A comprehensive study on teacher-students perception on traditional and online education methods in secondary school of Karbook area of the Gomati district

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Abstract:

This study investigates teacher-students' perceptions of traditional and online education methods in secondary schools within the rural Karbook area of Gomati district, Tripura, India. Amidst infrastructural, socio-economic, and cultural challenges, the research examines attitudes towards the effectiveness, engagement, and accessibility of both educational modes. Findings reveal a predominant preference for traditional classroom teaching owing to familiarity and perceived effectiveness, while online education is recognized for its flexibility but hindered by technological limitations and engagement issues. Significant perceptual gaps exist between teachers and students, with students showing relatively higher acceptance of online methods. The study highlights disparities influenced by gender, school type, and regional infrastructural constraints, emphasizing the need for tailored strategies like hybrid models to enhance learning outcomes. These insights aim to inform policymakers and educators in rural contexts to adopt inclusive, effective educational practices that bridge the digital divide and improve secondary education quality.

Keywords: traditional education, online education, teacher-student perceptions, educational challenges, secondary schools, Gomati district.

1. Introduction

Education serves as the cornerstone of societal progress, shaping the intellectual and social development of individuals. In recent years, the educational landscape has undergone significant transformation, particularly with the integration of digital technologies into teaching methodologies. The traditional classroom, characterized by face-to-face interaction, chalk-and-talk methods, and structured curricula, has long been the dominant mode of instruction in secondary schools worldwide, including in the Karbook area of Gomati district, Tripura, India. However, the advent of online education, accelerated by global events such as the COVID-19 pandemic, has introduced an alternative paradigm that challenges conventional approaches. This study aims to explore teacher-students' perceptions of traditional and online education methods in secondary schools in the Karbook area, shedding light on their preferences, challenges and the implications for educational policy and practice in this rural region.

The Karbook area, located in the Gomati district of Tripura, is a predominantly rural region with unique socio-economic and cultural characteristics. Schools in this area, such as Karbook Panjihum H.S. School and Dhepacharra Holy Cross High School, cater to diverse student populations, often facing challenges like limited infrastructure, access to technology and trained educators. Traditional education methods in these schools typically involve direct instruction, rote learning and teacher-centered approaches, which have been the backbone of education for decades. These methods emphasize structured lessons, physical classroom interactions and standardized assessments, fostering discipline and familiarity among teacher-students. However, they have been criticized for their lack of flexibility and limited engagement with real-world applications, potentially hindering the development of critical thinking and perceptual skills among teacher-students.

The rapid shift to online education, particularly during the COVID-19 pandemic, has introduced a new dimension to education in Karbook. Online education, facilitated by digital platforms, offers synchronous and asynchronous learning opportunities, enabling teacher-students to access resources beyond the physical classroom. This shift has been supported by initiatives like India's "Digital India" and "Swayam" programs, which aim to promote e-learning and bridge educational gaps. However, the transition to online education in rural areas like Karbook is fraught with challenges, including limited internet connectivity, inadequate access to devices, and a digital divide exacerbated by socio-economic disparities. These factors raise

critical questions about the effectiveness and acceptability of online education compared to traditional methods in such contexts.

Teacher-students' perceptions of education methods are pivotal to understanding the efficacy of educational interventions. Perceptions influence engagement, motivation and academic outcomes, as teacher-students' attitudes toward learning environments shape their willingness to participate actively. Research indicates that teacher-students' comprehension, mindset, and attitude toward education methods are essential for successful learning outcomes. In traditional settings, teacher-students often value the direct interaction with teachers and peers, which fosters a sense of community and immediate feedback. Conversely, online education offers flexibility, access to diverse resources, and opportunities for self-paced learning, but it may lack the interpersonal connection that many teacher-students find motivating. In Karbook, where cultural and infrastructural factors play a significant role, understanding how teacher-students perceive these methods is crucial for designing effective educational strategies.

This study is particularly relevant given the unique context of Karbook. The region's rural setting, combined with its socio-economic challenges, makes it an important case for examining the feasibility of online education in resource-constrained environments. There are major obstacles to online learning because of the technological gap, which is characterized by disparities in income and inadequate technology infrastructure. For instance, while urban areas in India have seen rapid adoption of digital tools, rural schools like those in Karbook often struggle with basic amenities such as reliable electricity and internet access. This disparity underscores the need to assess whether online education can complement or replace traditional methods in such settings, or if a blended approach might better serve teacher-students' needs.

Furthermore, the psychological and developmental needs of secondary school teacher-students, who are typically adolescents, add another layer of complexity. Adolescents in Karbook experience rapid cognitive and emotional development, often accompanied by a strong sense of self and occasional rebellious tendencies. Traditional classrooms, with their structured environments, may not fully address these developmental needs, potentially leading to disengagement. Online platforms, while offering innovative tools like virtual classrooms and interactive content, require teacher-students to exercise greater self-discipline, which may be challenging for some. Exploring how these teacher-students perceive and respond to both education methods can provide insights into tailoring education to their developmental stage.

The objective of this study is to comprehensively analyze teacher-students' perceptions of traditional and online education methods in Karbook's secondary schools. By examining factors such as comfort, accessibility, teacher support, and learning outcomes, the study seeks to identify the strengths and limitations of each method from the teacher-students ' perspective. It also aims to explore how socio-economic, infrastructural, and cultural factors influence these perceptions. The findings will contribute to the broader discourse on educational reform in rural India, offering evidence-based recommendations for policymakers, educators, and stakeholders to enhance education effectiveness and student engagement in the Gomati district.

2. Statement of the problem

The shift from traditional to online education methods, accelerated by global events like the COVID-19 pandemic, has transformed secondary education, including in the Karbook area of Gomati district, India. However, limited research explores teacher-students ' perceptions of these methods in this specific rural context, where unique socio-economic and infrastructural challenges exist. Traditional classroom education emphasizes face-to-face interaction, fostering direct engagement, while online methods offer flexibility but face barriers like unreliable internet, limited device access, and digital literacy gaps. Understanding teacher-students' perceptions is critical, as their attitudes, comprehension, and motivation significantly influence learning outcomes. The lack of empirical data on how secondary school teacher-students in Karbook perceive these education methods creates a knowledge gap, hindering effective educational policy and practice. Issues such as digital divide, teacher-student interaction quality, and adaptability to online platforms may affect student satisfaction and academic performance. This study aims to investigate these perceptions to identify preferences, challenges, and opportunities, ensuring that educational strategies align with teacher-students' needs in this region. By addressing these issues, the research seeks to inform stakeholders about optimizing education methods to enhance learning experiences in Karbook's secondary schools.

3. Review of literature

Many academicians have taken it upon themselves to conduct an analytical study on the varied effects of digital teaching and learning since the pandemic's outbreak forced educational institutions to close and opened the door for online learning. Classroom activities and issues

related to student participation are the focus of the majority of studies. The different ways that technology can improve teaching and learning in digital classrooms has also been the subject of some research.

When the majority of educational institutions stopped offering in-person instruction, Dhawan [1] noted in her 2020 study, Online Learning: A Panacea at the Time of COVID-19 Crisis, the necessity to develop and apply alternate teaching-learning methodologies. Positively, she also highlights how the pandemic has given researchers the chance to experiment with different digital learning approaches.

It is necessary to assess how prepared teachers and kids are to adjust to the new problems brought about by the pandemic. The ways that different students adjust to novel circumstances vary. Every type of learner cannot be accommodated by a single methodology. Different ways to online learning must be used because students of different ages have distinct needs (Doucet et al., 2020 [2]). Academicians have been working to continue offering young students high-quality education while the government and medical professionals are attempting to deal with the pandemic. However, the majority of children's emotional states have suffered as a result of the worldwide pandemic. Schoolchildren's psychological states are often affected when they learn at home, which further impairs their ability to participate in academic activities in a constructive manner (Petrie, 2020 [3]). Most student performance in school is anticipated to decline as a result of the less contact hours and the teachers' unavailability when they are having learning difficulties (Sintema, 2020 [4]).

Students must put what they have learned into practice before the learning process is complete. Online instruction is generally uninteresting to students. The learning process itself also appears to be an overwhelming undertaking due to a number of technological challenges, such as network, audio-video, bandwidth, and login concerns.Additionally, online courses don't provide the necessary one-on-one interaction. In addition to technical issues, the absence of peer groups makes it difficult for online learning to meet its educational objectives (Song et al., 2004 [5]).

Online programs offer greater flexibility than traditional classroom settings, which is crucial during the pandemic (Lin and Hsieh, 2001 [6]). Students have greater control over the learning resources they use; they can select the best time, order, speed, and quantity of information to access, and they can adopt a more customized approach. The versatility of online

settings is increased by storing audio, video, electronic notes, slides, and instructions on platforms that are accessible from anywhere at any time. Higher academic achievement is associated with more control over the learning process (Hung et al., 2010; Wang and Beasley, 2002 [7]). Both students and teachers can readily operate and adapt a variety of technologies that provide easy access to online classes and pertinent tools (Fauzi et al., 2021 [8]). According to Migocka-Patrzałek et al. (2021) [9], online classes also offer a wider audience and better access to education, especially for students with impairments and those with medical illnesses like Covid-19 and other disorders.

Many students had feelings of alienation and disconnection during the COVID-19 pandemic. Students can accept discomfort and express concerns with their lecturers and peers in the community that online classes foster. Online courses have served as a haven from the pandemic's bad news, stresses, and anxieties (Lederman, 2020a [10]). According to Goodyear and Zenios (2007) [11], successful knowledge building requires a strong feeling of community. During the pandemic, students may find that taking classes online is an enjoyable and relaxing way to improve their mental and psychological health (Lederman, 2020a [10]; Lederman, 2020b [12]). Also, Lin and Nguyen (2021) [13] describe how regular emailing improved learner-lecturer relations in the new online learning environment. Some students found that writing emails on a regular basis helped them stay motivated, especially when their instructors responded positively. Some educators note that they can communicate with students more effectively and efficiently when they use chat groups, video conferencing, voting systems, and document sharing platforms. They stress that in the post-pandemic age, they will keep using the internet strategy.

While numerous studies have explored the shift to online education post-pandemic, no suitable studies have found specifically addressed the comparative perception of both students and teachers in tribal regions such as Karbook, Gomati district of Tripura. The main motive for this study stems from the growing need to understand educational challenges in rural tribal regions post-COVID, particularly in the context of balancing traditional and online teaching methods. The existing body of literature suggests that both traditional and online education have merits and demerits, but their effectiveness is highly context-dependent. In tribal and rural areas such as Karbook, infrastructural challenges, digital illiteracy, and cultural values significantly shape perceptions of both modes. However, there remains a research vacuum that this study aims

to fill by providing an integrated understanding of teacher and student attitudes in secondary schools of Karbook.

4. Significance of the study

The significance of studying teacher-students ' perceptions of traditional and online education methods in secondary schools of the Karbook area, Gomati district, lies in its potential to inform educational practices in a region with unique socio-economic and infrastructural challenges. Understanding teacher-students ' perspectives helps identify the effectiveness, accessibility, and engagement levels of both education modalities, particularly in a rural context where digital infrastructure may be limited. This study can reveal how traditional classroom interactions compare to online learning in fostering academic growth, motivation, and skill development among secondary teacher-students. It addresses the impact of the COVID-19 pandemic, which accelerated the adoption of online education, highlighting issues like technical barriers, teacher support, and student comfort. The findings can guide educators and policymakers in designing hybrid learning models, improving teacher training for digital platforms, and addressing equity in education access. By focusing on a specific rural area, the study contributes to localized education strategies, ensuring they are tailored to the needs and resources of Karbook's teacher-students. Ultimately, it supports the development of inclusive, effective education methods that enhance learning outcomes in secondary education, bridging the gap between traditional and modern pedagogical approaches.

5. Objective of the study

Due to limited specific data on teacher-students ' perceptions of traditional and online education methods in secondary schools of the Karbook area, Gomati District, India, the following objectives are proposed based on general educational research trends and the context provided:

(i) Evaluate teacher-students' attitudes toward traditional and online education methods with respect to their gender.

(ii) Analyze teacher-students' attitudes of both education methods with respect to their type of school.

(iii) To find out the attitudes among teacher and student support in both education environments.

6. Methodology of the study

6.1. Design of the Study

In this analysis, only primary data were employed. To fulfill the above objectives, a well-designed and executed questionnaire has been created. Several structured questionnaires have been employed to collect primary data. Each response was analyzed using a five-point Likert scale that included the following options: SA-Strongly Agree, A-Agree, UD-Undecided, DA-Disagree and SD-Strongly Disagree.

6.2. Population

The population of the study comprised all secondary school students studying in government and government-aided schools in the Gomati district of Tripura. The population included boys and girls studying in classes IX to XII during the academic session 2025–2026 as well as teachers (male-female).

6.3. Sample

For this study, 98 teacher-students from both government and privet schools of the state of Tripura were selected as a sample by the use of a random sampling technique.

7. Analysis and Interpretations of data

The Table-1 shows, the demographic characteristics of the participants in the study, detailing their gender, school type and occupation and the sample includes a total of 98 individuals. The higher representation of males suggests a potential gender imbalance in the sample. This could influence responses, especially on perceptions related to education modes, as gender often correlates with differing attitudes towards traditional versus online education due to societal or cultural factors. The data from Table-1 shows the sample comprises predominantly students (70 out of 98), with a balanced distribution of teachers and students across government and private institutions.

This distribution indicates a larger proportion of participants from government schools (38 teachers, 15 students), especially among teachers, with students more evenly distributed but still skewed towards private school (19 teachers, 26 students) students. Respondents from government schools may have different experiences or perceptions owing to resource availability, access to technology, and pedagogical approaches. For instance, government school teachers' responses on the effectiveness or difficulties of online education could be influenced by infrastructural challenges.

Table-1: Demographics characteristics

Variables		Male = 57	Female = 41
Type of school	Government	38	15
	Privet	19	26
Occupation	Teacher	17	11
	Student	40	30

The larger proportion of student (15 government, 26 private) respondents, especially from private schools, suggests the survey might reflect more student perspectives on online learning. Teachers' (17 government, 11 private) responses can provide insights into operational challenges faced across school types.

Table-2: Average responses on various dimensions of the Male and Female teacher-students

Dimensions	Male (in %)					Female (in %)				
	SA	A	UD	D	SD	SA	A	UD	D	SD
General aspects with traditional and online education methods	39.05	16.77	7.5	14.32	22.36	33.05	16.14	26.53	11.4	12.88
Effectiveness and learning outcomes	38.58	13.45	22.65	12.45	12.87	29.07	21.05	18.46	15.82	15.6
Advantages of online education compared to traditional classroom education	34.6	18.36	14.58	16.87	15.59	23.2	22.08	16.46	22.36	15.9
Difficulties with online mode of learning	28.73	19.39	12.58	23.41	15.89	32.19	20.16	9.64	15.65	22.36
Preferred methods in traditional classroom education	37.72	17.47	5.76	16.7	22.35	19.65	18.68	21.31	14.94	25.42
Preferred methods in online mode of education	25.18	15.99	17.43	15.99	25.41	24.65	16.61	32.84	15.8	10.1

The data reveals significant gender-based differences in perceptions of online and traditional education modes. Males tend to be more optimistic and confident, whereas females display more uncertainty, possibly due to social, cultural, or infrastructural factors. These insights underscore the importance of targeted interventions, capacity-building, and cultural shifts to foster more equitable perceptions and experiences in education.

Table-2 presents the average responses of male and female teacher-students across various dimensions related to traditional and online education methods, measured using categorical response options: SA (Strongly Agree), A (Agree), UD (Undecided), D (Disagree), and SD (Strongly Disagree). The percentage values reflect the proportion of respondents selecting each response, providing insight into their perceptions and attitudes.

Gender differences here could stem from societal norms, access to resources, or differing experiences with technology. Females' higher indecision might suggest a need for targeted orientation or training to build confidence. Males are high agreement (39.05%) with traditional/online education aspects, with notable levels of undecided (7.5%) and disagreement (14.32%). Where slightly lower agreement (33.05%), but a higher proportion undecided (26.53%) and some disagreement (11.4%) by the females.

Males perceive online/traditional education as more effective than females, who might be more skeptical or cautious. Males are strongly agree (38.58%) and agree (13.45%) on effectiveness and outcomes, with moderate disagreement (12.45%). Females are lower agreement levels (29.07% strongly agree, 21.05% agree), but similar disagreement levels (15.82%).

Tend to agree (34.6%) and strongly agree (18.36%) that online education offers advantages, signifying recognition of flexibility, accessibility, or innovative content by the males. Females are less agreement (23.2%) and similar levels of undecided responses, potentially reflecting concerns about quality, interactivity, or other barriers.

Differing home environments, access to technology, and prior exposure could influence these perceptions. Demonstrate lower levels of disagreement (19.39%) and higher undecided responses (12.58%), possibly indicating awareness of challenges but less perception of severity by the males. Greater disagreement (32.19%) and lower undecided (9.64%), which could suggest that females are either better adapted to online modes, perceive fewer difficulties, or underreport challenges due to social desirability bias by the females.

Gender-based differences in pedagogical preferences could influence teaching strategies and curriculum development. Males are show a strong preference (37.72% SA), indicating comfort and belief in the effectiveness of face-to-face teaching, where, females are much less inclined (19.65% SA), with the higher disagreement possibly reflecting a preference for or openness to digital or hybrid approaches.

Both groups show an inclination towards online modes, but males again express marginally stronger favorability. The slight variations suggest that while online education is generally acceptable, cultural attitudes, technological familiarity, and perceived efficacy shape individual preferences.

Table-3: Comparison of aggregate scores on various dimensions of the Male and Female teacher-students

Dimensions	Male			Female		
	Mean	**SD**	**T score**	**Mean**	**SD**	**T score**
General aspects with traditional and online education methods	12.43	7.347	0.000125	13.68	8.07	0.000132
Effectiveness and learning outcomes	11.54	8.067		12.8	8.136	
Advantages of online education compared to traditional classroom education	11.47	9.712		10.8	7.346	
Difficulties with online mode of learning	12.44	7.111		12.167	9.171	
Preferred methods in traditional classroom education	12.94	8.002		11.8	10.33	
Preferred methods in online mode of education	11.74	10.49		12.88	9.396	

The Table-3 presents a comparative analysis of aggregate scores on various dimensions between male and female teacher-students, focusing on perceptions related to traditional and online education methods. In all dimensions, the T-scores are highly significant ($p < 0.001$), indicating meaningful differences between male and female teacher-students. Generally, female students tend to perceive higher scores in aspects like general perceptions, effectiveness, learning outcomes, and online method preferences. Conversely, males report perceiving more advantages in online education and show a stronger preference for traditional methods. The differences,

while statistically significant, vary in magnitude, but the consistent pattern suggests gender influences perceptions toward online and traditional education quite distinctly.

Table-4 illustrates that both government and private school stakeholders acknowledge the potential benefits of online education but are also aware of its challenges. Bridging the gap between perception and actual effectiveness involves investing in infrastructure, teacher training, and developing engaging online methodologies, which can foster greater acceptance and success in digital learning environments across different school sectors.

Both government (35.35% SA) and private schools (33.54% SA) show a relatively high level of agreement regarding general aspects of traditional and online education methods. Roughly a quarter of respondents remain undecided (Government: 26.26%; Private: 25.35%), indicating some uncertainty or ambivalence about the perceived overall effectiveness or suitability of these methods.

Table-4: Average responses on various dimensions of the government and privet schools

Dimensions	Government (in %)					Privet (in %)				
	SA	A	UD	D	SD	SA	A	UD	D	SD
General aspects with traditional and online education methods	35.35	14.18	26.26	10.7	13.51	33.54	14.42	25.35	13.11	13.58
Effectiveness and learning outcomes	31.37	19.09	18.19	15.12	16.23	29.56	19.33	17.28	17.53	16.3
Advantages of online education compared to traditional classroom education	25.5	20.12	16.19	21.66	16.53	23.69	20.36	15.28	24.07	16.6
Difficulties with online mode of learning	34.49	18.2	9.37	14.95	22.99	32.68	18.44	8.46	17.36	23.06
Preferred methods in traditional classroom education	21.95	16.72	21.04	14.24	26.05	20.14	16.96	20.13	16.65	26.12
Preferred methods in online mode of education	26.95	14.65	32.57	15.1	10.73	25.14	14.89	31.66	17.51	10.8

Both sectors perceive the effectiveness of online vs. traditional education somewhat positively, with government schools slightly higher (SA: 31.37%) compared to private (SA: 29.56%). Around 18-19% are undecided, indicating that many participants are either uncertain or have mixed opinions about learning outcomes.

Responses are quite similar on '**Advantages of online education over traditional classrooms'**, with government schools at 25.5% (SA) and private at 23.69% (SA). The other response categories are also close, indicating comparable perceptions.

A key observation is that both sectors report considerable disagreements about difficulties, but private schools show a slightly higher disagreement percentage (17.36%) versus government (14.95%), implying private school respondents might perceive fewer challenges.

The similarities in preferences reinforce that despite sector differences, there are common expectations regarding online teaching methodologies. The relatively high undecided percentages suggest ongoing exploration or adaptation. In case of traditional classroom, both sectors show comparable responses, with a sizable undecided group (~20%), indicating diverse preferences or uncertainty. On other hand, both sectors favor certain online methods, with higher agreement percentages (~26-27%). The alignment suggests some consensus on effective online teaching techniques, perhaps involving recordings, live sessions, or interactive content.

Table-5: Comparison of aggregate scores on various dimensions of the government and privet schools

Dimensions	Government			Privet		
	Mean	**SD**	**T score**	**Mean**	**SD**	**T score**
General aspects with traditional and online education methods	10.43	7.335	0.00222	12.168	9.07	0.000101
Effectiveness and learning outcomes	11.15	7.067		11.8	8.36	
Advantages of online education compared to traditional classroom education	12.65	8.271		10.87	8.346	
Difficulties with online mode of learning	11.14	7.211		12.567	8.71	
Preferred methods in traditional classroom education	12.39	8.71		12.8	9.133	
Preferred methods in online mode of education	11.07	11.49		10.88	10.4	

Table-5, which compares the perceptions of teachers from government and private schools across various dimensions related to traditional and online education. The data reveal significant perceptual differences between government and private school teachers across all dimensions examined. Private school teachers generally perceive more positive general aspects, effectiveness, and traditional method preferences, but also report greater difficulties with online

learning. Government school teachers see more advantages in online education and perceive greater benefits in online modes compared to traditional classroom education. The T-value (0.00222) indicates a significant difference, with private school teachers perceiving more positive or favorable general aspects of both traditional and online education. The difference, supported by a significant T-value (0.000101), suggests a perceptible gap in perceived educational effectiveness favoring private school teachers.

Table-6 presents respondents' perceptions of various dimensions related to traditional and online education modes, distinguishing responses from teachers and students. The data reveals important insights into attitudes, perceived effectiveness, preferences, and challenges associated with each mode.

Teachers exhibit a relatively positive outlook toward traditional education (33.63% SA, 18.35% A) compared to students. This suggests that teachers value the structured environment, face-to-face interactions, and established pedagogical practices inherent in traditional classrooms. Their moderate agreement indicates recognition of traditional methods' importance but also openness to online formats. Students show lower positive responses (22.95% SA, 16.45% A), which may reflect experiences of disengagement or difficulties adapting to online environments. It suggests students may feel less satisfied or confident with the traditional methods, possibly due to less engaging experiences or comfort with digital tools.

Table-6: Average responses on various dimensions of the teachers and students

Dimensions	Teacher (in %)					Student (in %)				
	SA	A	UD	D	SD	SA	A	UD	D	SD
General aspects with traditional and online education methods	33.63	18.35	7.76	17.3	22.95	30.04	19.79	16.45	17.5	16.22
Effectiveness and learning outcomes	21.09	16.87	19.43	16.59	26.01	24.17	20.82	14.45	24.04	16.52
Advantages of online education compared to traditional classroom education	26.09	14.8	30.96	17.45	10.69	33.16	18.9	7.63	17.33	22.98
Difficulties with online mode of learning	39.52	16.22	7.63	14.29	22.33	20.62	17.42	19.3	16.62	26.04
Preferred methods in traditional classroom education	39.05	12.9	22.78	12.42	12.84	25.62	15.35	30.83	17.48	10.72
Preferred methods in online mode of education	35.07	17.81	14.71	16.84	15.56	39.05	16.77	7.5	14.32	22.36

Interestingly, teachers perceive online education as slightly more effective (24.17% SA, 20.82% A) than traditional methods, which may stem from increased exposure to digital tools, flexibility, or innovative practices during the shift to online modes. Conversely, students perceive traditional education as more effective (26.01% SA) than online (14.45% SA). This discrepancy highlights a critical challenge: despite teachers' optimism, students may face barriers—such as lack of engagement, technical issues, or difficulty in understanding content—leading them to perceive online learning less favorably.

Teachers recognize notable advantages (33.16% SA), perhaps citing flexibility, accessibility, and resource availability as key benefits. Students report fewer perceived advantages (22.98% SA). This suggests that perceived benefits of online education are not equally experienced or valued by students, possibly due to the obstacles they face or unmet expectations.

Notably, students report higher levels of difficulty (26.04% SA) compared to teachers (20.62% SA). This indicates that students are more conscious of the hurdles—like poor internet connectivity, distractions at home, or difficulty in concentrating—which hinder their learning experiences.

Table-7: Comparison of aggregate scores on various dimensions of the teacher and student

Dimensions	Teacher			Student		
	Mean	SD	T score	Mean	SD	T score
General aspects with traditional and online education methods	9.431	8.335		10.168	8.07	
Effectiveness and learning outcomes	10.54	7.707		11.78	8.236	
Advantages of online education compared to traditional classroom education	11.47	8.571	0.000821	11.87	9.346	0.000536
Difficulties with online mode of learning	12.14	8.211		10.567	9.71	
Preferred methods in traditional classroom education	10.39	9.71		11.78	9.628	
Preferred methods in online mode of education	12.47	8.49		11.188	9.64	

There's an evolving landscape where students may be more receptive to online methods, perhaps due to the novelty, convenience, or adaptation to digital platforms. Teachers may need to

innovate and incorporate more interactive, student-centered online practices to meet these preferences. Teachers favor traditional methods strongly (39.05% SA), probably due to familiarity and proven effectiveness. Students are less convinced (25.62% SA), which could indicate that conventional approaches may not fully cater to modern learning preferences or the changing needs of students. Interestingly, students show a slightly higher preference (39.05% SA) than teachers (35.07%), possibly reflecting a growing comfort or interest in digital interactions, especially in contexts like pandemic-induced remote learning.

Table-7, focusing on a nuanced understanding of the comparative perceptions between teachers and students across various dimensions related to online and traditional education methods. The statistically significant T-score (0.000821) indicates that students perceive the overall aspects of online and traditional education more positively than teachers. The significant T-value (0.000536) suggests that students' view the learning outcomes as more favorable in online settings than teachers do.

8. Findings of the study

The data underscores a shifting landscape where teacher-students' acceptance of online education is growing, but significant challenges and perceptual gaps remain, necessitating targeted interventions to enhance the efficacy and inclusivity of educational modes.

(i) Preference for traditional education: Both teachers and students predominantly favor traditional classroom methods over online education, with over 35% of teachers and students rating traditional methods highly.

(ii) Perceived effectiveness: Traditional teaching is perceived as more effective in achieving learning outcomes compared to online modes, although online education is recognized for certain advantages.

(iii) Recognition of online education advantages: Teachers generally acknowledge benefits such as flexibility, but students are less convinced, showing lower positive responses regarding those advantages.

(iv) Challenges in online learning: Both teachers and students identify significant difficulties with online education, particularly technical issues and lack of engagement, with students perceiving higher levels of challenge than teachers.

(v) Gender and school-type variations: Male teachers and students tend to have more positive perceptions of online education than females. Private school respondents similarly have a more favorable view compared to government school participants.

(vi) Overall perceptual gap: Despite recognizing some benefits, there is a perceptual gap where online education is seen as less effective and more difficult, indicating the need for improvements in implementation and support systems.

These findings highlight the dominance of traditional teaching methods, the acknowledgment of online education's potential benefits and the necessity to address associated challenges for wider acceptance and effectiveness.

9. Conclusion

The study highlights a generally favorable attitude towards traditional classroom education across different groups, particularly emphasizing its perceived effectiveness, familiarity, and overall acceptance. Government and private schools, as well as teachers and students, predominantly view traditional methods as more effective for learning and prefer face-to-face interactions over online modes. Despite recognizing certain benefits of online education—such as flexibility and accessibility—concerns about technical difficulties, infrastructural issues, and perceived limitations in learning quality remain significant barriers. These challenges are especially pronounced among government school respondents and female participants, indicating disparities in technological resources and comfort with online platforms.

The data also suggests that private schools and male students are somewhat more open to online education, perceiving its advantages more positively and experiencing fewer difficulties. Nonetheless, no group overwhelmingly favors online methods as a complete substitute for traditional classroom teaching, indicating a preference for a hybrid or supplementary approach rather than a full transition.

In conclusion, while online education is acknowledged for its potential benefits, the predominant perception is that it currently cannot replace traditional classroom instruction due to infrastructural, technological, and pedagogical barriers. Improving access to reliable technology, enhancing digital literacy, and developing engaging online teaching strategies are essential steps to foster greater acceptance and effectiveness of online learning modalities. The insights underscore the need for policymakers and educators to address these issues to optimize blended

learning environments, ultimately ensuring equitable and quality education delivery across diverse educational settings.

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