

Voices of Change: Single-Teacher Primary Schools Perspectives on Multigrade Pedagogy in Balochistan

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Abstract

Multigrade pedagogy, which involves instructing students from multiple grade levels in a single classroom, presents both unique challenges and opportunities for educators. This qualitative study explores the perceptions, strategies, and challenges faced by single-teacher primary school educators in Balochistan, Pakistan, within multigrade teaching environments. Grounded in Vygotsky's sociocultural theory, the study employs an ethnographic approach to gain in-depth insights into teachers' lived experiences. Data were collected through semi-structured interviews with 10 experienced single-teacher primary school instructors, complemented by classroom observations to capture teaching methods and classroom dynamics.

The findings reveal that teachers face significant challenges, including classroom management difficulties, resource limitations, and the need to address diverse learning needs. However, they demonstrate resilience and adaptability, employing collaborative learning, differentiated instruction, and innovative resource utilization to enhance student learning. Despite these challenges, multigrade pedagogy fosters student independence, a strong sense of community, and instructional flexibility. The study highlights the urgent need for targeted teacher training, policy support, and improved resources to enhance the effectiveness of multigrade teaching. Additionally, it suggests avenues for future research, particularly on student learning outcomes and best practices in resource-constrained educational settings.

Keyword: Singal-teacher, Primary school teacher, Multigrade pedagogy, Balochistan

Introduction

The education systems in developing countries in developing regions face a wide range of unique issues of inequality in education that have not been caused by overcrowding, socioeconomic constraints, and limited resources (Fomba et al., 2023; Mishra et al., 2023). Regarding South Asia, these problems are reflected in varied features, with the pattern created by the strong cultural background bedrock in the region's history

(Kang et al., 2021). Pakistan is all spelled out in this advocation landscape, struggling with a multi-dimensional educational barrier between its provinces (Hamid & Akram, 2014; Ullah et al., 2023).

Baluchistan, being the greatest Pakistan province when it comes to area, encompasses the Macro level problems (Arif et al., 2024). Vast landscapes, scattered settlements, and uncomplicated educational

infrastructure provide a snapshot of the complexity of fulfillment education in impoverished areas. Under this situation, the primary schools of Balochistan applied a multi-grade approach to schooling, which is a unique one-of-a-kind model in the area (Baloch et al., 2023; Jamaldini et al., 2022). In this situation, a lone teacher is supposed to take the whole student population, which is split up by grades, through a broad academic corridor. Hence, he has to be able to apply different pedagogies and disciplinary approaches for different groups of students in the given classroom spaces (Qayoom et al., 2024). The fabric of education in Balochistan, as observed all across the South Asian countries, exhibits the quandary before educators: fulfilling academic needs while managing systemic constraints (Thomas et al., 2021). The multigrade approach in instructional methods is illustrative of the resilience and ingenuity of the educators that, unfortunately, points to a huge challenge for the regional education systems (Thomas et al., 2021; Zafar, 2018). The study aims to shed more light on the nuances of multigrade education in relation to the South Asian and global contexts as a whole in this research by contextualizing the education system problems of Balochistan (Kang et al., 2021; Rashid, 2012). This research aims to offer horizontal policy diffusion and awareness to educational authorities not only in the Balochistan region but also at the provisions of educational policies in the regions of the world that face similar difficulties by analyzing in depth the perceptions and experiences of educators. Multigrade education as a means of both challenges and opportunities is the right answer (Khalid et al., 2024; Qayoom et al., 2024). Conversely, single-teacher schools could fail to deal with classroom management skills, problems related to differentiation, and, most likely, inadequate resources (Khalid et al., 2024). Teachers in this context should be conducting lessons whose implementation is creative and flexible (Rizvi & Nagy, 2016). The teachers have to use different approaches to handle the variety of audiences (Arif et al., 2023). In contrast, a multi-grade environment encourages students to cooperate, exercise peer mentors, and contribute to the general sense of community.

This study aims to identify the feelings of single teachers in single primary schools towards multigrade teaching methods applied in Balochistan province. Multigrade classrooms present interesting challenges to

the teachers since they have to teach students with various abilities, ages, and interests (Khalid et al., 2024; Qayoom et al., 2024). The qualitative study investigates teachers' strategies to address the challenges faced in multigrade classrooms. The theory of human activity that guides this study is Vygotsky's sociocultural theory, as it explicates the role of social interactions and cultural context in the learning process. This theory is worth mentioning in multigrade teaching, whose central concepts are peer-to-peer learning and scaffolding of education (Hemalataha et al., 2019; Marginson et al., 2017). This investigation will supplement the discussion on multigrade education in resource-poor and geographically challenged regions. This research on single-teacher Primary Schools in Balochistan focuses on teachers' lived experiences in these schools to demonstrate their advantages and creativity, which will help guide future actions to improve primary education in remote and underdeveloped areas.

Literature review

The multigrade pedagogy technique, which employs a single teacher to instruct the students of different classes in the same classroom, has also gained curiosity in educational research (Jamaldini et al., 2022; Khalid et al., 2024). This model is prevalent in rural or resource-poor areas characterized by assignments of students of different ages and intellectual abilities because of the logistical factors and unavailability of resources required to operate separate classes (Badar & Mason, 2020; Soofi et al., 2015; Nawab & Baig, 2011). The advocated review discusses core ideas and the liveliness of multigrade pedagogy, with special attention paid to its implementation in developing countries, especially Balochistan and Pakistan.

The widespread instruction through the help of multigrade teaching

Multigrade teaching is a problem in many parts of the world, especially in rural and remote areas. Given Van Wyk's (2019) research, multigrade classrooms are available in more than 50 percent of rural schools on the planet, proving the huge diffusion of this technique on higher educational levels. While arranging these classrooms may often be necessary to reach logistical goals, research suggests that multigrade classrooms can be a conscious pedagogical decision (Little, 2006). It

can follow the vision of creating a collaborative classroom, where students learn from each other, and teachers team up to create a learning community. Multigrade teaching is a viable way in the district of Balochistan to educate people in remote and unpopulated places (Qayoom et al., 2024; Tayyaba, 2012). Physical separation and student dispersed contingent combine to make a traditional single-grade classroom the only choice, forcing us into the multi-grade pedagogy.

Challenges of multigrade pedagogy

Despite the multigrade teaching sanity being flexible and budget-efficient, it also carries serious challenges. The teachers serving multigrade programs frequently encounter difficulties with group management, combining the different curricula with different grade levels and satisfying various differently developing children (Zwier & Geven, 2023). Moreover, lacking training specializing in multigrade teaching can lead to ineffective instruction. Besides, the deficiency of well-expertized training for multigrade teachers can lead to the carrying out of instruction methods that are not effective. The Balochistan problems are further complicated by factors such as a dearth of resources, inappropriate infrastructure, and socioeconomic constraints (Akhtar et al., 2024; Siddiqui et al., 2023). Compared to other classrooms, resource constraints are a vital issue in multipurpose classrooms in Balochistan, with many schools not having the most typical educational materials and facilities. Using limited resources calls for teachers to develop inventiveness and creativity in their way of teaching, frequently exploiting the community materials where there is a lack (Ghunio et al., 2023; Naheed, 2019).

Teaching in multigrade settings is also full of challenges: Strategies for effective multigrade teaching

Studies in multigrade pedagogy have highlighted that the learning environment and, ultimately, learning outcomes can be enhanced through specific strategies (Enayati et al., 2016; Naparan & Alinsug, 2021). Collaborative learning, where the students are each other's supporters, is a very important node seen in a multigrade classroom (Enayati et al., 2016; Proehl et al., 2013). The multigrade model uses a strategy of

differentiated instruction to accommodate diverse learning styles among students. Thus, teachers may tailor their lesson plans to fit students' needs (Smith, & Robinson, 2020). Multigrade teachers often face the impenetrable problem of disproportionate usage of resources. Their intuitive solutions come in handy to overcome limitations on resources. This may involve reutilizing materials or partnering with the local community to assemble a learning resource library for the classroom (Qayoom et al., 2024).

Benefits of multigrade pedagogy

However, embracing this approach is hard. On the contrary, multigrade teaching also has some benefits to give. It facilitates a cooperative learning setting, highlighting like-mindedness and a social sphere among the students (Thomas, 2021). With this collaborative work group, students will likely be able to create much tighter bonds and more respectful class dynamics, making it easier to work in teams and decrease conflicts (Enayati et al., 2016). In Balochistan, implementing multigrade classrooms has also been proven to be flexible in teaching; thus, the student-centered way of teaching becomes the perfect way to carry it out (Khalid et al., 2024). The teachers will, therefore, cater to the learning differences and learners with diverse learning paces by adjusting their teaching methods, ensuring that every student receives a well-tailored experience (Rizvi & Nagy, 2016). This individual-oriented way of instruction perfectly fits the concept of Vygotsky's zoning, where teachers adapt the level of aid and guidance, they provide to the learners' needs accordingly.

Theoretical framework

While Vygotsky's sociocultural theory is the main focus of this article, it is important to acknowledge that emerging technologies may contribute negatively to youth's cognitive development by shaping their learning habits and attention spans (Newman, 2018). This study adopts the framework of Vygotsky's sociocultural theory, highlighting that social interaction and cultural context contribution are indispensable in learning (Vygotsky, 1978). The central idea in multigrade classes that place peer interaction and collaborative learning at the core of instruction aligns well with Vygotsky's theory (Marginson & Dang, 2017). Vygotsky's theory,

therefore, gives a rational framework for understanding the student's learning and development.

The research on multigrade schooling shows both difficulties and benefits involved: difficulties stemming from this teaching method and valuable opportunities offered in making the most of innovative teaching methods and collaborative learning (Rizvi & Nagy, 2016). In exact regions like Balochistan, multigrade pedagogy presents a remedy against education disparities and a chance to continue the community feeling as the students. The literature review helps us delve into the pedagogical views of single- teacher classroom teachers for the multigrade teaching system in Baluchistan, Pakistan.

Methodology

This study is of a qualitative nature and aims to examine the attitude of the single- teacher primary school teachers of Balochistan province, Pakistan, towards the multigrade methodology, which is mainly based on their experience and tactics along with the encountered impediments. The qualitative research design has been used to emphasize to a full extent the perception of these teachers and the way they live in

multigrade situations in stand- alone primary schools. The data was collected, and favorable patterns and themes were formed through an in- depth ethnographic approach (Dahlin, 2021). The data collection procedure was based on purposive sampling, enabling the identification of single- teacher public schools in Balochistan, which are located in various geographical areas, exposed to different economic situations, and conveniently accessible (Flick, 2020). The implementation of this strategy targeted a diverse sample, allowing the viewing of the multi- grade pedagogy network in the Balochistan province. A purposive sampling strategy was employed to select participants, ensuring representation from diverse geographical and economic backgrounds. The sample comprised 10 single- teacher primary school teachers from both urban and rural regions of Balochistan. To ensure participants had substantial experience with multigrade teaching, a minimum teaching experience of five years was required. This criterion was established to gather insights from educators who have developed strategies for managing multigrade classrooms effectively. The Table 1 below summarizes the demographic details of the participants:

Table 1 Demographic characteristics of single-teacher primary school participants in Balochistan

Participant ID	Gender	Age (Years)	Teaching Experience (Years)	Educational Qualification
P1	Male	42	18	Bachelor's in Education
P2	Female	38	12	Master's in Education
P3	Male	45	20	Bachelor's in Education
P4	Male	35	10	Master's in Education
P5	Female	40	15	Bachelor's in Education
P6	Male	39	11	Master's in Education
P7	Female	41	14	Bachelor's in Education
P8	Male	44	19	Master's in Education
P9	Female	37	10	Bachelor's in Education
P10	Male	43	17	Master's in Education

Data collection involved two primary methods: semi- structured in- depth interviews and classroom observations. The selection of teachers involved in the study conducted in- depth interviews using a semi- structured questionnaire that provided a way to emphasize certain issues (Creswell & Poth, 2018). The interview questionnaire centered on the teachers' views

on multigrade teaching, the problems to overcome, ways they deploy, and their teaching influence on the learning outcome. All interviews were audio-recorded, and they were tactically transcribed for analysis.

The observation of the class was carried out in each teacher's class as a measure to gain knowledge on how they teach, their classroom management system,

and their interaction with their students. A structured observation guide, an instrument to process data simultaneously under one theme, was utilized to ensure reliability across different settings where data served as another source of contextual information (Doering & Cooper, 2022). Thematic analysis was the technique we followed, which involved the following stages. Next, we went through transcription of the data, which was subsequently coded to extract recurring patterns and themes. The coding process started with open coding, which produced different themes and directions in which responses were categorized. Axis coding then reduced different codes into broader categories, sorted by their connections. Afterward, thematic coding was essential for leveling down the codes and emphasizing the most important themes. Data collected from classroom observations followed the same analysis pattern, highlighting the types of instruction used, classroom dynamics, and student interactions. Deriving the conclusions from the coupled interpretations of interview and observation data, the researchers have

accumulated the overall viewpoint of multigrade pedagogy as a single-teacher primary school teacher in Balochistan.

Results

Identification of key themes

The analysis of participant narratives uncovered several key themes encapsulating the political, social, and economic dimensions of multigrade teaching in single-teacher primary schools in Balochistan. These themes emerged through a systematic coding process, including open coding, axial coding, and selective coding. The thematic analysis provides a nuanced understanding of the challenges, strategies, and benefits associated with multigrade pedagogy in this context. To illustrate the prominence of these themes, Table 2 presents the frequency of participant quotes categorized by theme and sub-theme. This table quantifies how often each issue was mentioned, highlighting the most significant concerns and effective strategies identified by teachers.

Table 2 Frequency of quotes across themes and sub-themes in multigrade teaching

Theme	Sub-theme	Frequency of Quotes
Challenges of Multigrade Teaching	Resource Constraints	8
	Diverse Learning Needs	6
	Classroom Management	9
Strategies for Effective Multigrade Pedagogy	Collaborative Learning	7
	Differentiated Instruction	6
	Creative Resource Use	5
	Fostering Independence	8
	Community Building	6
	Flexibility	5
Benefits of Multigrade Pedagogy		

Theme 1: Challenges of multigrade teaching

Resource constraints

One of the problems faced by the Balochistan teachers is the matter related to the resources. Educational materials are accessible only in limited amounts, textbooks are not abundant (Khalid et al., 2024), and other teaching resources make the teaching process even more complicated. Many teachers said they might have to be creative when utilizing very few resources and even materials. A teacher shared their experience of improvising teaching materials: “These

teachers are very creative and often make their own teaching materials. They can use all the resources they can find around them, such as cardboard, stones, or even leaves, to make the learning experience more interesting”. PI These challenges that result from inadequate resources show the picture of how dedicated these teachers are.

An attendee highlighted that lesson planning is significantly affected by a lack of school materials, whereby she stated thus, “*It’s hard to follow the curriculum when you go to classes without enough*

textbooks or materials. You have to invent ways to teach the same concepts using what you have, which is challenging". P3 It is important to note that this teaching method is commonly implemented in multigrade schools. One teacher discussed the impact of limited resources on student engagement: "*If there are not enough materials, it's tough to keep the kids engaged. You have to come up with engaging activities all the time". P9* This creativity is the blood of the classroom, which vitalizes effective learning.

Additionally, a teacher mentioned the challenge of obtaining new resources: "*Achieving new books or teaching material can be a sluggish process. Sometimes you have to wait over months to acquire resources, which impacts the quality of education". P4* Acquiring resources at a snail's pace is an obstacle to multigrade pedagogy. Another teacher highlighted the resource-sharing strategy among schools: "*Sometimes, we share facilities of neighbor schools or borrow some items to employ. However, such approaches can be unreliable". P6* This helps with learning resource scarcity and is a way of collaboration among single- teacher school teachers.

Diverse learning needs

Catering to the different learning needs of pupils in multi-grade classes is an additional important issue that multifunctional teachers will likely go through. In one classroom alone, teachers need to not only be able to teach different levels and learning styles of their students but also take into account each of their developmental stages, which leads to a certain number of lesson plan planning issues. The teacher argues, "*Multigrade classroom design entails you being flexible. Some students require extra assistance, while others can do the classwork independently. Your challenge is to find a balance between demanding the attention of every learner". P3* This ability to adapt to the unique needs of a class is mandatory. Another teacher described the difficulty of meeting varying learning paces: "*You have to figure out how to challenge those who master more quickly without leaving those behind who learn slowly- it is a constant tightrope performance". P2*This is about the need for differentiation, which is the core of multigrade pedagogy. One teacher mentioned the challenge of accommodating different age groups: "*Developing*

classes for first- graders and fifth- graders in the same room is hard since they have different likes and focus times. This makes it very difficult to do many things at once". P9 This progress makes the development of multigrade classes very complex.

Additionally, a teacher emphasized the importance of individualized attention: "*In some settings, pupils are grouped and taught together. In multigrade classrooms, one can only achieve individualized teaching". P10* It may only be a few minutes for each student, but it does have a positive effect. Another teacher noted the emotional aspect of addressing diverse needs: "*Students have their own emotional needs, too. You should be sensitive to individuals who need more encouragement and support while others learn better independently" P1* Therefore, this sensitivity is key in working with diverse learners". **P3**The single-teacher primary school teachers in Baluchistan's experiences are what these quotes and insights from these teachers elaborate on regarding the diverse difficulties involved in multigrade instruction. The study emphasizes the importance of the quality of classroom management, sufficiency of the instructional materials, and adaptability of the teacher in responding to the various learning abilities of her students simultaneously.

Theme 2: Strategies for effective multigrade pedagogy

Strategies for successful multigrade lesson plans

Though multigrade teaching in single- teacher primary schools in Balochistan may encounter certain big challenges (Naparan & Alinsug, 2021), the teachers find and use creative solutions to ensure high-quality lessons for pupils. These tactics include team learning, resource use, and differentiated instructions.

Collaborative learning

Teachers in multistage environments frequently utilize cooperative learning methods, which allow them to close the gap between pupils of different ages and grades. This strategy involves students teaching students with older ones being peer models for the younger ones (Enayati et al., 2016; Proehl et al., 2013). One of the teachers shared the advantage and asserted, "*Sometimes I ask those older kids to help the younger ones with their assignments. This creates an atmosphere where both contribute, and the younger can learn from an older*

peer". **P4** The outcome is not only cooperative, but the class is also well managed. Another participant explained how collaboration can foster a positive classroom culture: "*Students in a team work together and build their relationship that reduces conflicts and gives a good atmosphere*". **P7** The advantage of cooperative learning is that a harmonious classroom is created. A third teacher noted that collaborative learning can be useful for reinforcing concepts: "*In addition to empowering the younger students who learn from their peers, older students also experience an advantage as they explain by themselves to their peers. It is a win-win for everyone*". **P2** The insight here shows that multigrade learning is profitable in terms of peer-to-peer learning benefits.

Additionally, a teacher mentioned the role of collaboration in classroom management: "*Through collaboration, students ease the pressure off the teacher and bring in more attention to the exceptionally challenged students. This strategic approach, in turn, enables effective class dynamics*". **P8** Lastly, one teacher highlighted the importance of fostering student teamwork: "*I emphasize teamwork since it will help them develop interpersonal skills and produce an inclusive classroom. The first will lead to good industrialization*". **P6** This is important in the instruction of mixed classes where teaching inclusivity among the students is critical for developing good productivity.

Differentiated instruction

In multigrade classrooms, teachers deal with students' different learning needs using differentiated instruction, teaching in a manner most suitable to every student, depending on their level of ability or learning preferences. One teacher explained their approach to differentiated instruction: "*I organize students based on their ability and assign them a task fitting their knowledge level. In this way, it drives the fast students and supports the others who may yet need it*". **P1** The grouping technique helps regulate the speed of learning for each group. Another teacher described using differentiated instruction to maintain student engagement: "*I mix the activities from the group work to the individual tasks to keep the kids attentive. This helps me to tap into every student and improves learning motivation*". **P3** Mixing of the teaching strategies does

wonders in keeping the student's motivation intact. A third participant shared their experience with modifying lesson plans: "*I frequently alter my lesson plans in the blink of an eye due to how the students perform. Instantaneous reactions might tip the balance*". **P2** In multigrade teaching, response is vital.

Additionally, a teacher highlighted the need for patience and empathy in differentiated instruction: "*You ought to grasp that each student is different. Patience is vital, and you have to consider their variable needs*". **P7** The above view praises the emotional intelligence that multigrade instructors must have. One teacher emphasized the importance of individualized feedback: "*I ensure that I offer feedback to each student whose improvement I am tracking. This way they know where to focus and see that I care about their needs*". **P9** This technique improves the teacher-student relationship and promotes personalized education.

Creative resource use

Since there are limited resources in most single-teacher schools, educators usually use different strategies to improve learning. This approach involves using local resources and improvisation with available stuff. One teacher described their inventive approach to creating teaching aids: "*I grab discarded cardboard, stones, and other such items to make learning materials. It puts fun and enjoys the students more*". **P8** Because of this, these resource constraints can be dealt with. Another participant shared their experience with community-based resources: "*I regularly utilize the community in our activities and our learners' local knowledge and resources to make their learning experience more relevant to them*". **P5** This community engagement enriches the learning environment.

Another teacher discussed the importance of repurposing materials: "*We don't have the means to acquire new teaching aids, so we have to develop something. I reuse old materials and transform them into something that can be used in the classroom*". **P4** This is evidence of how creative teachers in multigrade classrooms can be in the face of adversity. Additionally, a teacher mentioned the benefits of integrating nature into the classroom: "*On occasion, we take lessons outdoors and use elements of nature as teaching aids. This adds a new dimension to education, and the*

students enjoy it thoroughly". **P1** The applied outdoor approach adds a new dimension to education.

Finally, one teacher highlighted the importance of technology, even with limited access: "*I employ my smart device to display instructional clips or play music during the class. It is not much, but it adds extra flavor to the lectures*". **P3** Such application of the technology, even if in the smallest amount, can be extremely influential in the classroom. This shows the different pedagogical strategies single- teacher primary school teachers working in Balochistan use to run multigrade teaching effectively. Such strategies show that multigrade teachers can be resilient, creative, and adaptable to resolve the variant problems of multigrade teaching.

Advantages of having multi-grade teaching

Even though multigrade teaching is associated with many challenges, most of the teachers in Balochistan realize the amazing advantages of this teaching approach. These advantages range from allowing students to become independent to creating a strong sense of community and allowing teachers to apply different teaching methods.

Fostering independence

Multigrade learning initiatives also imbibe a feeling of responsibility among the students, who learn to rely on themselves. Educators often do that by giving students more study freedom and getting them to work with their fellows. One teacher explained, "*In a multigrade classroom, students learn to take the initiative. They know they can't always rely on the teacher and thus start figuring things out independently*". **P10** This kind of independence plays a big role in developing critical thinking and problem-solving skills. Another participant noted the impact on student motivation: "*When students realize that they are in charge of their education, they become more motivated. They understand that their own abilities will decide on their success*". **P8** This underlines how cross-grade setups can influence pupils to take the role of decision-makers.

A third teacher described how older students often mentor younger ones, reinforcing their sense of responsibility: '*The older students inevitably assume leadership roles. They take care of their juniors, which*

benefits the younger ones and strengthens the older ones in confidence. So, this camaraderie plays a vital role in building the environment of support'. **P4** Additionally, a teacher shared their approach to fostering independence: "*I present options in their assignments and let them choose the project they prefer so that they learn to manage their time and pursue their interests. This way, they acquire independence while exploring their career paths*". **P1** This type of autonomy helps students explore their own career paths. One teacher highlighted the role of independence in classroom dynamics: "*One of the advantages of more independent students is that my job becomes easier. They put more effort into their work, allowing me to address those who need more help*". **P2** What this amounts to is more cooperation in the classroom between students and the teacher.

Theme 3: Benefits of multigrade pedagogy

Community building

In most cases, a multigrade classroom builds a sense of harmonious community; students of different ages and maybe from different backgrounds work together to support each other. There is a sense of togetherness among students from this atmosphere of collaboration, which ensures that the classroom is a great place to be in. One teacher described the sense of unity in a multigrade classroom: "*Our school, while teaching teamwork, creates a family spirit, where everyone looks out for each other*". **P4** Such a kind of community is crucial for creating an encouraging educational environment.

Another participant emphasized the role of collaboration in community building: "*Working as a team, classmates establish strong connections, which curtail disputes and generate a warm classroom environment*". **P7** This attribute supports positive classroom learning.

A third teacher noted the social benefits of a multigrade setting: The presence of the mixed-age group brings up a certain social pattern, which is beneficial for the older students to be role models and also the younger ones to have someone to look up to. This social network is important for respect and collaboration among students.

Additionally, a teacher shared how community building impacts student behavior: "*Sense of community*

oftentimes implies mutual respect and discipline. A positive atmosphere in the classroom is more likely to emerge in this environment where everyone's opinion is valued". **P2** It makes the whole learning process more effective. One teacher highlighted the importance of community in creating a safe learning environment: "A multistage learning environment creates security stemming from the fact that the members belong to a community. This gives students the comfort they need to focus on learning instead of being isolated from their peers". **P6** This security is a key element to learning.

Flexibility

By dating the matrix of pedagogy, you can allow teachers and learners to tune and tailor it to different learners' paces and needs and to manage the integration of various subjects in one class. In this case, the vital advantage of multigrade settings is adaptability, and because of such capability, there is a more personalized way of learning. One teacher explained how flexibility benefits teaching: "*In a multigrade classroom, I have the power to change my teaching styles so that what will work for them. If an approach isn't working, I simply change it to match the students' learning levels*". **P4** Being flexible is required because students have different learning stages. Another participant described how flexibility accommodates different learning paces: "*Some pupils learn faster; others spend more time acquiring the skills they learn. Being a multigrade teacher gives me this opportunity to allow them to focus on their progress without hurrying anyone*". **P8** The student-centered approach allows each pupil to receive the needed attention. Additionally, a teacher highlighted the benefits of flexible scheduling: "*I do have the privilege of adapting the timetable in accordance with the needs of my pupils. I can easily reconsider the lessons if we want more time for a specific subject topic*". **P5** The ability to do this type of flexibility in the timetable as a teacher is advantageous for a more student-friendly approach. One teacher emphasized the importance of flexibility in fostering creativity: "*I like to harness the freedom of teaching into my teaching methods. In this way, I can regularly change the learning approaches and keep the classes colorful for the students*". **P9** The creativity of teaching also guarantees the engagement of students and a dynamic classroom atmosphere. This passage exemplifies what

the teachers who effectively implement multigrade classroom instruction described as the different advantages of multigrade pedagogy in the context of single-teacher primary schools in Balochistan province. The advantages of developing self-reliance, understanding community, and detecting flexibility are the strong features of this teaching style, although students may face these challenges.

Discussion

This study's findings give a full picture of multigrade pedagogy in single-teacher primary schools in Balochistan, highlighting this educational method's complex patterns. Even though educators in such an environment face many challenges, their resilience and creativity are impressive (Jamaldini et al., 2022). This part deals with these conclusions in more detail and examines how they relate to teaching methods and educational policy (Akhtar et al., 2024). The results should also be in line with Vygotsky's sociocultural theory.

Resilience and imagination in teaching

The creativity and resilience demonstrated by single-teacher primary school teachers of Baluchistan are worth mentioning, especially in resource constraints and heterogeneous classroom dynamics. Teachers are often forced to search for unconventional class management strategies with little help and resources. This creativity is manifested in their use of local resources and their improvising and innovative teaching methods (Naparan & Alinsug, 2021). Teachers explained that they cope with multigrade teaching by finding specific classroom management techniques. Through building collaborative learning, which enables senior students to mentor junior ones, teachers create an atmosphere of community and ease their duty (Proehl et al., 2013). The importance of creativity is reflected in the teaching process as well. Teachers frequently customize their lesson plans by considering diverse students' learning styles and applying differentiated instruction where each student receives adequate attention (Ghunio et al., 2023). This adaptability is crucial in an environment where students have different levels of academic development. Consequently, the provision of flexibility in teaching becomes very significant (Qayoom et al., 2024).

Comparative studies on multigrade teaching

The challenges and strategies observed in Balochistan's single-teacher primary schools are not unique to this region (Ismail et al., 2024; Naparan & Castañeda, 2021). Several studies have documented similar experiences in other developing countries where multigrade teaching is a necessity rather than a choice (Minaz et al., 2024; Naparan & Alinsug, 2020). For instance, research in India and Nepal has highlighted that teachers in resource-constrained settings adopt innovative strategies, such as peer-assisted learning and flexible lesson planning, to manage mixed-age classrooms effectively (Khanal, 2022a). Similarly, studies from African nations, such as Zambia and Uganda, reveal that multigrade classrooms rely heavily on community engagement and localized teaching resources to overcome the shortage of trained educators (Jakachira, & Muchabaiwa, 2023).

However, while these contexts share common challenges—such as a lack of formal training for teachers, limited educational resources, and diverse student needs—there are also notable differences (Thabana & Molotja, 2021). In some African countries, multigrade teaching has been institutionalized with structured curricula and targeted teacher training programs (Novianti et al., 2022), which contrasts with the more improvisational approaches observed in Balochistan. Moreover, government-led interventions in Nepal and India, such as the introduction of multigrade-specific pedagogical frameworks, have provided teachers with systematic guidance (Khanal, 2022b), whereas teachers in Balochistan largely depend on personal experience and informal peer support.

By comparing these global experiences, it becomes evident that while resilience and adaptability are key traits among multigrade teachers worldwide (Sheridan et al., 2022), the effectiveness of their efforts can be significantly enhanced by institutional support and structured pedagogical training (Schina et al., 2020). These insights suggest that policymakers in Balochistan could learn from international best practices to develop training programs and provide instructional resources tailored to multigrade settings.

Community building and independence

One major result of the study indicates that multigrade teaching methods are some of the factors that

can generate a sense of belonging among students. Teachers frequently encourage students to work as a team and move forward together instead of individually as in normal settings. Such an approach is helpful to classroom discipline and leads to a more productive learning environment. The benefits of community building highlighted participation in the study, and one teacher remarked, Students with the greatest cooperation are the ones who form strong relationships, and conflict is reduced. So, the communal atmosphere contributes to a positive environment where the kids work together, helping each other with school tasks to achieve common goals (Qayoom et al., 2024). This community feeling aligns with his socio-cultural theory, which highlights the main social character of learning. The cooperative style of multigrade teaching further narrows children's independence. Because teachers can only provide individual attention to every student at a certain moment, students need to be responsible for their own learning and education (Rashid, 2012). This autonomy boosts their confidence and increases their self-reliance, leading to greater motivation. One teacher pointed out that students become more motivated if they control their learning process.

Theoretical alignment with Vygotsky's sociocultural theory

The findings of this study strongly align with Vygotsky's Zone of Proximal Development (ZPD), which emphasizes that students learn best when guided by more knowledgeable peers or teachers (Vygotsky, 1978). In multigrade classrooms, where a single teacher must cater to students of varying academic levels, peer-assisted learning naturally becomes a mechanism for cognitive development. Older or more advanced students help younger classmates by scaffolding their learning, enabling them to achieve tasks they would not be able to accomplish independently (Ibrahim et al., 2023). This collaborative approach mirrors the core tenets of sociocultural learning theory, which posits that knowledge is constructed through social interaction and shared experiences (Kraatz et al., 2020). Kemp (2023) concept of situated learning further supports this idea, as multigrade classrooms function as learning communities where students actively engage in knowledge-sharing. By interacting in mixed-age groups, students not only gain subject-specific knowledge but

also develop essential problem-solving and communication skills. Moreover, the cooperative learning structures observed in Balochistan's multigrade settings exemplify apprenticeship-based learning, where younger students learn by observing and collaborating with more experienced peers. This reinforces the idea that education is deeply embedded in social and cultural contexts, validating the importance of peer mentorship and collaborative learning in resource-limited educational environments. By integrating Vygotsky's sociocultural framework into the discussion, this study highlights how multigrade pedagogy can serve as an effective, theoretically grounded approach to education in under-resourced settings. These findings also suggest that policies supporting structured peer-learning programs could enhance student engagement and learning outcomes in single-teacher schools.

Flexibility and adaptability as features of educating

The multigrade educational system has the flexibility that allows an educator to modify teaching methods to meet individuals' different speeds and needs. This is an essential attribute given the fact that students from several grade levels are taught at the same time (Rizvi & Nagy, 2016). Educators are frequently forced to adapt their lesson plans, and these unforeseen circumstances often require them to be creative and resourceful.

Implications for policies and practices

This study comes up with important implications for educational policy and practice. Considering the distinct difficulties that the one-teacher primary school teachers of Balochistan are confronting, additional help, supplies, and specialized training should be provided. Following that, policymakers could offer professional development opportunities based on skillful classroom management, differentiated instruction, and resourceful teaching innovation.

In addition, there is the promotion of community-building as well as collaborative learning in the multigrade classrooms that should make schools encourage peer-to-peer learning as well as create a supportive academic environment. This strategy might result in better learning outcomes and a stronger classroom culture. Giving teachers the necessary

materials and workshops in the areas indicated above can help improve the quality of multigrade pedagogy.

The discussion shows the challenging but inspiring aspect of multigrade pupil instruction in single-teacher primary schools in Balochistan. Although the model has a few drawbacks, it opens up the possibilities for designing innovative curricula, fostering a sense of community, and providing a flexible learning environment. The attributes of the teachers, such as resilience and creativity, reflect Vygotsky's sociocultural theory, which is based on social interactions and cultural context when it comes to learning. The findings of this exposition give a solid base for the research of multigrade pedagogy and its influence on educational results in resource-deficient settings, which can guide future policy and practice in contexts with the same characteristics.

Conclusion

This study gives unique information about multigrade teaching pedagogy as perceived by single-class teachers in Balochistan. It shows the multi-faceted nature of teaching in a primary-level school, where special obstacles exist, such as managing different classrooms and addressing various learning needs. The results, in addition to that, demonstrate the resourcefulness and inventiveness that make teachers who constantly find new ways to teach, student collaboration, and adaptative instructional methods.

Even though this method comes with its own set of difficulties, it also has some unique advantages. It builds a love of learning among students, increases the level of independence in students, and enables the teacher to exercise greater individualization in teaching. These benefits align with Vygotsky's socio-cultural theory, which shows that learning is a social process whereby peer learning occurs, and cultures play a significant role. Multi-grade teaching, which is collaborative in nature, also encourages social learning and shifts the teacher-student relationship by placing the students at the center of learning.

The research demonstrates a need to link single-teacher primary schools in Balochistan and additional sources to improve multigrade teaching results. This support would incorporate skills such as teacher training, increased access to resources, and unique management strategies in a classroom with multiple

grade levels. The policymakers and educational stakeholders should put the recommendations to use to improve the quality of teaching and learning outcomes in the resource-pinched areas. Follow-up research may be directed to the long-term consequences of multigrade instruction on learner performance, including academic achievements, social relations, and summing the quality of education. Lastly, research would be useful in discovering the most effective approaches for aiding isolated schools of one teacher by laying out the appropriate training sessions, resource supplies, and interaction with the community. These upcoming investigations will add to the understanding of multigrade pedagogy. They will provide direction for improving primary education in regions with a similar context as Balochistan. This research has presented holistically the multigrade class management of the mono-teacher primary school teachers' perspectives in Baluchistan. It pinpoints the need for encompassing policies and resources to deal with the complexities of the pedagogical model. However, it also recognizes the inventiveness of strategies and the ability to fuse the community into the multigrade teaching scheme.

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