Original Article
ISSN (Online): 2582-7472

ShodhKosh: Journal of Visual and Performing Arts
July- December 2023 4(2), 1900–1912

SHAPING LEADERSHIP: THE EFFECTS OF ONLINE TEACHING ON ACADEMIC LEADERS IN INDIAN HIGHER EDUCATION INSTITUTIONS

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DOI
10.29121/shodhkosh.v4.i2.2023.3125

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

The study investigates teachers' perceptions of online classes since the onset of the COVID-19 lockdown on March 25, 2020. It explores the transition from traditional education to EdTech and online assessment within the Indian educational system. The objective is to evaluate which of the demographic characteristics of academic leaders impact their adaptation to online teaching and to identify the challenges encountered during this transition. A quantitative approach was utilized, involving a demographic survey of 327 educators across India from public and private colleges. Data were collected through a 5-point Likert scale questionnaire, with reliability assessed using Cronbach's alpha. Statistical analyses, including t-tests and ANOVA with Duncan's Multiple Range Test, were conducted using IBM SPSS 25 to ensure precision. The results revealed that among the six demographic factors examined—age, gender, marital status, educational qualification, income level, and organization—only age, income, and educational qualification significantly affect the adoption of online teaching by faculty members in higher education institutions. Conversely, organization, marital status, and gender do not significantly influence the adoption of online teaching. These findings are pertinent for regulatory authorities and academic leaders as they revise policy frameworks, develop strategic initiatives, and establish technical infrastructures to facilitate the adoption of EdTech. Additionally, the insights gained can guide improvements in training and resources, particularly for institutions aiming to integrate online teaching into regular practice

Keywords: Online Teaching, Higher Education, Leaders, Edtech

1. INTRODUCTION

Amid the global spread of COVID-19, a highly contagious virus that disrupted various sectors and daily life, a worldwide lockdown was imposed on March 25, 2020. This situation led to a profound shift in the education sector. According to UNESCO, approximately 63 million educators in 165 countries were impacted, while around 1.3 billion students worldwide could not attend schools and universities. In India specifically, about 320 million students were unable to access education during this period. (UNESCO Report, 2020).

In response to the COVID-19 pandemic, the Indian government mandated that educational institutions shift to virtual operations to comply with health guidelines and maintain social distancing. The Ministry of Human Resource Development (MHRD) recognized the urgent need for digital solutions and launched several free e-learning platforms to support students. These include the National Programme on Technology Enhanced Learning (NPTEL), e-Pathshala, the DIKSHA portal, SWAYAM Prabha, and the Study Web for Active Young Minds (SWAYAM) (MHRD Report, 2020). Additionally, the Ministry encouraged Higher Educational Institutions (HEIs) to continue online teaching and assessments while implementing remote work practices.

Although online teaching was not commonly practiced in many developing countries like India, it became essential during the pandemic. This sudden shift forced educators to adapt quickly to online platforms for both instruction and evaluation. According to (John Hattie) in his seminal work "Visible Learning," teaching strategies and approaches significantly influence student success, with interactive teaching demonstrating the greatest impact on student performance, evidenced by an effect size of 0.75. Strategies such as prompt feedback and formative evaluation, with effect sizes ranging from 0.73 to 0.90, underscore the critical role of teaching methods in academic outcomes (Science Insight Education Frontier, Vol. 5, 2020).

The pandemic has catalyzed a shift from traditional teaching to a model reliant on educational technology (EdTech). This rapid transition exposed both educators and students to a new, digital learning environment. Regardless of their prior experience, teachers were compelled to adapt to new teaching methods, often facing significant challenges, particularly if they were less familiar with digital tools (Rowand, 2000).

Many educators, especially those accustomed to traditional methods, struggled to keep pace with this transformation. Despite increased access to resources and training, numerous factors continued to affect their effective utilisation of digital technologies in the classroom. For experienced educators, this shift was not only a challenge but also a pivotal moment that tested their adaptability and resilience.

This research aims to examine both the positive and negative impacts of online teaching on educators, exploring the various factors that influence their performance within this modern framework. The study will assess whether online teaching methods can be successfully implemented regularly across institutions and identify key factors affecting academic leaders in this transition. Additionally, it will highlight gaps for future research to further understand and improve the online teaching experience.

2. LITERATURE REVIEW

Literature especially from the last few years has been exhaustively reviewed. All reviews made are segregated into __ subtitles as follows:

2.1. YEARS OF REVOLUTION IN PEDAGOGY

Recent literature highlights significant changes in pedagogy over the past few years, driven largely by the COVID-19 epidemic. The sudden shift from in-person to remote education posed substantial challenges for educators and students, requiring rapid adaptation to online teaching methods. This transition was not only abrupt but also fraught with difficulties, particularly in practice-based modules and practicum courses, which faced additional complexity compared to foundational courses (Flores & Gago, 2020).

Teachers' attitudes towards technology play an essential role in their acceptance and amalgamation of digital tools in the classroom. According to Liaw & Huang (2005), educators' perceptions of technology significantly influence their willingness to incorporate it into their teaching practices. In the past two years, there has been a notable pedagogical shift towards online education, driven by technological advancements. This transition has required faculty to alter their teaching methods substantially. However, some educators have been hesitant to embrace online formats, citing issues such as insufficient financial or technological support, concerns about the feasibility of translating their course content to an online medium, and fears of losing meaningful student interaction (Allen et al., 2012; Prottas et al., 2016; Mitchell et al., 2015).

2.2 INSTITUTIONAL SUPPORT

Educational institutions have often struggled to provide the necessary time, support, and financial resources for the development of high-quality online courses (Taylor, 2002). As noted by Verma et al. (2020), many institutions face challenges due to a lack of sufficiently trained faculty capable of effectively utilizing online platforms. In the absence of clear guidelines and procedural support, educators were directed to conduct remote classes with minimal preparation. This situation was particularly challenging for older faculty members who may not have been familiar with digital tools (Sharma, 2020). While some educators previously chose online teaching out of interest and a desire to enhance their digital skills (Hampel & Stickler, 2005), the shift towards blended learning models has increasingly compelled faculty to adopt online teaching methods, often without adequate support.

2.3 ADAPTING TO THE NEW NORMAL

Effective training systems are crucial for preparing educators who are reluctant or inexperienced with online learning. The shift to a blended learning model necessitates that instructors incorporate multiple methods of teaching, including in-person instruction, live online sessions, and self-paced online learning. While this model benefits students by offering flexible learning options, it presents a steep learning curve for teachers, particularly those new to online instruction (Calderón et al., 2021). The challenge lies in balancing in-person and digital teaching methods while navigating the complexities of new educational technologies.

2.4 ICT AND TECHNOLOGY INTEGRATION

The incorporation of Information and Communication Technology (ICT) in education is influenced by several key factors. According to Rogers (2003), important elements affecting technology adoption include perceived advantages, compatibility with existing systems, complexity, trial ability, and observability. Expanding on this framework, Stockdill and Morehouse (1992) identified additional factors such as user characteristics, content requirements, technological issues, and organizational capacity, all of which are vital for effective ICT integration. Moreover, both experienced and novice educators highlight the necessity of having strong technical skills and a positive mind-set toward technology. These factors are essential for the successful implementation and use of ICT in educational settings.

Creative educators highlight the importance of curriculum development and teaching strategies, whereas student-teachers prioritize the need for technical skills and effective instructional methods. Peralta and Costa (2007) found that instructors with higher computer proficiency exhibit greater confidence in their ability to integrate technology effectively. Furthermore, Jones (2004) emphasized that a teacher's confidence is strongly connected to their technological skills, underscoring the necessity for focused support and training in ICT integration.

3.1 DEMOGRAPHIC ATTRIBUTES

The effective adoption and integration of technology in education are significantly impacted by various demographic factors. These include individuals' attitudes toward computers, as well as their age, gender, educational background, work experience, and frequency of using computers for educational purposes. Schiller (2003) emphasized the importance of teachers' beliefs about technology, asserting that these beliefs are vital for both the adoption and successful use of computers in the classroom.

A crucial aspect of this process is computer self-efficacy, which refers to a person's confidence in their ability to use technology. Research by Compeau and Higgins (1995) indicates that a teacher's self-efficacy with computers plays a significant role in their readiness and effectiveness in employing ICT tools for instruction. Additionally, studies by Liaw, Huang, and Chen (2007) and Yuen & Ma (2008) further confirm that teachers who possess greater confidence in their technological skills are more likely to adopt and effectively utilize ICT in their teaching practices.

3.2 RESEARCH FRAMEWORK

The framework for the research approach in this study involves analysing the impact of demographic attributes on the adoption and effectiveness of online teaching. By examining factors such as computer self-efficacy, experience levels, and training participation, the study aims to provide insights into how these variables impact the integration of technology in education and identify strategies to support educators in adapting to new teaching modalities.

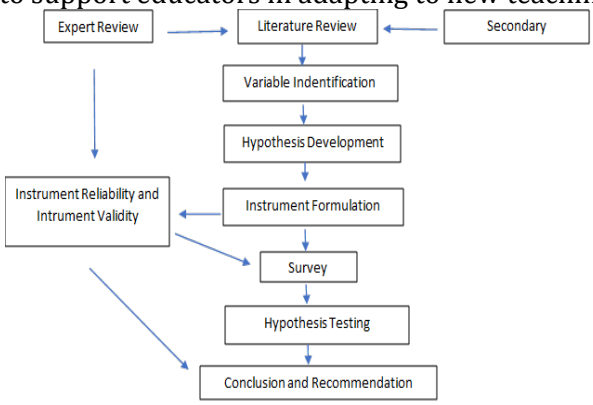

Fig 1: The Framework of Research Methodology

3.3 STATEMENT OF THE PROBLEM

Based on the relevance above, the researcher can state that the ***demographic characteristics of the teachers have a crucial role in the adoption of the online form of teaching.***

3.3.1 OBJECTIVES OF THE STUDY

1: To analyze differences in the adaptation to online teaching between male and female teachers.
2: To examine how marital status (married vs. single) affects teachers' attitudes toward adopting online teaching methods.
3: To compare the attitudes of teachers from public institutions versus private institutions regarding the adoption of online teaching.
4: To investigate how teachers' ages influence their attitudes towards the transition to online teaching.
5: To assess the impact of teachers' income levels on their attitudes towards adopting online teaching methods.
6: To evaluate how educational qualifications affect teachers' attitudes toward the adoption of online teaching.

3.3.2 HYPOTHESES OF THE STUDY:

To statistically test the hypothesis, we formulate null hypotheses. The null hypotheses are outlined as follows:

- H_{01} – No significant difference exists between male and female with respect to the adaption of online teaching mode.
- H_{02} - No significant difference exists between Married and Bachelor with respect to the adaption of online teaching mode.
- H_{03} - No significant difference exists between public and private sector teachers with respect to the adaption of online teaching mode.
- H_{04} - No significant relationship exists between teachers' age and adaption of online teaching mode.
- H_{05} - No significant relationship exists between teachers' income and the adaption of online teaching mode.
- H_{06} -No significant relationship exists between teachers' educational qualifications and adaption of the online teaching mode.

4. METHODOLOGY

The focus of this paper is on the transition educators have experienced from traditional to contemporary pedagogical and assessment practices. To understand their experiences, challenges, and adjustments, a comprehensive questionnaire was developed. The primary aim was to explore how various demographic factors influence the adaptation to online teaching.

4.1. RESEARCH APPROACH

This study employs a descriptive research methodology to characterize and analyze the population of educators. It seeks to provide a detailed account of their experiences and perceptions regarding the shift to online teaching. The data collected is examined about existing theories and hypotheses, yet the findings are grounded in real-life experiences, reflecting an empirical outcome.

4.1.1 MEASUREMENT

A 20-item questionnaire was developed to evaluate six demographic factors affecting teachers' adaptability to online teaching: Age, Gender, Marital Status, Organization, Income, and Educational Qualification. The reliability of the measurement construct was assessed using Cronbach's α coefficient, which yielded a value of 0.790, exceeding the recommended threshold of 0.7 (Nunnally, 1978). This coefficient was employed to determine the internal consistency and reliability of the constructs (Cronbach, 1951). All constructs in this study recorded values above 0.70, with composite reliability for all constructs exceeding 0.80, indicating a high level of reliability and robustness in the scales utilized.

Table 1.1 Reliability Statistics

Reliability Analysis	
Cronbach's Alpha	**N of Items**
0.790	20

Source: Computed and compiled by the researcher based on a questionnaire

4.1.2 SURVEY DESIGN

4.1.2.1 POPULATION

The study targeted educators from higher education institutions (HEIs) across India. Data collection was conducted using a census approach to ensure comprehensive coverage. The focus was on faculty members from both public and private regulated institutions to gather a broad range of responses.

4.2.1.2 SAMPLING METHOD

A two-stage sampling process was employed for this research. In the initial stage, purposeful sampling was used to categorize faculty into specific groups based on relevant criteria. In the second stage, convenience sampling was applied to select participants. This method considered practical aspects such as accessibility, geographical location, and the willingness of participants to engage in the study.

4.2.1.3 SAMPLE

The study involved a diverse group of faculty members from various public and private higher education institutions across India. A total of 327 faculty members were sampled to capture a wide range of perspectives on the transition to online teaching.

4.2.1.4 DATA COLLECTION

The study's population comprised 430 teachers from India's higher education sector, including both public and private institutions. Data was gathered using a census method, with attempts made to reach all 430 teachers. Follow-up contacts were made for those who did not respond initially. In total, 327 responses were collected, resulting in a response rate of 76%. Data collection was conducted via an online structured questionnaire employing a five-point Likert scale, ranging from Strongly Agree (1) to Strongly Disagree (5). This approach facilitated the collection of detailed insights into faculty experiences and attitudes toward online teaching (Bano et al., 2022). The high educational qualifications of the respondents enhanced the reliability and validity of the findings.

4.2.1.5 DATA ANALYSIS

The survey data were analyzed to answer the research questions and test the hypotheses. To assess the influence of independent variables on dependent variables, t-tests and ANOVA were employed. All statistical analyses were performed using IBM SPSS version 25, ensuring accuracy and reducing the likelihood of statistical errors.

4.3 DEMOGRAPHIC PROFILE OF THE RESPONDENTS

The study investigates how online teaching affects academic leaders and their performance. Key demographic characteristics considered include age, gender, educational qualification, organizational affiliation, marital status, and income level. These factors are crucial as they influence the adoption of technology. The demographic analysis was derived from the data collected via the online structured questionnaire, providing insights into how these characteristics affect the transition to and effectiveness of online teaching.

Table 1.2: Demographic Profile n =327

Variables	Mean	Std. Deviation	valid	Frequency	Percent
Age	2.09	0.811	25 -35	78	23.9
			36 - 45	158	48.3
			46 - 55	75	22.9
			55 Above	16	4.9
			Total	327	100
Gender	1.75	0.432	Male	81	24.8
			Female	246	75.2
Organization	1.4	0.491	Public	218	59.9
			Private	109	40.1

			Total	327	100
Marital Status	1.22	0.415	Married	255	78
			Bachelor	72	22
			Total	327	100
Educational Qualification	3.19	0.951	Postgraduate	97	29.7
			Ph.D.	230	70.3
			Total	327	100
Income Level	2.7	0.457	25000 - 35000	25	7.6
			36000 - 45000	47	14.4
			46000 - 55000	95	29.1
			Above 55000	160	48.9
			Total	327	100

Source: Computed and compiled by the researcher based on a questionnaire

5. ANALYSIS AND INTERPRETATION

The analysis and interpretation of the data were conducted using IBM SPSS 25 to ensure the results were statistically robust and free of errors. For evaluating the data, both t-tests and ANOVA with Duncan's Multiple Range Test (DMRT)—a widely recognized significance test—were employed to determine the differences between groups.

5.1 HYPOTHESIS TESTING

- **H01:** There is no significant difference between male and female educators regarding their adaptation to online teaching methods.

These hypotheses were tested to understand whether gender influences the ability to adapt to online teaching, providing insights into any potential disparities or differences between male and female educators in their transition to digital pedagogical methods.

Table 1.3.1 Applying t-test to check the significant difference between Male and Female with respect to the adaption of online teaching mode

Gender		N	Mean	Std. Deviation	Std. Error Mean
O_L	Male	81	2.59	1.358	0.151
	Female	246	3.72	0.981	0.063

Table: 1.3.2 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
O_L	Equal variances assumed	2.995	0.084	0.402	325	0.688	0.024	0.058	-0.092	0.139
	Equal variances not assumed			0.399	303.390	0.690	0.024	0.059	-0.093	0.140

Note: * denotes significance at a 5% level

HYPOTHESIS TESTING RESULTS

H01: There is no significant difference between male and female educators regarding their adaptation to online teaching methods.

Result: The null hypothesis (H01) is upheld as the p-value obtained is 0.688, which exceeds the significance threshold of 0.05. This indicates that there is no statistically significant difference between male and female educators in their adaptation to online teaching methods.

H02: There is no significant difference between married and single educators with respect to their adaptation to online teaching methods.

These hypotheses aim to investigate whether marital status influences educators' ability to transition to online teaching. The analysis will determine if there are any notable differences in how married and single educators adapt to online teaching, providing insights into the impact *of marital status on this transition.*

Table 1.3.3 Applying t-test to check the significant difference between Married and Bachelor with respect to the adaption of online teaching mode

Marital Status		N	Mean	Std. Deviation	Std. Error Mean
O_L	Married	255	3.26	0.611	0.038
	Bachelor	72	3.35	0.479	0.057

Table: 1.3.4 Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
O_L	Equal variances assumed	2.656	0.104	-1.132	325	0.258	-0.088	0.078	-0.242	0.065
	Equal variances not assumed			-1.295	142.739	0.197	-0.088	0.068	-0.223	0.047

Note : * denotes significance at a 5% level

HYPOTHESIS TESTING RESULTS

H02: There is no significant difference between married and single educators regarding their adaptation to online teaching methods.

Result: The calculated p-value is 0.258, which is above the significance level of 0.05. Consequently, we do not reject the null hypothesis (H0), indicating that marital status does not significantly influence educators' adaptability to online teaching methods.

H03: There is no significant difference between educators from public and private institutions regarding their adaptation to online teaching methods.

These hypotheses examine whether the type of institution (public vs. private) influences educators' adaptation to online teaching. The analysis aims to determine if there are significant differences between faculty from different types of institutions in their ability to transition to online teaching, offering insights into how institutional affiliation may impact this adaptation process.

Table: 1.3.5 Applying t-test to check the significant difference between Public and Private with respect to the adoption of online teaching mode

Organization		N	Mean	Std. Deviation	Std. Error Mean
O_L	Public	218	3.77	0.793	0.054
	Private	109	3.80	0.677	0.065

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
O_L	Equal variances assumed	3.458	0.064	-0.310	325	0.757	-0.028	0.089	-0.202	0.147

Equal variances not assumed	-0.327	248.671	0.744	-0.028	0.084	-0.193	0.138

Table: 1.3.6 Independent Samples Test

Note: * denotes significance at a 5% level

HYPOTHESIS TESTING RESULTS

H03: There is no significant difference between educators from public and private institutions regarding their adaptation to online teaching methods.

Result: The p-value for this hypothesis is 0.757, exceeding the significance level of 0.05. Therefore, we accept the null hypothesis (H0), suggesting that there is no significant difference in the adaptability to online teaching methods between educators in public and private institutions.

H04: There is no significant relationship between educators' age and their adaptation to online teaching methods.

These hypotheses are designed to explore whether the age of educators influences their ability to adapt to online teaching. The analysis will determine if there is a significant correlation between age and the effectiveness of transitioning to online teaching, providing insights into how age might impact the adaptation process.

Table: 1.3.7 ANOVA for significant differences among Age groups with respect to the adaption of online teaching mode

Factors for adaptation of online teaching	Age group in years					F value	P value
	25 -35	36 - 45	46 - 55	55 Above	Total		
Difficulty in adaptation	1.71 (0.459)	2.06 (0.942)	1.37 (0.487)	2 (0.000)	1.82 (0.781)	16.081	0.001**
Less technological knowledge	1.87 (0.562)	2.07 (0.987)	2.37 (1.527)	1.95 (0.627)	1.27 (0.687)	14.341	0.001**
lack of interest in new learning	2.87 (1.612)	1.07 (0.542)	2.01 (1.227)	1.05 (0.542)	1.72 (0.691)	18.674	0.021*

Note: 1. The value enclosed in the bracket refers to SD
2. ** indicates a 1% level of significance.
3. * indicates significance at a 5% level
All ** with DMRT

HYPOTHESIS TESTING RESULTS

H04: There is no significant relationship between educators' age and their adaptation to online teaching methods.

Result: A significant relationship was found between age groups and the adaptation to online teaching. The p-values obtained (0.001) are less than the significance level of 0.01, leading to the rejection of the null hypothesis at the 1% level. This suggests that age-related factors such as difficulty in adaptation and varying levels of technological knowledge significantly influence the ability to transition to online teaching. Additionally, the data indicates that the number of years of employment impacts this adaptation process. For instance, educators with fewer than three years of experience use computers more frequently (48%) compared to those with four to nine years (46%), ten to nineteen years (47%), and those with more than twenty years of experience (33%) (Makhlouf & Bensafi, 2021).

H05: There is no significant relationship between teachers' income and their adaptation to online teaching methods.

ANALYSIS APPROACH: To assess this hypothesis, statistical tests will determine if income levels influence the extent to which teachers adapt to online teaching. This analysis aims to uncover whether financial factors play a significant role in the ability to transition to online teaching methods, thereby providing insights into how income might impact the effectiveness and ease of this adaptation.

Table 1.3.8 ANOVA for significant differences among Income levels with respect to the adaption of online teaching mode

Factors for adaptation of online teaching	Income per month					F value	P value
	25 -35	36 - 45	46 - 55	55 Above	Total		
Technical support	4 (0)	3.49 (0.505)	3.49 (0.874)	3.71 (0.704)	3.64 (0.721)	4.745	0.003**
Availability of basic facilities	3 (0)	4 (0)	2.97 (1.005)	3.75 (0.434)	3.5 (0.743)	47.275	0.000**

Expenditure	2.54 (1.034)	4.15 (0.422)	3.34 (0.601)	3.01 (0.904)	4.51 (1.234)	9.674	0.001**

Note: 1. The value enclosed in the bracket refers to SD
2. ** indicates a 1% level of significance.
All ** with DMRT

HYPOTHESIS TESTING RESULTS

H05: There is no significant relationship between teachers' income and their adaptation to online teaching methods.

Result: The analysis supports the rejection of the null hypothesis at the 1% significance level, given that the p-values (0.003, 0.000, 0.001) are all below the threshold of 0.01. This indicates a significant correlation between teachers' income and their ability to adopt online teaching methods. Specifically, factors such as access to technical support, basic facilities, and associated expenditures are significantly related to teachers' salaries. Effective adoption of online teaching requires access to computers, updated software, and hardware. Yildrim (2007) highlights that the effective integration of ICT in education is highly dependent on the availability of these resources, which is more feasible when teachers' income supports the cost of living and technological needs in their locality.

H06: There is no significant relationship between teachers' educational qualifications and their adaptation to online teaching methods.

Analysis Approach: This hypothesis explores whether teachers' educational qualifications influence their ability to adapt to online teaching methods. The analysis will assess whether higher levels of educational attainment are associated with a more effective adaptation to digital teaching approaches. This aims to determine if advanced qualifications contribute to a greater readiness and capability for incorporating online teaching practices into educators' pedagogical strategies.

Table 1.3.9 ANOVA test for significant differences between educational qualifications with respect to the adaption of online teaching mode

Factors for adaptation of online teaching	Educational Qualification of the employee			F value	P value
	Postgraduate	Ph.D.	Total		
Technological knowledge	2.77 (0.835)	1.46 (0.5)	1.85 (0.861)	**307.57**	**0.000 ****
Experience and Effectiveness	1.74 (0.44)	1.62 (0.486)	1.62 (0.486)	**4.434**	**0.036 ***
Area of Expertise	1.24 (0.54)	1.82 (0.686)	2.12 (0.936)	**12.214**	**0.003 ***

Note: 1. The value enclosed in the bracket refers to SD
2. ** indicates a 1% level of significance.
3. * indicates significance at a 5% level
All ** with DMRT

HYPOTHESIS TESTING RESULTS

H06: There is no significant relationship between teachers' educational qualifications and their adaptation to online teaching methods.

Result: The null hypothesis is rejected at the 1% significance level due to the p-value of 0.000, which is substantially below the 0.01 threshold. This indicates a significant correlation between teachers' educational qualifications and their ability to adapt to online teaching methods. Furthermore, the null hypothesis is also rejected at the 5% level with respect to factors such as experience, effectiveness, and area of expertise, as the p-values (0.036 and 0.003) are below 0.05.

These findings suggest a robust link between teachers' educational backgrounds and their proficiency in adjusting to online teaching. Teachers with higher levels of education and advanced technological knowledge exhibit greater confidence and effectiveness in utilizing digital teaching tools. Jones (2004) supports this by asserting that a teacher's skill and confidence in using technology are directly related, with higher educational qualifications enhancing both skill and confidence in adapting to online teaching methods. Thus, a well-rounded educational background is instrumental in facilitating a smoother transition to online pedagogical practices.

6. CONCLUSION

In recent years, especially following the COVID-19 pandemic, Indian education has undergone a significant transformation, shifting from traditional face-to-face instruction to a fully online format. This transition, particularly in teacher education, has come with its own set of challenges. While online courses and assessments often struggle to replicate the benefits of in-person teaching, the pandemic has underscored the critical importance of integrating technology into education.

The findings of this study reveal that among the six demographic factors examined—age, income level, and educational qualification—only these three significantly influence faculty adoption of online teaching in higher education. Conversely, organization, marital status, and gender do not appear to have a substantial impact. This information is crucial for policymakers and educational leaders as they develop strategies, implement supportive policies, and establish the necessary technical infrastructure to foster effective educational technology use.

Additionally, the results highlight the importance of access to basic facilities. Educators who have better access to essential resources are more likely to deliver effective online education, particularly in subjects that require specialized tools.

In conclusion, addressing these challenges of online education necessitates a targeted approach that takes demographic factors like age and income and educational qualification into account. By offering tailored support for teachers based on these characteristics, educational institutions can enhance the adoption of online teaching methods and improve overall teaching effectiveness. This study provides valuable insights into how demographic variables influence online teaching, setting the stage for future research focused on optimizing digital education strategies.

7. RECOMMENDATION

Every transition has its challenges, and the shift from traditional classroom teaching to digital instruction is no exception. This transition has posed difficulties for both educators and students, but it has also led to notable improvements. Over the past two years, educators have gained new technological skills, adapting to online teaching methods they had previously avoided. This newfound proficiency offers hope that even reluctant teachers will be better equipped to handle similar situations in the future. To enhance the effectiveness of online education, several key strategies should be considered:

1. **EMBRACE TECHNOLOGICAL INTEGRATION**: For the Indian education system to fully benefit from online instruction, it must recognize the integral role of technology. Proactive measures should be taken to embed technology into teaching and assessment. Comprehensive hands-on training in technological tools and platforms should be mandatory for all educators to ensure they are well-prepared for online teaching.
2. **ENSURE ACCESSIBILITY TO BASIC UTILITIES**: Educational institutions must ensure that teachers have easy access to essential resources, such as reliable internet and modern computing devices. This is crucial for maintaining the quality of online instruction and ensuring that all teachers can participate effectively.
3. **IMPROVE NETWORK INFRASTRUCTURE**: Enhanced network accessibility is vital for a smooth and effective teaching and learning process. Investment in robust internet infrastructure will support uninterrupted online classes and improve the overall educational experience.
4. **REVISE PAY STRUCTURES**: The compensation structure for teachers should reflect the cost of acquiring the necessary tools for online teaching. Fair pay will enable educators to access fundamental amenities, such as high-quality hardware and software, which are essential for effective online instruction.
5. **IMPLEMENT ADEQUATE BREAKS**: To prevent burnout and ensure sustained engagement, a standardized 40-minute break between online classes should be implemented. This will give teachers and students time to rest and recharge, contributing to a more productive learning environment.

8. LIMITATIONS

This study encountered several intrinsic limitations. Faculty members often struggled to respond promptly due to high workload pressures (Gratz & Looney, 2020). Additionally, some respondents expressed dissatisfaction with the online format of the questionnaire, leading to incomplete submissions. There is also a possibility that some participants provided socially desirable responses rather than their true opinions.

Future research could benefit from a qualitative approach to explore the underlying factors that motivate or hinder teachers in embracing online teaching. Such studies could offer deeper insights into the barriers and incentives associated with online education. Expanding research to include larger samples from diverse institutions across different regions could enhance the validity and reliability of findings, providing a more comprehensive understanding of online education's impact and potential improvements.

CONFLICT OF INTERESTS

None.

ACKNOWLEDGMENTS

None.

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(Science Insight Education frontier vol-5,2020)