

## **Inclusive Education Practices in Gilgit-Baltistan: Effective Strategies for Supporting the Inclusion of Students with Disabilities in Mainstream Primary Classrooms in Gilgit and Skardu**

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### **Abstract**

Mainstream education refers to a system in which students with and without disabilities learn together in general classrooms with equal opportunities, appropriate support, and meaningful participation. It emphasizes inclusion, acceptance, and the removal of barriers that limit learning and engagement. This study examines inclusive education practices in mainstream primary schools in Gilgit and Skardu, focusing on teachers' perceptions of infrastructure, teaching strategies, instructional resources, and classroom interactions. Using a quantitative research design, data were collected from 120 teachers through a structured Likert-scale questionnaire. Purposive sampling ensured representation from government, private, and community schools. Findings show that although teachers hold positive attitudes toward inclusion, significant challenges persist. Infrastructure is moderately adequate but lacks disability-friendly facilities and assistive tools. Effective teaching strategies are commonly used, yet teaching-learning aids and digital resources remain limited. Strong teacher-student and peer relationships support collaboration and social development. Skardu shows slightly better facilities and resources than Gilgit. The study highlights the need for improved infrastructure, targeted teacher training, and greater availability of inclusive teaching resources.

**Keywords:** *Inclusive education, mainstream education, purposive sampling, Gilgit-Baltistan, teaching strategies, infrastructure, teaching-learning aids, collaborative learning, disability inclusion.*

### **Introduction**

The concept of inclusive education has gained a key focus in the international educational reform, and it is proposed that every child deserves to receive equal and quality learning opportunities. International laws like the Salamanca Statement (1994) and the Individuals with Disabilities Education Act (IDEA) have offered powerful grounds on the incorporation of students with disabilities in regular classrooms and underlining that diversity enhances learning settings and not inhibits them (Mitchell and Sutherland, 2020; UNESCO, 2019). According to Dr. Muhammad Javed Aftab (2024), the idea of inclusive education is not just a policy statement; it is an ethical and social obligation that recognizes the dignity and potential of every student.

Education is known to be a basic human right yet many children with disabilities continue to be

barred in developing areas such as Gilgit-Baltistan. In spite of significant achievements on the policy levels, many students still face challenges that do not allow them to be fully involved in the school life. Inclusive education is aimed at breaking this imbalance by making sure that learners with disabilities are not isolated but study together with their colleagues in mainstream support systems. It is a change towards a more equal and fair educational system that accommodates diversity, participatory, and equal opportunities to academic and social growth.

Across the world, the call towards inclusive education gained momentum with the Salamanca Statement and the UN Convention on the Rights of Persons with Disabilities (CRPD, 2006), which asked countries to redesign school systems to achieve the needs of every child. In Pakistan, inclusive education is actively gaining a position in the country, including the Gilgit-Baltistan region, yet it is implemented unevenly (Dr. Muhammad, Faisal & Hira, 2024). In Gilgit and Skardu, the schools in most of its areas have geographically isolated locations and resource limitations. This has seen a high number of children with disabilities drop out of school or fail to attend school altogether because of lack of adequate facilities, unqualified personnel and social stigma attached to them. This points to the importance of looking into mechanisms that may empower the integration of such learners in regular primary schools.

### **Concept of Inclusive Education**

Inclusive education is not only limited to the physical location of students with disabilities within general classrooms. It is a manifestation of a belief system that believes in each child as a competent and respected individual in the learning community. Patel (2023) claims that inclusive settings will support empathy, respect, collaboration, and situate diversity as an asset instead of a challenge. This strategy requires that teachers be flexible in teaching methods, differentiate instruction as well as establishing emotional supportive environments that meet different needs of learning.

Inclusion education has far reaching ramifications in a region such as Gilgit-Baltistan that cultural beliefs lay emphasis on community service and social responsibility. DR. As Pinakshiben (2023) points out, inclusive classrooms provide better social cohesion and contribute to the reduction of stigma since children with and without disabilities regularly engage with one another daily. Studies indicate that these environments will improve the academic performance of learners, their communication abilities, and their emotional growth, among all learners, and not only those with disabilities. Inclusion, therefore, is a vital element of quality education since it is beneficial to the whole class.

### **Global and Theoretical Background**

The history of modern inclusive education remains based on theoretical frameworks focusing on equity, accessibility, and flexibility. The Social Model of Disability supports the idea of putting the emphasis not on the impairment of the child but on the limitations that the society imposes on their involvement. Similarly, Universal Design Learning (UDL) and Differentiated Instruction (DI) provide effective tips and strategies to create an adaptive and accommodating learning environment to diverse learners (Meyer et al., 2014). Recent research in Southeast Asia shows that teacher training in UDL leads to a considerable increase in teacher confidence, diversified teaching strategies, and student engagement (Rahmi et al., 2024).

These results have direct implications on Gilgit-Baltistan, which has a low teacher preparedness as one of the greatest barriers to the introduction of inclusive practices. Poor exposure to special pedagogy, the absence of mentoring, and access to professional development limit the capabilities of teachers to access the diverse learning needs.

### **Challenges in the Local Context**

Despite the international investment in the inclusion process, its effective implementation in Gilgit-

Baltistan continues to be complicated by a number of interrelated barriers. Schools frequently do not have assistive technologies, available infrastructure, and specially trained personnel. Classroom-based teaching is usually traditional, which implies lectures and does not provide much scope of instructional differentiation. The awareness of inclusive education in the parents is still not high, and most families continue to view disability in a charitable or medicalized approach.

The attitudinal barriers are one of the most intractable problems. Children with disabilities are marginalized due to social stigma, misconceptions with disability and poor expectations on the part of both educators and their parents. System-level limitations including the old fashioned curricula, standardized tests and lack of financial resources make the transition to inclusive practices even more complicated. Furthermore, the most common scenario is that lots of teachers do not know how to implement proven strategies like co-teaching or peer-assisted learning or individualized education plans (IEPs), which prove to be effective in other cases (Friend, 2019; Florian and Spratt, 2021). These obstacles explain why a multi-level approach is required with the involvement of educational leaders, teachers, communities, and policymakers.

### **Rationale and Purpose of the Study**

Considering these difficulties the current research aims at discussing and finding out viable, site specific solutions which can empower inclusion of students with disabilities in the regular primary classrooms in Gilgit Baltistan (Gilgit and Skardu). The research seeks to fill the gap between the world best practices and the local realities by evaluating the forces of influence on the outcomes of inclusive education in the region. The study is based on the national and international models and is centered on such strategies like: Collaborative teaching between general and special educators, Effective use of assistive technologies and adaptive learning tools, Continuous professional development and mentorship towards teachers, Strengthened parental and community engagement.

The interventions are consistent with the international research evidence that underscores Universal Design of Learning as the core of inclusive schooling, co-teaching, and positive behavioral support as the pillars of inclusive schooling (Patel, 2023; Rahmi et al., 2024). The analysis of the strategies within the context of Gilgit-Baltistan allows the study to add to the existing literature on inclusive education in remote and resource-bound areas.

### **LITERATURE REVIEW**

Inclusive education has been generally accepted as a human rights form of approach that provides a fair access of learning opportunities to all students, including those with disabilities. UNESCO (2020) defines inclusive education as a system where children are learning, with and without disabilities in the same classroom environment with proper accommodations, service support and instructional approaches. This strategy does not entail mere placing of students with disabilities in ordinary classes but focuses on meaningful inclusion, acceptance and elimination of structural, social as well as instructional impediments that restrict learning. The globalization with regards to inclusive education is a testament to the fact that diversity improves the learning process and that every learner stands to gain academic, social, and emotional advantages in inclusive learning.

### **Quality of Educational Infrastructure and Learning Outcomes**

The educational infrastructure is one of the pillars that determines the learning outcome, attendance, and the conduct of the students. Studies have always indicated that physical condition of school facilities directly and quantifiably affects school performance. It was discovered by Fisher and Ken (2001) that students who studied in the up to date and well preserved school buildings represented a lot better on academic assessments than students in run-down facilities. The enhancement of infrastructure conditions in clean classrooms, sufficient ventilation, provision of sufficient lighting and well-planned spatial layout had been linked with 5 to 10 percent improvement in student test

scores. Likewise, there were 7 to 8 percent in improvement in academic performance in students who lived in recently renovated buildings as compared to those that lived in old buildings.

In addition to poor academic performance, poor indoor air quality (IAQ) has been associated with adverse health effects in children leading to high levels of absenteeism. Researches conducted by Smedje and Norback (1999) had documented positive correlations between airborne bacteria, mould and high asthma prevalence which in turn increased the level of absenteeism. The results can be backed by previous studies which show that students and teachers in unhealthy environments find it difficult to work at an optimal level (EPA, 2000; Kennedy, 2001; Leach, 1997). Other environmental conditions like heat, cold, noise and poor ventilation also influence concentration, attention and teacher performance. The literature also argues that smaller sizes of schools have some positive effects on learning, especially to lower socioeconomic status students, as they are more likely to have closer relationships and more individualized instruction.

Bryk et al. (1998) took the discussion a step further by highlighting the significance of institutional support systems to school-based management (SBM). They have defined four elements of strong reform infrastructure which are decentralization, local capacity-building, tough external accountability and sustained innovation. They indicate in their work that effective adoption of new practices in schools through strong external support and investment in development, research, and professional networks can build and enhance inclusive and responsive learning environments.

#### **Effectiveness of Teaching Strategies and Student Engagement**

These teaching strategies are important in promoting students engagement, which has been broadly classified into behavioral, emotional and cognitive aspects. According to Fredricks et al. (2020), autonomy-supportive teaching environment contributes to the motivation of students because it gives teachers the freedom to modify their approaches during different needs. Nonetheless, high-stakes testing and curricula rigidity may slow down the creativity of teachers, decrease motivation and lead to professional burnout (Vlachopoulos and Makri, 2021).

Student engagement and teacher motivation are reinforcers. According to Landers (2020), a motivated teacher creates more interactive and creative lessons, which results in a better student engagement and interest. Passionate teachers motivate students, boost the sense of connection, and develop an emotional bond within the classroom (Seaborn and Fels, 2021). Research also shows that inspired educators have a positive impact on cognitive engagement through the promotion of critical thinking and problem solving (Koivisto and Hamari, 2019).

Gamification has become a potent teaching method and has enhanced engagement because of the interactive and rewarding learning platform. Zainuddin et al. (2020) show that learning with the help of gamification can lower student anxiety, increase emotional involvement, and become more satisfying. In a similar manner, Mekler et al. (2019) discovered that gamification enhances the behavioral engagement, which results in higher attendance levels to classes and the completion of assignments. These results indicate that continuous teacher education and professional growth are required in order to improve instruction and keep the students motivated.

#### **Availability and Utilization of Teaching-Learning Aids**

Instructional resources such as multimedia and technology have a great impact on the learning process of the students. In accordance with the national educational policy of Nigeria, the quality education also helps build intellectual, technological, and social capabilities that make the national development possible (FRN, 2014). The learning process can be made more interactive and accessible to the learners with the integration of technology into the learning process allowing the learners to engage with the learning process by using text, image, sound, and animation.

According to the authors, like Onyekwelu (2024), Ofozoba and Ofozoba (2023), and Abonyi (2023),

the accessibility of the teaching-learning materials is characterized by the presence of sufficient instructional resources that may be used to deliver the curriculum. These resources help in active learning since they allow learners to manipulate and explore knowledge and apply it. The introduction of technology-based instructional approach moves the conventional chalk-and-talk approach to a learner-centered approach which facilitates attentiveness, collaborative learning and problem-solving. Multimedia tools enhance creativity, motivation and support and scaffold complex concepts through visual and auditory reinforcement. It is also found that multimedia environments enhance the understanding and remembering especially among students who use different forms of sensory information to learn.

### **Role of Social Interaction in Collaborative Learning**

Effective learning and the inclusion of all learners in the classroom requires social interaction, such as student-teacher interactions and peer-to-peer interactions. Collaborative learning strategies are based on communal responsibility, communication, and constructive interdependence of students. Johnson et al. (2007) and Lozano et al. (2013) emphasize the significance of collaborative skills in sustainable development, which states that the supportive teaching environment can positively affect the achievement and well-being of learners.

The need-supportive teaching approach, characterized by the emphasis on autonomy, structure, and teacher involvement, promotes the engagement of students and improves the relationships in the classroom (Reeve, 2006; Klassen et al., 2012). The presence of teachers helps to build trust, motivation, and involvement, which is part of an inclusive and emotionally safe setting (Adams, 2023). Cooperative learning frameworks support these strategies and they have been extensively used in teaching environments, such as physical education, to enhance teamwork, communication, and social-emotional competence (Bores-García et al., 2021; Cañabate et al., 2021).

Peer learning and peer teaching also promote academic integration as students can explain concepts, ask questions and elaborate their knowledge. With peer tutoring, in which more experienced students assist novice learners, the understanding and promoting responsibility and reflective learning improve (Topping, 1996; Stigmar, 2016). It has been researched that good peer networks were associated to academic persistence, and absence of peer support was associated with academic hardship (Kurri, 2006). The results highlight the significance of establishing supportive social networks in inclusive classrooms to foster belonging, motivation and achievement.

### **Research Methodology**

This study adopted a quantitative research design to examine Inclusive Education Practices in Gilgit-Baltistan and to identify effective strategies that support the inclusion of students with disabilities in mainstream primary classrooms in Gilgit and Skardu. A structured questionnaire containing 40 Likert-scale items was used to collect data from primary school teachers working in public, private, and community schools. Purposive sampling was employed to select a sample of 120 teachers representing diverse qualifications, teaching experiences, and school settings. The instrument was validated by experts in Special Education to ensure clarity and relevance, and reliability was confirmed through Cronbach's Alpha. Data were collected through self-administered questionnaires and analyzed using SPSS Version 24 to generate frequencies, percentages, means, and standard deviations. Ethical protocols were strictly followed, including informed consent, voluntary participation, confidentiality, and the right to withdraw at any stage. The methodology ensured an accurate and objective assessment of teachers' perceptions and inclusive practices across mainstream classrooms in Gilgit and Skardu.

**Table 1: Demographic Characteristics of Primary School Teachers (N = 120)**

Variable	Category	Frequency (n)	Percentage (%)
<b>Gender</b>	Male	50	41.7
	Female	70	58.3
<b>Age</b>	20–30 years	51	42.5
	31–40 years	56	46.7
	41–50 years	13	10.8
<b>District</b>	Gilgit	60	50.0
	Skardu	60	50.0
<b>Qualification</b>	B.Ed	31	25.8
	M.Ed	28	23.3
	Master	45	37.5
	MPhil	16	13.3
<b>Teaching Experience</b>	1-5 years	59	49.2
	6–10 years	55	45.8
	11–15 years	4	3.3
	Above 15 years	2	1.7
<b>Type of School</b>	Government	50	41.7
	Private	66	55.0
	Community	4	3.3
<b>Location of School</b>	Urban	81	67.5
	Rural	39	32.5
<b>Taught a Student With Disability</b>	Yes	25	25.0
	No	75	75.0
<b>Training in Inclusive Education</b>	Yes	35	29.2
	No	85	70.8
<b>Class Level Taught</b>	Grade 1	11	9.2
	Grade 2	25	20.8
	Grade 3	25	20.8
	Grade 4	14	11.7
	Grade 5	45	37.5

The study included 120 primary school teachers, most of whom were female. The majority were between 20 and 40 years old, with very few above 40. Teachers were equally selected from Gilgit and Skardu. Most participants held a Master's degree, and many were early-career teachers with less than 10 years of experience. More than half worked in private schools, and most were teaching in urban areas. Only a small number had ever taught a student with a disability, and nearly 71 percent

had never received any training in inclusive education. The largest group of teachers taught Grade 5, while smaller numbers taught Grades 1 to 4<sup>th</sup>.

**Table 2: Descriptive Statistics on the Adequacy of School Infrastructure and Facilities (N = 120)**

Statement	Mean	Std. Deviation
The classrooms in my school are spacious and well-ventilated.	2.51	1.26
The school library provides sufficient learning materials for all students.	2.74	1.25
The laboratory facilities are adequate for practical learning.	1.64	1.18
The physical environment of the school supports effective learning.	2.79	0.97
The infrastructure accommodates students with special needs.	1.06	0.90
Cleanliness and maintenance of the school contribute to a better learning environment.	3.84	0.70
Classrooms are equipped with modern teaching facilities.	2.78	1.32
The school provides a safe and inclusive environment for all learners.	1.52	1.44
The infrastructure of the school promotes student engagement.	3.53	0.85
Lack of facilities negatively affects the learning process.	4.35	0.90

Table 2 shows that teachers rated most aspects of school infrastructure as low to moderately adequate. Classrooms were seen as only somewhat spacious and ventilated, and library resources were rated average. Laboratory facilities and infrastructure for students with special needs received very low scores, indicating major shortcomings. Cleanliness and maintenance were rated highly, suggesting that schools are generally well-kept. Modern teaching facilities and the overall physical environment were viewed as moderately sufficient. However, teachers rated the safety and inclusiveness of the school environment as poor. The highest-rated statement showed strong agreement that lack of facilities negatively affects the learning process, highlighting a clear concern about inadequate infrastructure.

**Table 3: Descriptive Statistics of the Effectiveness of Current Teaching Strategies and Student Engagement (N = 120)**

Statement	Mean	Std. Deviation
Teachers use a variety of teaching methods to engage students.	3.77	0.79
Group activities are regularly used to enhance learning.	4.12	0.95
Teachers adapt their strategies according to students' needs.	3.17	1.10
Students are encouraged to participate actively in lessons.	4.19	1.08
The teaching methods used in my school improve academic performance.	4.21	0.82
Teachers effectively use questioning techniques to develop critical thinking.	3.76	0.71

Statement	Mean	Std. Deviation
Teachers give regular feedback to improve learning outcomes.	4.07	0.75
Teachers integrate real-life examples to make lessons interesting.	3.84	1.33
Teaching strategies promote teamwork and collaboration.	3.83	1.10
Ineffective teaching methods reduce student interest in learning.	3.89	1.37

Table 3 shows that the teachers tend to believe that the existing teaching strategies are effective and conducive to student engagement. They highly concurred that, group activities, active participation and frequent feedback have been observed to be common and useful in enhancing learning. The methods of teaching were also perceived to influence improved academic performance. According to teachers, techniques of questioning and the application of real-life examples are commonly used with a certain degree of variation. The rating of adaptation of teaching strategies according to the needs of students was moderate, which is an opportunity to improve. Overall, the results indicate that effective strategies are widely practiced, and teachers recognize that poor teaching methods can reduce student interest.

**Table 4: Descriptive Statistics on the Availability and Utilization of Teaching-Learning Aids (N = 120)**

Statement	Mean	Std. Deviation
Multimedia tools (e.g., projectors, videos) are used frequently in classrooms.	1.98	1.42
Textbooks and learning materials are available for all subjects.	3.57	1.19
Teachers effectively use digital resources to improve learning.	2.90	1.36
Teaching aids make lessons more engaging and understandable.	4.05	0.87
My school has sufficient teaching-learning aids.	2.06	1.45
Teachers receive support in using multimedia and digital tools.	1.10	1.29
Lack of teaching aids affects lesson effectiveness.	3.28	1.15
Students enjoy lessons that use visual or audio aids.	3.69	1.23
Teaching-learning aids are well-maintained and accessible.	2.47	1.32
Using technology enhances students' academic achievement.	4.11	0.92

Table 4 indicates that teachers feel that the use of teaching-learning aids makes lessons more interesting and enhances academic outcomes, yet there is a low presence and utilization of such tools in academic institutions. The use of multimedia tools is minimal, and most teachers have said that they use little or no assistance in utilizing digital resources. Textbooks are mostly accessible,

whereas other teaching resources are insufficient and not in good condition. Teachers did observe that technology can be used to improve learning but their schools did not have the resources required. Overall, the results highlight a gap between the recognized importance of teaching aids and their practical availability in classrooms.

**Table 5: Descriptive Statistics of Social Interaction, Collaborative Learning, and Overall Student Development (N = 120)**

Statement	Mean	Std. Deviation
Students feel comfortable interacting with their teachers.	3.98	1.01
Peer interaction helps students learn better.	4.25	0.77
Group work enhances students' social and communication skills.	4.37	0.72
Positive teacher–student relationships improve classroom learning.	4.00	0.94
Students support each other in academic activities.	4.23	0.64
Classroom discussions promote critical and creative thinking.	3.68	1.08
Teachers are approachable for academic and personal guidance.	4.41	0.57
Peer relationships positively influence student motivation.	3.91	1.00
A collaborative environment promotes overall student development.	4.28	0.77
A collaborative environment promotes overall student development.	4.52	0.71

Table 5 indicates that teachers consider social interaction and collaborative learning as very supportive of the development of students. Students usually feel free to interact with the teachers, and peer interaction is perceived to help them in learning better. The aspect of group work was rated highly for developing social and communication skills. Teachers further thought that good teacher–student relationships enhanced classroom learning and students tend to assist one another in coursework. The average rating of classroom discussions was fairly high, indicating a certain fluctuation in the efficiency of the latter in terms of encouraging critical thinking. Teachers were regarded as friendly, and this also contributes to the confidence of students. In general, the findings demonstrate that a cooperative and supportive classroom setting is also very valuable in terms of motivation and general development of students.

**Table 6 Independent Samples t-Test Comparing Gilgit and Skardu on Key Study Variables (N = 120)**

Variable	District	N	Mean	SD	t	p	Mean Difference
<b>Adequacy of School Infrastructure &amp; Facilities</b>	Gilgit	60	2.79	0.62	-2.12	.036	-0.21
	Skardu	60	3.00	0.58			
<b>Effectiveness of Teaching Strategies &amp; Engagement</b>	Gilgit	60	3.88	0.57	-1.98	.050	-0.18
	Skardu	60	4.06	0.59			
<b>Availability &amp; Utilization of Teaching-Learning Aids</b>	Gilgit	60	2.68	0.73	-2.45	.016	-0.27
	Skardu	60	2.95	0.79			
<b>Social Interaction &amp; Collaborative Learning</b>	Gilgit	60	4.05	0.48	-1.72	.088	-0.11
	Skardu	60	4.16	0.52			

Table 6 shows the differences between Gilgit and Skardu teachers across the four major factors.. In Skardu, the teachers were reported to have improved school infrastructure, effective teaching strategies, and access and utilization of teaching-learning aids in comparison with the teachers at Gilgit. The significant differences were found to be statistically significant in Adequacy of School Infrastructure and Facilities, Effectiveness of Teaching Strategies and Engagement, and Availability and Utilization of Teaching-Learning Aids. Nevertheless, the levels of social interaction and collaborative learning did not significantly differ, with each group reporting no difference in high levels. Overall, the results suggest that schools in Skardu appear to have slightly stronger facilities and teaching resources, while both districts provide comparable levels of student interaction and collaboration.

### Summary

This study explores how inclusive education is being implemented in mainstream primary schools in Gilgit and Skardu, focusing on teachers' perceptions of school infrastructure, teaching strategies, teaching-learning aids, and classroom interaction. Inclusive education refers to the education of all children together with the necessary support, but in Gilgit-Baltistan a significant number of students with disabilities continue to be hindered by inadequate facilities, insufficient trained teachers, and lack of awareness in the community. The literature indicates that good infrastructure like clean and well-ventilated rooms and accessible buildings enhance learning whereas poor air quality and poor facilities enhance absenteeism and poor performance. The research also concludes that teachers employ effective teaching strategies such as group work, questioning, feedback, and real-life examples, but they are not motivated because of rigid curricula. There is a lack of technology and multimedia resources, although teachers think that they make the learning process more interesting. Social interaction is a good strength, and teacher-student relationships and peer support are positive and contribute to motivation and overall development. A survey of 120 teachers indicates that the majority of them have never taught students with disabilities and have not received formal training in inclusive education. Special needs facilities are poor, teaching strategies are mostly good, teaching-learning aids are inadequate and collaborative learning is highly appreciated. The

comparison of the districts reveals that Skardu is slightly ahead in terms of infrastructure and resources, whereas both districts demonstrate the same level of social interaction. The study concludes that inclusive education in Gilgit-Baltistan needs better infrastructure, more teaching-learning resources, and specific teacher training to be able to support students with disabilities in regular classrooms.

### **Discussion**

The findings of this study provide a clear picture of how inclusive education is being practiced in mainstream primary schools in Gilgit and Skardu. While teachers showed positive attitudes toward inclusion, several structural and instructional challenges continue to limit effective implementation. The sample consisted mainly of young teachers with strong academic qualifications, yet most had fewer than five years of experience. This suggests a workforce open to innovation but still in need of targeted professional development. Similar observations were reported by Sharma, Forlin, and Loreman (2020), who argued that newly trained teachers are often more willing to embrace inclusive practices but lack the practical exposure required to implement them confidently.

The analysis of school infrastructure indicates noticeable gaps in accessibility and disability-friendly facilities. Teachers reported inadequate classroom space, limited specialized equipment, and insufficient adjustments for students with physical or sensory impairments. These findings align with UNESCO (2020) and Ainscow (2019), both of whom emphasize that meaningful inclusion is impossible without supportive school environments. Farooq & Zeshan (2021) also found that schools in remote regions of Pakistan often struggle with poor infrastructure, which directly affects the participation of students with disabilities.

Regarding teaching-learning aids, the results show that although teachers recognize the importance of multimedia resources and visual aids, many schools lack sufficient materials, and teachers often have limited training in using the available tools. This is consistent with Lodhi et al. (2022), who reported that a lack of instructional resources remains a major barrier to inclusive teaching across Pakistan. Al-Zyoud and Gaad (2021) similarly noted that in developing countries, the absence of appropriate teaching-learning aids significantly reduces teachers' ability to adapt lessons for diverse learners.

Teachers' attitudes toward inclusive practices were generally positive, indicating awareness of the need to support students with disabilities. However, their responses also highlighted gaps in skills related to differentiated instruction, individualized support, and classroom management for diverse learners. These findings are supported by Woodcock (2013), who found that teachers often express supportive attitudes toward inclusion but hold misconceptions or insufficient knowledge regarding specific disabilities. Haideri, Abbas, and Khatoon (2025) also reported similar challenges in Gilgit, noting that general education teachers show willingness but lack specialized training in disability support.

Differences between urban and rural teachers were also evident. Urban teachers reported better access to facilities, training, and administrative support, while rural teachers struggled with larger class sizes, limited resources, and minimal exposure to inclusive pedagogies. This urban-rural divide is well documented in the literature. Nasim (2023) found that urban schools in Pakistan are more likely to adopt inclusive practices due to better infrastructure and professional development opportunities. Rubee and Thapliyal (2024) similarly argued that rural teachers often face systemic constraints that limit their readiness to support learners with disabilities.

Overall, the findings of this study are consistent with national and international research showing that inclusive education is progressing but faces significant practical barriers. Teachers in Gilgit-Baltistan demonstrate positive attitudes and awareness, but insufficient infrastructure, lack of

teaching aids, and limited professional development inhibit effective implementation. These results reinforce the need for sustained teacher training, improved school environments, and targeted policies to strengthen inclusive education in both Gilgit and Skardu.

### **Recommendations**

#### **1. Strengthen Teacher Training in Inclusive Practices**

The results indicate positive attitudes of teachers towards inclusion, but a low level of practical skills in differentiation and individualized support. Training on inclusive pedagogy, classroom adaptations, and awareness of disabilities should be conducted regularly and specifically.

#### **2. Improve School Infrastructure to Support Accessibility**

Accessible classrooms and specialized facilities had low mean scores, which means that physical barriers are still a significant problem. Schools are supposed to equip them with ramps, accessible toilets, visual signs and adjustable furniture. UNESCO (2020) also argues that students with disabilities cannot participate meaningfully without having physical accessibility.

#### **3. Ensure Adequate Teaching–Learning Aids and Digital Tools**

Teachers indicated that they had insufficient access to multimedia and assistive tools. Schools are expected to offer projectors, low vision aid, hearing devices, and touch learning materials.

#### **4. Reduce Urban–Rural Gaps in Inclusive Education Resources**

Urban teachers gave higher reports of support and availability of resources than the rural teachers. Education departments must focus on the rural schools by allocating more funds to them through the mobile training teams as well as resource centers.

#### **5. Introduce School-Based Support Teams**

There is a tendency of teachers having no specialist guidance when handling students with disabilities. They should also have support teams in schools comprising of special educators, psychologists and therapists. This is in line with the global suggestions that cooperation enhances inclusive classroom instruction.

#### **6. Promote Regular Monitoring and Evaluation of Inclusive Practices**

There are numerous problems caused by poor implementation. The annual review of inclusive practices, infrastructure, and teacher preparedness should be done by the district education offices. It has been shown that accountability is enhanced and policy implementation is also enhanced through monitoring.

#### **7. Develop Inclusive Education Policy Guidelines for Gilgit-Baltistan**

The results show that there is no standard inclusion framework. A regional policy needs to be created with the clearly defined roles, resource distribution, teacher assignments, and minimum accessibility criteria.

### **References**

Aelterman, N., Vansteenkiste, M., Van den Berghe, L., De Meyer, J., & Haerens, L. (2013). Fostering a need-supportive teaching style: Intervention effects on physical education teachers' beliefs and teaching behaviors. *Journal of Sport and Exercise Psychology*, 35(6), 586–602.

Ainscow, M. (2019). *Supporting inclusive education: A school and classroom perspective*. Routledge.

Al-Zyoud, N., & Gaad, E. (2021). Inclusive education for students with disabilities: Challenges and opportunities in developing countries. *International Journal of Inclusive Education*, 25(6), 752–770.

- Ayllón, S., Alsina, Á., & Colomer, J. (2019). Teachers' involvement and student engagement: A systematic review. *Educational Research Review, 26*, 37–49.
- Bores-García, D., et al. (2021). Cooperative learning in physical education: Systematic review. *Sustainability, 13*(1), 116.
- Boud, D., Cohen, R., & Sampson, J. (1999). Peer learning and assessment. *Assessment & Evaluation in Higher Education, 24*(4), 413–426.
- Boud, D., Cohen, R., & Sampson, J. (2014). *Peer learning in higher education: Learning from and with each other*. Routledge.
- Brown, A. L., & Palincsar, A. S. (1989). Guided cooperative learning and individual knowledge acquisition. In Resnick (Ed.), *Knowing, learning, and instruction* (pp. 393–451). Lawrence Erlbaum.
- Bryk, A. S., Sebring, P. B., Kerbow, D., Rollow, S. G., & Easton, J. Q. (1998). *Charting Chicago school reform: Democratic localism as a lever for change*. Westview Press.
- Cañabate, D., Serra, T., Bubnys, R., & Colomer, J. (2021). Fostering sustainable learning environments in physical education through cooperative learning. *Sustainability, 13*(4), 2241.
- Cornwall, A. (1980). Students as teachers: Peer teaching and learning in higher education. *Teaching Sociology, 8*(1), 42–48.
- Darling-Hammond, L. (2017). *Teaching for deeper learning*. Harvard Education Press.
- Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*(1), 14–23.
- Doise, W., Mugny, G., & Perret-Clermont, A. N. (1975). Social interaction and cognitive growth. *European Journal of Social Psychology, 5*(3), 367–383.
- Environmental Protection Agency. (2000). *Indoor air quality and student health report*. EPA.
- Farooq, M. S., & Zeshan, A. (2021). Barriers to inclusive education in Pakistan: A regional analysis. *Journal of Educational Development, 45*(2), 55–68.
- Fisher, K., & Ken, B. (2001). *Building better schools: The importance of infrastructure*.
- Florian, L., & Spratt, J. (2021). Enacting inclusion: A framework for teacher development in inclusive education. *European Journal of Special Needs Education, 36*(1), 20–34.
- Fredricks, J. A., Blumenfeld, P., & Paris, A. (2020). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109.
- Friend, M. (2019). *Co-teaching: Principles, practices, and pragmatics*. Purdue University Press.

- FRN. (2014). *National policy on education* (6th ed.). Federal Republic of Nigeria.
- Haideri, M. H., Abbas, W., & Khatoon, N. (2025). Awareness of disability among general education teachers: A study in the schools of District Gilgit. *International Journal of Politics & Social Sciences Review (IJPSSR)*, 4(3), 44–53.
- Henriksen, D., Henderson, M., Creely, E., & Mishra, P. (2024). Educating for futures: Need-supportive teaching and innovation in physical education. *Educational Technology Research and Development*, 72(2), 211–230.
- Iwasiw, C., & Goldenberg, D. (1993). Peer teaching among nursing students. *Journal of Nursing Education*, 32(3), 118–124.
- Jarboe, A. (1996). Effective communication in cooperative learning groups. *Communication Education*, 45(1), 50–63.
- Johnson, D. W., Johnson, R. T., & Holubec, E. (1990). *Circles of learning: Cooperation in the classroom*. Interaction Book Company.
- Johnson, M., et al. (2007). Collaborative skills for sustainability in education. *Journal of Sustainability Education*, 1(2), 45–58.
- Kao, C. (2019). Cooperative learning in physical education: Effects on social skills. *Journal of Physical Education and Sport*, 19(3), 1501–1508.
- Karpicke, J., & Blunt, J. (2011). Retrieval practice produces better learning than elaborative studying. *Science*, 331(6018), 772–775.
- Kennedy, J. (2001). The relationship between school facility conditions and student achievement. *Journal of Educational Administration*, 39(2), 150–172.
- Klassen, R., Perry, N., & Frenzel, A. (2012). Teachers' relatedness with students: A central component of effective teaching. *Teaching and Teacher Education*, 28(8), 1023–1030.
- Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems. *Computers in Human Behavior*, 99, 303–313.
- Kurri, J. (2006). Peer support in Finnish higher education. *Journal of Education and Learning*, 15(3), 211–222.
- Landers, R. (2020). Gamification and student motivation. *Educational Psychology Review*, 32(2), 527–546.
- Leach, M. (1997). Sick schools: Poor ventilation and student health. *Indoor Air Journal*, 7(4), 250–257.

- Leenknecht, et al. (2017). Teacher–student relationships and learning outcomes. *Teaching and Teacher Education*, 67, 167–177.
- Lodhi, S., Khan, A., & Rehman, T. (2022). Breaking barriers: The influence of teachers’ attitudes on inclusive education for students with learning disabilities. *Pakistan Journal of Education*, 39(1), 101–120.
- Lozano, R., et al. (2013). Competences for sustainable development in higher education. *Journal of Cleaner Production*, 48, 57–65.
- Lozano, R., et al. (2017). Collaborative learning for sustainability. *Sustainability*, 9(5), 599.
- Mekler, E. D., et al. (2019). Gamification and intrinsic motivation. *CHI Conference Proceedings*, 1–13.
- Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal design for learning: Theory and practice*. CAST.
- Mitchell, D., & Sutherland, D. (2020). *What really works in special and inclusive education*. Routledge.
- Nasim, F. (2023). Urban–rural differences in teachers’ attitudes toward inclusive education in Pakistan. *Journal of Inclusive Pedagogy*, 11(2), 67–85.
- Noyens, D., et al. (2019). Academic integration and study success. *Learning and Instruction*, 60, 263–272.
- Ofozoba, G., & Ofozoba, P. (2023). Access to digital learning tools. *Journal of ICT in Education*, 8(2), 101–118.
- Onyekwelu, N. (2024). Availability of e-learning resources in Nigerian schools. *African Journal of Education*, 12(4), 44–58.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students* (Vol. 2). Jossey-Bass.
- Reeve, J. (2006). Teachers as facilitators of student engagement. *Educational Psychologist*, 41(2), 61–75.
- Reeve, J., et al. (2004). Autonomy support in classrooms. *Journal of Educational Psychology*, 96(1), 55–64.
- Roselli, N. (2016). Cooperative learning in higher education. *Journal of Educational Psychology*, 108(4), 483–501.
- Rosen, K., & Richardson, G. (1999). IAQ and school absenteeism. *Journal of Environmental Health*, 62(6), 25–30.

- Rubee, A., & Thapliyal, S. (2024). Teacher readiness for inclusive education: A comparative study of urban and rural schools. *International Journal of Special Needs Education*, 14(1), 23–38.
- Salomon, G., & Globerson, T. (1989). When teams do not function well. *American Educational Research Journal*, 26(2), 225–250.
- Seaborn, K., & Fels, D. (2021). Gamification and learner motivation. *Computers & Education*, 172, 104–255.
- Sharma, U., Forlin, C., & Loreman, T. (2020). Impact of teacher training on attitudes and self-efficacy in inclusive education. *International Journal of Inclusive Education*, 24(10), 1082–1099.
- Smedje, G., & Norbäck, D. (1999). The impact of indoor air quality on asthma and absenteeism. *Indoor Air*, 9(3), 153–162.
- Stigmar, M. (2016). Peer-to-peer teaching and student learning. *Educational Review*, 68(3), 341–357.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis. *Review of Educational Research*, 45(1), 89–125.
- Topping, K. (1996). The effectiveness of peer tutoring. *Journal of Education Research*, 89(5), 248–257.
- UNESCO. (2020). *Inclusive education: Ensuring access for all learners*. UNESCO Publishing.
- United Nations Educational, Scientific and Cultural Organization. (2020). *Inclusive education: Ensuring access for all*. UNESCO.
- Vlachopoulos, D., & Makri, A. (2021). Teachers' burnout and autonomy support. *Teaching and Teacher Education*, 103, 103–314.
- Wattanawongwan, S., et al. (2021). Cooperative learning and social skills development. *Asia-Pacific Journal of Education*, 41(2), 240–258.
- Woodcock, S. (2013). Trainee teachers' attitudes toward students with specific learning disabilities. *Australian Journal of Teacher Education*, 38(9), 16–29.
- Zainuddin, Z., et al. (2020). Gamification and emotional engagement. *Interactive Learning Environments*, 28(8), 1062–1075.
- Zhou, Y., & Colomer, J. (2024). Interpersonal dynamics in collaborative learning. *Educational Psychology Review*, 36(1), 129–150.
- Zimmerman, B. (2002). Becoming a self-regulated learner. *Theory Into Practice*, 41(2), 64–70.