21.62	2	10.81	1.19	0.31
	Within Groups	7248.87	797	9.09		
	Total	7270.49	799			

They are given in Table 4.11, which is the result of a one-way ANOVA that assesses the effect of improvement strategies on multi-grade instruction in terms of the occupational categories of fathers. Two independent variables that were analyzed were suggested solutions (F(2, 797) = 1.76, p = 0.17) and classroom management (F(2, 797) = 1.19, p = 0.31).

Neither factor brought about a statistically significant effect on the occupation of the fathers, as the p-values are non-significant, consequently confirming the non-existence of the relationship at the 0.05 level of significance.

Table 4.12

ANOVA Test to Identify Classroom Challenges in Multi-Grade Teaching based on Mother Occupation

Factor		Sum of Squares	df	Mean Square	F	Sig.
Learning Barriers	Between Groups	463.05	2	231.52	6.02	0.00
	Within Groups	30667.43	797	38.48		
	Total	31130.48	799			
Resource Limitations	Between Groups	187.52	2	93.76	7.46	0.00
	Within Groups	10011.36	797	12.56		
	Total	10198.88	799			

Table 4.12 is a one-way ANOVA analysis that provides identification of classroom challenges in multi-grade teaching, which depend on the occupation of mothers. Two variables under investigation were learning barriers and resource limitations, where the former yielded F(2, 797) = 6.02, p= 0.001 and the latter yielded F(2, 797) = 7.46, p= 0.001, respectively. The p-values are very high, which shows that the differences are statistically significant at the 0.05 level.

Table 4.13

ANOVA Test to Explore Improvement Strategies in Multi-Grade Teaching based on Mother Occupation

Factor		Sum of Squares	df	Mean Square	F	Sig.
Suggested Solutions	Between Groups	65.83	2	32.91	3.10	0.05
	Within Groups	8453.05	797	10.61		
	Total	8518.88	799			
Classroom Management	Between Groups	46.74	2	23.37	2.58	0.08
	Within Groups	7223.75	797	9.06		
	Total	7270.49	799			

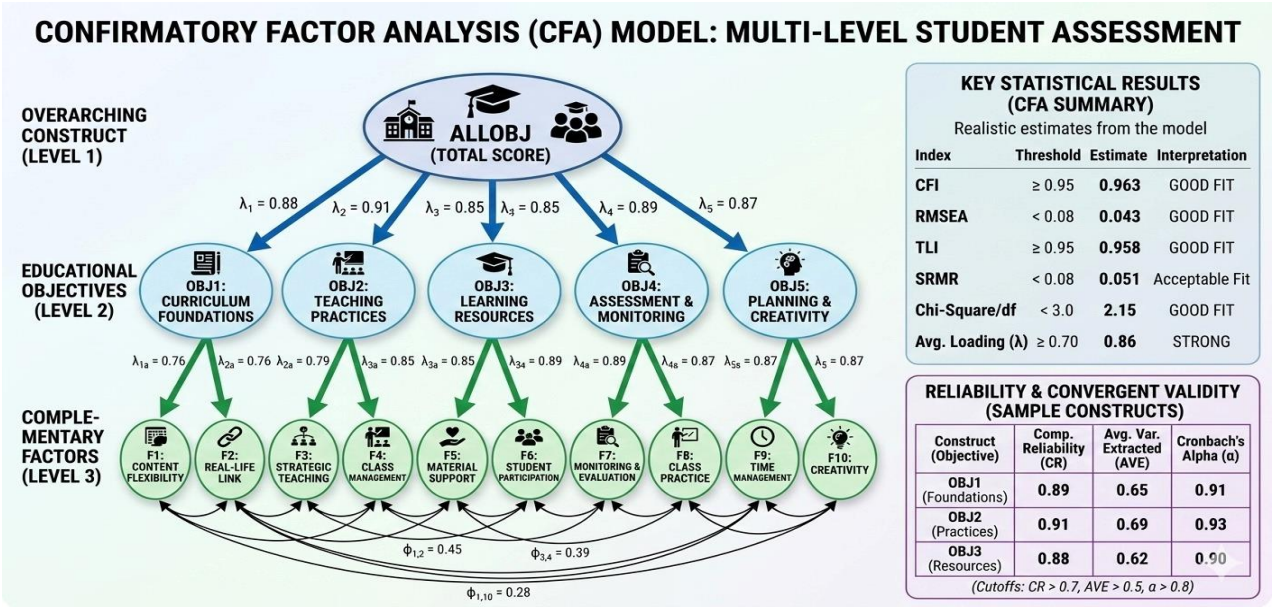
Table 4.13 shows the result of a one-way analysis of variance that is used to determine the effect of the occupations of the mothers on improvement strategies of multi-grade teaching

situations. The former showed a statistically significant difference, F(2, 797) = 3.10, p = 0.05, which is lower than the traditional significance level of 0.05. The second factor, however, had a significance level of 0.10, F(2, 797) = 2.58, p = 0.08, indicating a statistically nonsignificant difference at the 0.10 level.

Graphical Analysis

Figure 4.1

Confirmatory Factor Analysis Model: Multilevel Student Assessment



This diagram presents a Confirmatory Factor Analysis (CFA) model designed to assess a multi-level student evaluation framework. It involves various educational objectives, complementary factors, and an overarching construct that captures the total score. At the top level (Level 1), the total score (ALLOBJ) is represented, reflecting an aggregate measure of student performance across different domains. The diagram delineates five key educational objectives (Level 2) which are assessed through specific latent factors at Level 3, including Content Flexibility, Real-Life Link, Strategic Teaching, Class Management, and others, which further contribute to the overall educational quality assessment.

The educational objectives (OBJ1–OBJ5) are strongly tied to essential aspects of curriculum and teaching effectiveness. For instance, OBJ1 (Curriculum Foundations) relates to how well the curriculum is structured to meet fundamental educational goals. OBJ2 (Teaching Practices) focuses on the methods employed by teachers in delivering content and

engaging students. OBJ3 (Learning Resources) measures the accessibility and quality of resources that support the learning process, while OBJ4 (Assessment and Monitoring) evaluates how student progress is tracked and how feedback is provided. Lastly, OBJ5 (Planning & Creativity) captures the innovative and strategic planning efforts undertaken to create a dynamic learning environment.

The factor loadings (λ) in the model show the strength of the relationship between each factor and its respective latent variable, indicating how well each component contributes to its overall construct. For instance, OBJ1 (Curriculum Foundations) has loadings of 0.76, suggesting a strong alignment with the underlying factors (F1, F2), which means that observed data closely represent the theoretical constructs. Similarly, other objectives like OBJ2 (Teaching Practices) and OBJ3 (Learning Resources) also have strong loadings, ranging from 0.79 to 0.89, indicating that these aspects of teaching and learning are reliably measured.

The model's statistical fit indices further support its robustness. The Comparative Fit Index (CFI) value of 0.963 indicates that the model fits well, while the Root Mean Square Error of Approximation (RMSEA) of 0.043 suggests minimal error in the model's approximation to the actual data. The Tucker-Lewis Index (TLI) of 0.958 and Standardized Root Mean Square Residual (SRMR) of 0.051 also indicate good model fit, with SRMR being within the acceptable threshold.

The composite reliability (CR) for each objective (e.g., OBJ1, OBJ2, OBJ3) exceeds 0.7, and the average variance extracted (AVE) for most objectives is above 0.5, meeting standard thresholds for construct validity. The Cronbach's Alpha (α) values, ranging from 0.91 to 0.93, suggest excellent internal consistency, indicating that the observed variables are reliably measuring the intended constructs.

This model is grounded in theories of educational measurement and assessment, focusing on the multifaceted nature of teaching and learning. It incorporates well-established frameworks that emphasize the importance of curriculum design, teaching practices, and resource accessibility in improving student outcomes. Empirically, research supports the role of these factors in shaping educational

success.

5 Conclusion

The current study highlights the issues facing the students who attend multigrade classes in South Punjab, and these issues significantly affect the quality of education and enrollment. Key issues include resource limitation and barriers to learning, which reveal that the lack of support and material resources hinders the achievement of academic performance. The students were aware of the importance of specific solutions and effective classroom management practices, which implied that the proper approaches would produce a considerable change. Gender and school location differences on perceptual differences were highlighted with special emphasis on contextual and sociocultural determinants, but with little impact of the parental occupation on classroom problems. Overall, the paper has identified the necessity to reduce the barriers to learning, enhance resource accessibility, and optimize classroom operations to improve the quality of education and enrollment of more students in multigrade settings.

6 Discussion

The current research provides a considerable amount of data on how students perceive multigrade classrooms in South Punjab, especially the barriers to learning, resource issues, resource-limitation issues, the management of classroom practices, and recommended interventions that could help improve the quality of education and school enrollments. In line with conducted studies, students perceived learning barriers as a salient issue in the multigrade setting, mainly because of the divided attention of teachers and the inability to master content that is grade-specific.

Past studies have also reported that the students in multigrade classrooms often have challenges in attaining conceptual clarity and prolonged interest when learning time is allocated to different grade levels (Little, 2006; Kucita et al., 2013). One of the significant aspects that had a negative impact on the quality of the instructions was the resource constraints. It was believed that effective pedagogy in multigrade classes was hindered by the lack of access to textbooks, teaching aids, and supporting learning materials. These results support previously investigated literature that proves the adverse impact that limited resources have on instructional effectiveness and affects the motivation and academic achievement of students, particularly in rural and poorly developed areas (Du Plessis & Mestry 2019; Nasir-ul Haq 2017). These incompetence could be the cause of low enrollment and retention of students in school and, therefore, the general enrollment rates.

Conversely, the students showed a high level of support for the solutions to the problems proposed, which is an indication of hopefulness in relation to the change in multigrade teaching with the adoption of relevant strategies. The given observation confirms the idea that

multigrade education can be efficient in case it is supported by specific interventions such as teacher education, flexible curriculum, and structure-specific instructional planning (Castigador, 2019). The fact that positive perceptions were noted among the students implies that a potential solution to the existing structural and pedagogical gaps can greatly improve the learning experiences of students and their desire to proceed with education.

There was also a positive perception of classroom management practices, which play an important part in maintaining engagement and reducing disruption in multigrade classrooms. Previous studies have found that effective classroom management is one of the determinants of improved participation level and performance of students in a complicated classroom setting (Msimanga, 2019). The present results suggest that the positive reaction of students to classroom instruction becomes more apparent whenever educators use structured routines and integration of inclusive practices, even in the case of multigrade instructional difficulties.

The differences in perceptions by gender and location of schools reveal that contextual influences determine the experiences of multigrade classrooms among students. Those differences reflect previous studies that stress the impact of the social and environmental context on educational experiences in the rural and semi-urban areas (Little, 2006). Nonetheless, the insignificant influence of the occupational background of parents on most of the classroom challenges also implies that the school-level practice and resources are more determinant than family socioeconomic ones (Zafeer, Maqbool, Rong, & Maqbool, 2024).

In general, the research supports the importance of including the voices of students when discussing the issue of multigrade education. The perceptions of the students give useful insights into how the policy could be designed to accommodate learner-focused policies and classroom activities to enhance educational quality and the number of students joining the multigrade schools (Alipour, Dehghani & Javadipour, 2023).

7. Recommendations

1. The perceptions of students highlight the importance of using differentiated instructional techniques to overcome learning barriers and meet heterogeneous instructional needs, and enhance augmented learning engagement and performance.
2. Ensuring adequate resources of textbooks, instructional resources, and classroom space in multigrade classrooms is necessary to support the diverse learning requirements and improve the general standard of education.
3. There is an urgent need to design and implement contextually specific pedagogical approaches, including peer-assisted learning and flexible curricula, to address the problems facing learners in multigrade classrooms.

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