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Assessing Student Engagement in Remote Learning in Chitral, Pakistan

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Abstract:
Background*: This study explores the elements influencing student engagement in distant learning in Chitral, Pakistan, emphasizing the difficulties and prospects exhibited by the COVID-19 pandemic.*
Materials and Methods*: This study employs semi-structured interviews with students, educators, and parents to investigate significant concerns, including technological obstacles, socio-economic difficulties, pedagogical approaches, emotional health, and institutional assistance. The findings underscore critical factors leading to the digital disparity, stemming from unequal accessibility to dependable internet and gadgets, which disproportionately impact pupils in rural regions. Financial hardships and insufficient parental support were additional socioeconomic obstacles leading to disengagement, particularly among students from low-income homes.*
Results*: The analysis highlights the quality of instruction, emphasizing that the interactive technique and individualized feedback retain student attention. The emotional and psychological factors indicate that disengagement and isolation hinder motivation. The research demonstrated that institutions requiring funds for teacher training led to better achievement results among students. The framework recommends establishing a national policy to address obstacles in equitable resource distribution, coupled with full-scale teacher preparation and family-based initiative programs against economic limits.*
Conclusion: *The implementation of standardized policies would establish consistent distant education quality while developing an inclusive learning space for students from different backgrounds.*
Key Word: *Remote Learning, Student Engagement, Technological Barriers, COVID-19 Pandemic, Pakistan.*
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I. Introduction

Global educational institutions adopted digital platforms as a result of technology advancements, which happened very fast following the COVID-19 pandemic disruptions (Cui et al., 2023; Gopika & Rekha, 2023). The educational system in Pakistan, together with numerous other countries, faced the demand to shift immediately to remote and virtual education after the pandemic led to educational facility closures with minimized classroom access (Qazi et al., 2024). Despite being essential for education continuity, the swift change to remote learning led to concerns about online platform effectiveness, mainly because Pakistan belongs to the developing world category (Iqbal et al., 2022). External education depends significantly on student involvement because it shapes effective learning results and memorization outcomes as well as educational quality and retention rates (Deep et al., 2024). Student involvement includes numerous dimensions that encompass student behaviors as well as their emotions and attitudes that they direct towards their educational journey (Barkley & Major, 2020). Transformational learning demands active participation in activities while desiring learning intensely with focused attention on study materials and development of emotional engagement with subjects (Sutton, 2021). The shift to remote learning in Pakistan brought multiple obstacles, not just for technology access

but additionally for building conditions that drive student interest and participation in academic studies (Akram et al., 2021). The existing obstacles in student participation worsen because of various socioeconomic factors that impact both teachers and students through their limited online connectivity and insufficient technology devices and digital knowledge deficits (Joshi et al., 2024). The shift to remote education in Pakistan has made the substantial educational divide between metropolitan and rural regions much worse (Anwar et al., 2023). Students in rural areas encounter restricted internet access and technological apparatus that create major obstacles to their engagement in remote learning programs (Abuhammad, 2020). Student involvement demonstrates a wide difference because individuals who possess key resources show increased engagement levels than those without access to these resources (Reynolds & Chiu, 2016). The crucial need exists to work on technology elements within remote learning as well as establishing methods which boost student involvement, particularly in resource-limited environments (Lasekan et al., 2024). Student participation in distance learning programs in Chitral, Pakistan, faces difficulties because of three main factors, which include cultural elements as well as educational strategies and institutional backing levels (Shaikh & Abbasi, 2024). Traditional learning spaces at Pakistani institutions function through personalized instructor-student exchanges, thus allowing teachers to check student comprehension immediately, along with offering prompt responses (Asghar et al., 2022). Remote learning disturbs this dynamic between students and educators by making it hard for both groups to create or duplicate essential personal connections and immediate exchanges that occur in traditional physical classrooms (Bozkurt et al., 2020). Students face challenges whenever they try to balance academics alongside family duties, workforce requirements, and financial pressure, which creates barriers in their remote learning participation (Gillis & Krull, 2020). The analysis of factors that affect student participation in remote learning within Pakistan should be examined to enhance educational quality and accessibility (Iqbal et al., 2022). Analysis of these teaching subjects creates awareness about student barriers as well as proven strategies for boosting participation and higher achievement. Student participation in remote learning depends on proper instructional design, alongside qualified educator interactions, and integration of multimedia and interactive tools. Students need understanding about creating courses with exciting content while offering active participation and building a learning community to achieve better educational experiences (Shernoff, 2013). It is necessary to study the opinions of Chitral Pakistani students concerning remote learning and identify which factors impact their educational engagement system. Specific students value virtual education due to its flexible adaptability and expedience features, which allow them to work independently and review material according to individual needs (Li, 2022). People sometimes become isolated or disconnect themselves because they lack real-time engagement with both peers and instructors. Learning motivation among students correlates directly to their evaluation of educational value and material relevance and teacher-assisted institution support.

Student engagement in remote learning requires more than obstacle compensation, as it needs effective solutions along with teaching methods that increase student motivation while encouraging active learning (Chiu, 2023). The digital gap problem in Pakistan warrants attention to understand how teachers can adjust their educational methods to sustain student involvement with virtual classes. Students obtain considerable educational connection opportunities through the implementation of interactive learning technologies, which include virtual classrooms as well as discussion boards and collaborative projects. Students can continue with sustained interest through varied multimedia posts, such as videos and podcasts, and through adjustable learning session plans. Your students' commitment to distance education will improve when parents and community members join their educational journey. In numerous areas of Pakistan, students rely on relatives for guidance in utilizing online platforms and effectively managing their time. The academic focus and motivation of pupils require parental involvement in resource-constrained communities to close the gap (Yang et al., 2023). Students receive substantial help through their communities by accessing shared learning spaces or digital resources that are unavailable to them (Rizk & Hillier, 2022).

The degree of student involvement in remote education heavily depends on the preparedness of educational staff. The majority of teachers throughout various Pakistani territories show limited ability to utilize digital instruction tools. The development of professionals through training sessions built on digital literacy, interactive teaching methods, and student engagement methods provides essential tools to educators for sustaining student attention. Educators who master interactive and stimulating lesson creation methods tend to create positive learning environments despite virtual instances by sustaining student engagement (Salman et al., 2024). The future of education within Pakistan requires examination of the prolonged impact that remote learning approaches will have on the national educational system. Educational progress and innovative development exist alongside the many challenges that remote learning introduces to the educational structure. Pakistan can develop an equal educational atmosphere by resolving major student engagement problems regarding technology access, educational methods, and financial challenges (Peer, 2024). Student engagement in remote learning throughout Chitral, Pakistan, requires a thorough combined strategy to solve its intricate problems. The solution demands handling technology barriers along with building an encouraging space that boosts student connectivity, motivational levels, and whole-class participation. Through strategic efforts to overcome the factors that impact

student engagement, Pakistan can develop an improved education system that yields better digital-age results for students (Jamil & Muschert, 2024).

II. Materials and Methods

The research investigates student participation in remote education in Chitral, Pakistan, through qualitative methodology. The selection of this research method provides a deep understanding of how online education affects students, educators, and educational organizations. The study requires qualitative research methods because researchers need an in-depth exploration of multiple elements influencing student engagement in distance education.

Research Approach

The research uses phenomenological methods to evaluate remote learning student participation in Chitral, Pakistan. The purpose of qualitative research methodology, known as phenomenology, is to study and interpret human experiences of specific events. The central purpose of phenomenology consists of studying authentic human experiences to reveal the core meaning of how people perceive events in their lives. This study investigates student involvement in the setting of remote learning.

Selection of Participants

The study conducted research on student distance learning participation in Chitral, Pakistan, by using purposive sampling to find subjects with valuable knowledge about remote education drivers. A group of six students from ages 12 to 15 at junior high schools participated in the study with diverse backgrounds between the city and the countryside. A total of nine participants included six junior high school students aged 12 to 15 who attended virtual education throughout the epidemic, and three teachers with experience in remote teaching of junior high students at this time. The research team selected educators who specialized in digital teaching solutions and online education protocols, along with three parents who could contribute insightful information about home learning conditions, as well as socioeconomic effects on student interest levels. The parents dedicated themselves to their children's remote learning education by fixing technological issues, creating study timelines, and obtaining required learning materials. The selection basis for participants consisted of their direct involvement with remote learning, thus ensuring their experiences would successfully fulfill research aims and questions.

Sampling Method

The research focused on the deliberate selection of participants who actively study through distance learning to better understand their factors of participation. Research participants selected through purposeful sampling contain the exact information and experiences related to the study's objectives. A restricted sample consisting of 6 pupils, 3 instructors, and 3 parents was utilized to obtain thorough qualitative information. Research quality focuses on collecting a detailed understanding rather than broad generalizations, with its alignment to the qualitative research approach.

Ethical Considerations

All participants provided their consent after understanding the study goals and receiving clarification about participation being voluntary, with the right to exit anytime without any consequences. Throughout the research period, participants' anonymity was maintained through the replacement of their names with pseudonyms while all identifying details remained concealed from disclosure. Study participants received assurance that their research responses remained confidential for research purposes only while maintaining complete anonymity.

Research Instrument

The main data collection instrument for this project will consist of semi-structured interviews. Student, teacher, and parent perspectives and experiences regarding remote learning participation in Pakistan will be effectively investigated through this qualitative methodology. The researcher enjoys flexibility through semi-structured interviews because they blend open-ended questions with core thematic areas. The interview approach provides both interview direction and extensive participant explanation capabilities.

Structure of the Interviews

The semi-structured interviews will be constructed to explore the following principal themes:

Researching the challenges people face when buying digital platforms, combined with gadgets, and access to reliable internet. This investigation examines student opinions about distance education, together with their motivational factors and elements that influence their involvement. I want to investigate teachers' methods for adapting their teaching methods to achieve student involvement in digital learning platforms and their

evaluations of student participation levels. This research evaluates parental practices that promote home-based learning while schools remain closed due to traditional educational facilities.

Data Analysis

Theme analysis methods were used to analyze both semi-structured interview data and participant information, depending on their roles as students, teachers, or parents. Remote learning participation factors are identified through thematic analysis operational procedures that include data pattern detection and subsequent examination and reporting steps.

III. Result

The research about student participation in remote learning used semi-structured interviews with six students from junior high school, along with three teachers and three parents. Student engagement within distant learning received significant influence from multiple thematic patterns that researchers identified through their analysis.

Technological Barriers

Student engagement found its primary obstacle in technological barriers, according to the interview results. Students, together with educators, named three main obstacles in their digital learning experiences, including unreliable internet links, insufficient device accessibility, and limited digital fluency knowledge. Students in rural areas faced problems with joining remote lectures because they lacked sufficient wireless internet access or their household shared one device for all members.

A student remarked, *"Occasionally, the internet disconnects, causing me to miss half of the lesson."* Maintaining focus is challenging.

A teacher observed: *"We recognize that numerous students are experiencing internet issues, hindering their ability to concentrate and participate in class."*

The research data show that the technical challenges forced students to drop out of consistent participation.

Socio-Economic Factors and the Home Learning Environment

Student participation faced obstacles due to socio-economic factors, which became a noticeable problem. Parents, together with their children, reported that financial limitations prevented them from buying internet access subscriptions and proper educational tools, which led to diminished remote learning quality. Students observed how academic work suffered due to home distractions since they lacked proper study areas.

One parent explained: *"Their child shares a phone with siblings, yet sometimes lacks sufficient data to join all their classes."*

A student expressed: *"At home, I do not have proper facilities to study appropriately. My usual study spot is the living room, but it remains too noisy there."*

The subject focuses on the major influence that home conditions and student economic backgrounds have on learner disengagement.

Teacher Engagement and Instructional Methods

Teacher involvement, together with the instructional approaches, established themselves as key factors that influence student engagement. The implementation of interactive media and multimedia methods, such as films, quizzes, and discussion forums, by educators enhanced student participation in learning activities. Among students, the interaction between instructors, along with fast feedback, helped teachers maintain student engagement in online sessions effectively.

A student remarked: *"During video sessions and quiz assignments, I become more involved with the lesson material."* It transcends merely attending a lecture.

A teacher remarked, "My goal is to create interactive classes, *yet technical issues prevent some students from joining."*

The educators admitted that their lack of digital teaching technology expertise blocked them from effectively involving students.

Psychological and Emotional Engagement

The interviews produced emotional and psychological engagement as a primary motif amongst students. The isolated learning environment separated multiple students from their instructors and classmates. Students faced declining motivation because of no physical classroom presence, which made them struggle to maintain focus.

A student stated: *"The desire to connect with both peers and my teacher makes it difficult for me to focus."* I no longer feel a connection to the class.

A teacher noted: *"Various students show reduced determination when they do not form direct relationships with their instructor."* I lack the ability to recognize student emotions like I would in a physical classroom setting.

The subject analyzes the distant education emotional consequences on student engagement, which results in diminished overall participation.

Parental Involvement and Support

Parental involvement emerged as the additional fundamental component. Children demonstrated higher engagement in online learning when their parents both guided them and provided suitable learning settings. Many parents faced obstacles when trying to help their children since they lacked technological mastery, together with limited resources.

A parent stated: *"My efforts to help my child with lessons become difficult because I lack experience with particular digital tools."*

Another parent stated: *"My occupational responsibilities often prevent me from providing active attention to my child during his lessons."* It's difficult to make sure they stay focused."

The theme indicates that student participation needs parental support, yet this support can be limited by time resources and technological competency challenges.

Student Motivation and Self-Discipline

The essential elements for student participation proved to be self-discipline combined with motivation. Students emphasized their positive experience with flexible remote learning because it gave them the freedom to work at different paces while selecting their study methods. The unstructured school environment, according to students, prevents both discipline and motivation from forming.

A student expressed: *"I value being able to repeat lessons whenever I want, but sometimes delay my homework."*

A teacher remarked, *"Students lack adequate motivation when there is no proper timetable coupled with the lack of classroom social pressure."* A number of students fail to take online courses with the same seriousness as traditional classroom attendance.

Engagement in distant learning environments requires intrinsic motivation together with self-discipline, according to this theme.

IV. Discussion

This research explores important factors that influence distant learning engagement among students in Chitral, Pakistan, throughout the COVID-19 epidemic. The study presented impediments alongside possibilities which stem from technology boundaries and socio-economic conditions, instructional approaches, as well as psychological factors affecting student participation (Hafizi et al., 2024). These data provide extensive knowledge about student online learning participation as well as the urgent need to enhance remote education effectiveness in Pakistan. The main challenge for student engagement in remote learning arose because of limited technology access. Remote learning participation among urban students improved through their better access to high-speed internet, coupled with personal devices. Students attending classes in rural areas encountered sustained barriers, including slow internet connections and limited data access, and they had to split devices with others, which all significantly restricted their ability to attend virtual classes without interruption (Tulaskar & Turunen, 2022). Rural students experienced substantial detachment in learning because their limited access to technology resources gave them a major disadvantage compared to urban students. The lack of proper digital literacy among certain students made it harder for them to handle the online platforms efficiently. Students need access to educational technology together with sufficient skills for successful execution to be substantially involved (Darling-Hammond et al., 2014). The research demonstrates why digital access equality demands better internet connectivity, together with proper education for students and teachers. The economic conditions of students directly affected their involvement in school activities. Students who came from economically disadvantaged families encountered major challenges because they could not afford essential education tools like devices and internet services, along with suitable places to study. Numerous students needed to use their devices with multiple household members, which caused distractions and problems with focusing on their online classes. The challenging socio-economic conditions became worse due to household responsibilities and caring for family members, who took away available time and energy from study activities (Callow & Orlando, 2015).

The research confirmed that parental involvement stands as an essential factor that influences student engagement. Many parents demonstrated insufficient knowledge or resources required to effectively help their children's remote educational process. Many students from low-income families received no help because their parents spent their time at work and did not have experience with digital tools. The students thus demonstrated higher risks of abandoning their schoolwork. Building successful home learning environments for children requires initiatives that teach parents both the necessary skills and resources for online education support (Wu,

2024). Student involvement was greatly impacted by the quality of instructional methods used. Educational success for online learners was directly connected to instructors who used multimedia combined with interactive teaching methods and synchronous interaction. Numerous Pakistani teaching professionals experienced challenges adapting to online teaching after the shift attributed to the pandemic. Educators found it difficult to engage students because they had no experience conducting digital teaching methods. A lack of training about online technologies halted specific educators from adequately interacting with their students. The discovery emphasizes why institutions should develop professional development initiatives that enhance both teacher digital literacy and online teaching pedagogical skills. Educational professionals need professional training to develop their interactive teaching practices alongside digital resource implementation for creating more engaging classrooms. The sustainability of student engagement with distant education depends on diverse educational methods, therefore promoting their active participation (Fernández-García et al., 2021).

Emotional and psychological involvement surfaced as another critical element of the study. Students documented emotions of seclusion and alienation from their educators and peers due to the lack of in-person engagement in remote learning. This feeling of isolation led to a decrease in both motivation and engagement. Younger students, familiar with the organization and social dynamics of conventional classrooms, particularly found it challenging to maintain engagement in the absence of their instructors and classmates. The absence of prompt feedback, usually present in face-to-face classrooms, exacerbated students' sentiments of disconnection (Vayre & Vonthron, 2017). Remote learning environments need to prioritize the emotional welfare of the students as an essential factor. Meaningful student-teacher communication combined with group-organized peer activities serves as an essential method for teachers to encourage psychological engagement. The creation of complementary programs helps students develop interpersonal connections, which minimizes their feelings of loneliness while enhancing their enthusiasm for academic studies. Research results showed that student motivation, along with self-discipline, stands as an essential factor for achieving success in remote learning. The ability to learn at different paces became appealing to some students in online learning, yet many others suffered from a lack of classroom structure in remote learning. Live supervision, along with structured schedules, would help students preserve their motivational levels according to the study results. Remote learners who discovered their learning materials both interesting and relevant to their individual interests demonstrated greater motivation toward their remote education (Williams et al., 2018). Student motivation shows strong dependence on material that connects meaningfully to their life experiences, according to the survey results. Participants will actively engage in online education when teaching methods focus on supporting different learning methods and personal preference requirements. An education platform that provides specific content delivered dynamically with relevance helps students stay motivated inside virtual learning environments. The availability of institutional help proved vital for increasing student participation levels. The research findings showed that universities providing physical and training investments to their educators maintained student engagement better. Different schools experienced varied levels of remote learning quality because there was no unified national policy for online education. Student engagement varied based on university delivery of essential tools that supported learning, but infrastructure as well as planning challenges prevented proper engagement in other universities (Tait, 2000). Having a standardized national policy that regulates remote learning standards through teacher training procedures and digital resource provisions will standardize educational quality across the country (Huang et al., 2020). Authoritative learning institutions need to build accessible, interactive learning spaces with robust support systems for their educational staff and student body (Barr & Miller, 2013).

V. Conclusion

This research offers critical information about the elements that influence student involvement in virtual education in Pakistan throughout the COVID-19 pandemic. Student participation experiences fundamental changes based on technological difficulties, while also being influenced by economic situation, teaching quality, and students' psychological condition. Student access to reliable digital technology across the country has grown into a substantial barrier because rural learners face major educational difficulties compared to urban learners. Low-income students experienced escalating school dropout rates because budgetary problems, combined with insufficient family assistance, made learning harder for them. The quality of instruction, along with adopted teaching methods, played a major role in determining student class attendance. The educational success of preserving student interest occurred when educators combined interactive learning tools with personalized assessment methods in their online teaching approach. Educational engagement of students became hindered because many teachers lacked preparedness and faced constraints to training opportunities, alongside digital resources. Students required emotional as well as psychological engagement because they experienced detachment and isolation due to limited in-person classes. Young children struggled to maintain discipline and motivation because of the detached environment and the absence of supervision and organized structure. All institutions recognized institutional support as crucial for success. Institutions delivering budget allocations alongside infrastructure development, along with a teacher training program, supported high levels of student

participation, yet insufficient planning led to substantial difficulties. A single national policy requires immediate attention because it promises equitable access to digital resources, apart from teaching educators efficiently and helping families overcome socioeconomic barriers. These planned policies would create a standardized education quality while ensuring an all-inclusive learning setting for students that would remain unaffected by where they live and their financial circumstances.

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