

## ASSESSING QUALITY EDUCATION DETERMINANTS IN ONLINE LEARNING PLATFORMS

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### ABSTRACT

*Quality education fosters critical thinking, creativity, and lifelong skills, emphasizing personalized instruction, inclusive environments, and resource access to help all learners reach their potential. This quantitative study surveyed participants to understand perceptions of quality education, focusing on three independent variables: Online Learning Platform attributes, learning effectiveness and Virtual Learning Environment. The primary objective is to analyze how these factors affect quality education across various levels and disciplines. This study concludes that improved access, enhanced engagement, greater flexibility, positive learning*

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*outcomes and importance of instructor role affect the quality of education in online learning platforms.*

**KEYWORDS:** *Elements Include Effective Teaching Methods, Relevant Curriculum, Technology Integration, And Supportive Communities.*

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## **INTRODUCTION-QUALITY EDUCATION**

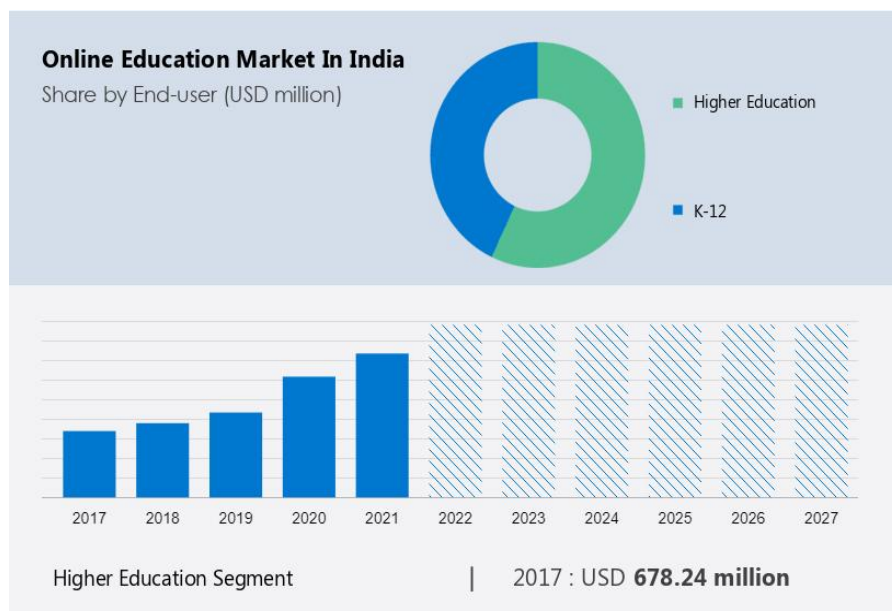
The study examines the impact of online learning platforms and collaborative learning on the quality of education. By exploring the benefits of these platforms, such as increased accessibility, reduced education costs, and modular content delivery, the paper demonstrates how they can transform education. It also investigates the effects of collaborative learning on student achievement and engagement, highlighting the role of online collaborative tools in enhancing communication and problem-solving skills.

Quality education is a complex concept that involves multiple dimensions essential for improving students' academic success and overall educational experience. Research highlights the importance of systemic approaches, including well-managed classrooms, effective assessment, and alignment with national educational goals. These elements interact within the broader political, cultural, and economic context, with stakeholder involvement and diverse perspectives shaping the definition of quality education. Continuous evolution is driven by new research, emphasizing the need for data-driven self-assessment and improvement within educational systems. Online learning sites have the potential to revolutionize higher education delivery. In the article "Online Learning Platforms: Rebuilding Modern Universities," Zi-Yu Liu, Natalya Lomovtseva, and Elena Korobeynikova (2020) argue that these platforms offer greater access, lower costs, and convenience, while still fostering structured and nurturing learning environments. Choosing the right online learning platform is crucial to maximize its benefits. Factors such as site and content quality, as well as community engagement, should be considered to best meet the needs of both teachers and students.

Online learning, alongside traditional methods, is widely utilized. Collaborative tools like Google Docs facilitate simultaneous internet-based collaboration, enhancing student engagement, motivation, and attitudes towards learning. However, research indicates that while online learning positively impacts student performance, some challenges exist, such as difficulty with collaboration in traditional team settings. Integrating online learning platforms with collaborative learning is essential. This framework emphasizes well-structured courses, effective assessments, and alignment with national education goals and community engagement. Through this alignment, educators can cultivate effective learning environments that promote student engagement and success.

The rise of technology has made online learning platforms invaluable in modern education, offering benefits like greater accessibility, reduced costs, and modular content, making education more flexible and adaptable. The paper discusses the transformative potential of online learning in higher education, noting its flexibility in learning pace and schedule, which enhances time

management and work-study balance. Online education provides official certifications without requiring physical attendance, offering more opportunities for skill development and career advancement. Features like smaller class sizes, increased interaction with tutors, diverse materials, and flexible content access create a dynamic learning experience that improves outcomes. Online education is generally more cost-effective than traditional methods, with various financial options making quality education more accessible. The integration of advanced technologies, such as AI and learning management systems, is expected to enhance the quality of learning experiences, with tools like virtual classrooms and interactive platforms fostering a more engaging and effective learning environment.



<https://www.technavio.com/report/online-education-market-in-india-market-size-industry-analysis>

The increase in the market share of world-class higher education will be significant over the forecast period. As awareness and development of education increases, enrolment in higher education also increases. Online higher education is becoming increasingly popular as it offers flexibility based on time and location. Moreover, such courses are cheaper in monetary terms compared to the courses offered by traditional institutes in India. The value of the higher education sector amounted to US\$ 678.24 million in 2017 and continues to grow until 2021. The development of this sector is achieved through skill development courses and studies selected by working professionals. That's why many institutions, including NIIT and Embibe, offer online courses for professionals. The rise of technologies such as the Internet and mobile phones, demand for higher education for individual professionals and the workforce, and government digital economy initiatives are driving the market.

## LITERATURE REVIEW

According to Bucarey et al., (2021) in their study, Higher instruction educate (HEIs) have been confronting a computerized change in online learning as a result of the confinements produced by COVID-19. Hence, recognizing which are the components that impact understudy fulfillment will permit HEIs to build up methodologies to guarantee the quality of the advanced change. This considers proposes a show that measures understudy fulfillment considering three measurements: instructor quality, specialized benefit quality and benefit quality. At that point, the effect of each measurement on understudy fulfillment is assessed utilizing a Fractional Slightest Squares Basic Condition Show (PLS-SEM), and at long last an Importance-Performance Outline Investigation (IPMA) was performed to distinguish the advancements that ought to be made to increment understudy fulfillment. Lee et al., (2022) In the confront of the COVID-19 widespread, all colleges in Korea were constrained to move to online instructing, as was the case in most of the rest of the world. This circumstance incited disarray, dissatisfaction, and disappointment among understudies as well as teaches. The show thinks about inspected college students' discernments of online learning in common and of one purpose-designed course in specific and compared their reactions. The objective was to recognize components that might upgrade the quality of online instruction (OE) and learner fulfillment. The show considers connected a blended strategy to guarantee strong comes about, utilizing a overview, interviews, students' reflection papers, and the instructor's field notes. The comes about shown that the understudies seen online learning as less viable than conventional face-to-face classes in general but were fulfilled with the customized online course, particularly citing the instructor's incite input, interaction among understudies, and compelling plan of assignments. Given this result, the shows think about proposes a few educational suggestions for OE in the future. According to Lestari et al., (2021) the objective of the think about is to look at the convenience of online learning for moving forward quality of instruction, quality of environment, quality of educator and quality of family participation amid the COVID-19 widespread in Indonesia. The consider collected 296 test reactions from the Office of Rudimentary School Instructor Instruction at Universities Negeri Jakarta through purposive sampling through self-administrated overview survey. The comes about appeared that the convenience of online learning altogether impacted the quality of environment. Value of online learning essentially affected the quality of family participation. Too, the convenience of online learning altogether impacted the quality of instruction. In conclusion, the value of online learning essentially affected the quality of instructors. Understudies are required not as it were to react to the questions of the educators but too to provide criticism with respect to the online course in the widespread to perform way better in discourses, exercises, and tasks.

According to Veeramanickam et al., (2022) outline a study focused on e-Learning quality administration frameworks, structured into two stages: Survey preparation and predicting the impact of e-Learning quality. The survey is designed to assess various drivers including adaptability, sustainability, staff capability, performance evaluation, and learner interests. Each driver encompasses specific factors crucial for analyzing e-Learning quality, such as learner control, technical skills, awareness of modern technology, and course materials. Responses collected from diverse age groups are analyzed using Structural Equation Modeling (SEM) to identify learning quality in e-Learning platforms. This comprehensive approach aims to provide insights into enhancing the effectiveness of e-Learning environments by addressing key factors influencing learning outcomes. Muthuprasad et al., (2021) examined the impact of COVID-19 on education, particularly in India, where the shift to online learning poses significant challenges

due to technical limitations like device affordability and bandwidth availability, especially in rural areas. Their survey of 307 students revealed that 70% are willing to opt for online classes to navigate through the pandemic. Most students prefer using smart phones for online learning and favor recorded classes with quizzes at the end of each lesson for enhanced learning effectiveness. However, broadband connectivity issues in rural areas remain a major obstacle. They suggest a hybrid approach blending online and practical elements for agricultural education, as solely relying on online learning might not be feasible. These insights can inform curriculum planning for a more adaptable education system in the face of future uncertainties.

In their study Li et al., (2022) the paper was based on the Client Fulfilment and Innovation Acknowledgment Integration Hypothesis (USATA). The creators dissected the components that influence college students' acknowledgment and fulfilment of online learning stage, as well as the contrasts in the relationship between different components in mixed learning situation and online learning situation. The comes about appeared that the quality of online learning stage and data quality influence client fulfilment, and fulfilment influences convenience and ease of utilize, and at that point influence demeanor and deliberate. The comparison between the two bunches appeared that there were critical contrasts in the effect of data quality on data fulfilment and the effect of seen value on utilization purposeful.

The study conducted by Herrera-Pavo et al., (2021) collaborative learning has incredible potential in the field of higher instruction since it advances the joint development of information, as well as the improvement of abilities related to the interaction that comes about in more basic learning forms. Based on a conceptual survey of this sort of learning, this work investigates, from three concrete encounters, how a educational show for virtual higher instruction can coordinate it, and what its suggestions are. The consider highlights among its conclusions they require for cautious arranging a satisfactory energetic to shape collaborative bunches, the significance of understudy hones related to regular utilize of innovations, the alter of the instructing part, and independence in the administration of learning. García et al., (2020) emphasizes the importance of higher education in equipping students with skills relevant to the workforce, enhancing their employability, and fostering a connected learning environment. Through collaborative learning communities, the research examines the impact of visual aids on academic performance and student satisfaction in employment-focused blended learning settings, catering to geographically dispersed students with diverse profiles. A financial learning community was established to assess student engagement as visual content creators and users. Findings reveal that students' preferences align with employer expectations, participation in creative activities enhances perception of course methods, and visual tools positively influence learning outcomes and student satisfaction. The study underscores the significance of these factors in educational institutions' decision-making processes regarding course offerings and curriculum design to optimize academic performance and student contentment.

According to Vieira et al., (2018) offers a comprehensive analysis of visual learning analytics, examining approaches, audiences, purposes, settings, and data sources utilized in visualizing educational data. They categorize reviewed literature based on three dimensions: association with visualization background, educational theory, and advancement of visualizations. The review highlights several key findings: limited integration of visual learning analytics tools in classroom settings, insufficient consideration of student background information, predominant use of traditional statistical visualization techniques, and a lack of studies combining advanced



visualizations with deep engagement in educational theories. Additionally, the study presents a research agenda for the field of visual learning analytics based on the identified gaps and insights from the literature review. Mystakidis et al., (2021) emphasizes the importance of deep and meaningful learning (DML) in remote education, particularly through e-learning. They focus on the effectiveness of e-learning, specifically in social virtual reality environments (SVREs), in higher education. A comprehensive literature review of thirty-three observational studies conducted between 2004 and 2019 highlights the cognitive, social, and affective dimensions of DML in SVREs. SVREs offer authentic, cognitively challenging experiences fostering open-ended social collaboration and personalized learning. However, attention to socio-cultural and emotional aspects, as well as ethical concerns like privacy and security, is crucial. The study proposes a Mixed Model for Profound and Significant e-learning in SVREs, emphasizing contextual relevance, learner agency, emotional engagement, social integration, and user accessibility improvements. Ching et al., (2023) the COVID-19 pandemic from 2020 to 2022 spurred a global emergency, leading to the closure of colleges and universities. Administration educators swiftly adapted their teaching methods to incorporate advanced technologies and online platforms. Management students embraced various modes of online learning, adjusting to the new reality of content delivery. This study aims to explore the opportunities and challenges in administration education amid the rise of online learning. A bibliometric analysis of 920 papers from the Scopus database was conducted, revealing a concentration of publications in developed countries, particularly in Europe. Five main research themes emerged: instructional methods, technology, assessment techniques, learning outcomes or skills, and challenges. The analysis identified significant theoretical contributions where online or blended learning intersects with administration education, paving the way for further exploration and advancement in online learning theories.

A study conducted by Fadda et al., (2023) conducted on graduate and postgraduate students of English as a Foreign Language to explore attitudes towards cooperative learning in online environments. Results indicated positive attitudes towards cooperative tasks in online settings, with no significant differences based on students' academic level. Students expressed a preference for small groups. Cooperative learning is extensively researched in higher education, primarily in traditional classrooms. However, this study aimed to address this gap by investigating the impact of online tools on cooperative learning. The shift to online classes during lockdown prompted teachers to consider cooperative learning in virtual settings. Effective design of cooperative learning activities can enhance academic skills in online education contexts. Ahmed et al., (2021) the paper anticipated to ponder the field of m-learning cantering on exploring the offices required to start an m-learning environment. Offices and standard hones of routine learning and e-learning was considered to discover the potential offices for m-learning environment. We utilized Coordinates Tertiary Instructive Supply Chain Show system that stands on customary instruction and outlines the combined frame of instruction supply chain and investigate supply chain demonstrate. Two overviews were conducted to collect information from understudies and instructors of higher instruction. The reactions from both of the overviews have been displayed and afterward compared with the discoveries from our considers of the existing learning situations. The importance of this inquire about is in distinguishing the offices for a learner and teacher centric m-learning environment. It investigated Fakomogbon et al., (2017) the impact of collaborative learning styles on student performance in a mobile learning environment. Purposive sampling selected 36 secondary school students, randomly allocated into

five collaborative and one non-collaborative learning group. Using a pretest-posttest design, students engaged in mobile learning on the mole concept in Chemistry. Results indicated significant gains in performance from pretest to post-test scores in the mobile learning experience. The think-aloud-pair problem-solving strategy emerged as the most effective collaborative learning style. Additionally, all collaborative learning styles outperformed the non-collaborative learning style in a mobile learning setting. This underscores the effectiveness of collaborative learning approaches in enhancing student performance in adaptable learning environments. Haro et al., (2019) in their study, the display ponders explored the impacts of an online learning environment backed with worked cases and peer input on students' contentious exposition composing and domain-specific information procurement in the field of biotechnology. As portion of a greater extend, a pre- and post-test think about plan was utilized with 45 lone ranger understudies who were haphazardly gathered in sets. Understudies were inquired to examine a case and compose a contentious paper taking into account the points of interest and drawbacks of hereditarily adjusted living beings.

### **Theoretical Framework:**

The theoretical framework for this study is grounded in the principles of online learning platforms, virtual learning collaborative and learning environment. It draws from various theories and models that have been developed to understand the effects of online learning on educational outcomes. The framework is based on the assumption that online learning platforms can significantly enhance the quality of education by providing learners with access to a wide range of educational resources, facilitating collaborative learning, and enhancing the overall learning experience. The framework is structured around three main components: the online learning platform, the virtual learning collaborative, and the learning environment. The online learning platform is seen as the primary vehicle for delivering educational content and facilitating learning interactions. It is assumed that the platform's design and functionality play a crucial role in determining the quality of the learning experience. The virtual learning collaborative component focuses on the social and interactive aspects of online learning, emphasizing the importance of learner engagement, collaboration, and communication in achieving educational goals. The learning environment component encompasses the broader context in which online learning takes place, including factors such as learner motivation, prior knowledge, and learning styles.

**TABLE 2.1.1 QUALITY EDUCATION**

Variables	Literature
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Online learning platform attributes	A study focused on e-Learning quality administration frameworks, structured into two stages: Survey preparation and predicting the impact of e-Learning quality. Veeramanickam et al. (2022)
Online learning effectiveness	It emphasizes the importance of deep and meaningful learning (DML) in remote education, particularly through e-learning. They focus on the effectiveness of e-learning, specifically in social virtual reality environments (SVREs), in higher education. Mystakidis et al. (2021)
Learning Environment	The display ponders explored the impacts of an online learning environment backed with worked cases and peer input on students' contentious exposition composing and domain-specific information procurement in the field of biotechnology. Haro et al. (2019)

## 2.2 Research Question:

“Doing courses through online learning portal increases the students’ skill level significantly?”

## 2.3 Objectives of the Study:

- To assess quality of education, online learning platform attributes online learning effectiveness and learning environment.
- To analyze the influence of online learning platform attributes, online learning effectiveness and learning environment on quality of education in online learning platforms.
- To analyze the influence of age, community, education, employment status and marital status on learner perceived quality of education.

## III. RESEARCH METHODOLOGY

The nature of the study is Descriptive in nature. Data was collected from 120 college students in Coimbatore. Purposive Sampling technique was used to include only student respondents who have to take up certain courses through online platforms. A structured questionnaire was used to gather the responses. Secondary data was collected from online journals, books and magazines. The study variables namely quality of education, online learning platform attributes online learning effectiveness and learning environment were measured on a 5- point Likert scale where 5 meant “Strongly Agree” and 1 meant “Strongly Disagree”. The reliability analysis of the instrument yielded a Cronbach’s Alpha value of 0.85The data was analysed using PSPP software and results are discussed in the ensuing sections.

**TABLE 3.1: RELIABILITY ANALYSIS**

Constructs	No of items	Cronbach’sAlpha
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Learner Perceived Quality education	5	0.85
Online learning platform attributes	5	0.82
Online learning effectiveness	5	0.85
Learning environment	5	0.80

#### IV.ANALYSIS AND DISCUSSION

**TABLE 4.1: DEMOGRAPHIC PROFILE**

Factors	Dimensions	Percentage (%)
Age	18 - 24	56.7
	22 – 25	37.5
	26 – 35	5.0
	36 and above	0.8
Gender	Male	40.8
	Female	59.2
Location	Urban	56.7
	Rural	43.3
Education	Diploma	6
	Under graduate	42
	Post graduate	52
Community	BC	82.5
	OBC	12.5
	MBC	15.0
	SC/ST	3.3
	FC	6.7
Marital status	Married	5
	Unmarried	95

Data was collected from 120 college students. Out of the 120 students, 68 (56.7%) are in the age group of 18 - 24. Most of the respondents are females 71 (59.2%) and 49 (40.8%) were males. Most of the respondents 68 (56.7%) were from urban areas and 52 (43.3%) were from rural areas. Among the sample population 6% respondents are doing their diploma, 42% respondents are currently doing their under graduation and 52% respondents are pursuing Post graduation. Majority of respondents are BC community 75 (82.5%), 15 (12.5%) are OBC community, 18 (15.0%) are MBC, 4 (3.3%) are SC/ST and 8 (6.7%) are FC. Majority of respondents are unmarried (95%) as the remaining (5%) are married.

#### Descriptive Statistics

**TABLE 4.2: DESCRIPTIVE STATISTICS**

Variables	Mean
Learner Perceived Quality education	3.52
Online learning platform attributes	3.54
Online learning effectiveness	3.62
Learning environment	3.75

Table 4.2 shows it is evident that the respondents' give more importance to learning environment (M = 3.75) and perceive that online learning is considerably effective (M = 3.62).

**TABLE 4.3: ANOVA – DEMOGRAPHIC FACTORS AND PERCEIVED QUALITY OF EDUCATION IN ONLINE LEARNING PLATFORMS**

Demographic factors	Dimensions	Mean	F	Sig
Age	18-21	3.29	4.55	<b>0.005</b>
	22-25	3.84		
	26-35	3.67		
	36 and above	3.40		
Education	Diploma	4.53	4.36	<b>0.003</b>
	Under graduate	3.42		
	Post graduate	3.58		
Community	BC	3.59	0.55	0.697
	OBC	3.33		
	MBC	3.46		
	SC/ST	3.50		
	FC	3.27		
Marital Status	Married	3.62	2.46	0.096
	Unmarried	3.47		

Analysis of variance was executed at 5% level of significance ( $p < 0.05$ ), with the demographic variables (Age, Education, community, and marital status) and perceived quality of education in online learning platforms. From the results displayed in Table 4.3, it is evident that learner perceived quality of education in online learning platforms differs with respondents' age and the degree they are pursuing. The difference with respect to the education may be largely due to the fact that online courses are mandatory more in postgraduate levels than in under graduation or diploma. Again age of students in post-graduation levels may also be high. As people age, they might able to make better choices of learning platforms and also may have self-directed learning readiness which is important for learning to be effective (Reshma, 2023).

#### T-test

**TABLE 4.4: T-TEST - PERCEIVED QUALITY OF EDUCATION IN ONLINE LEARNING PLATFORMS AMONG RESPONDENTS OF VARIED GENDER AND FROM VARIED LOCATION**

Demographic factor	Dimensions	Mean				F				Sig			
		QE	OL	OLP	LE	QE	OL	OLP	LE	QE	OL	OLP	LE
Location	Urban	3.53	3.42	3.54	3.73	3.57	1.47	.89	2.89	.061	.227	.347	.092
	Rural	3.49	3.70	3.72	3.78								
Gender	Male	3.71	3.65	3.82	3.93	.17	.01	.03	.86	.678	.936	.853	.356
	Female	3.38	3.46	3.47	3.63								

The results of t-tests to compare means of different demographic factors (location and Gender) reveal that respondents differing in gender and residential locations do not significantly differ in their perception of quality of education in online learning platforms.

### Correlation Analysis

**TABLE 4.5 CORRELATION ANALYSIS**

Learner Perceived Quality education	Online learning platform attributes	Online learning effectiveness	Learning environment
	.832 <sub>a</sub>	.790 <sub>a</sub>	.751 <sub>a</sub>

<sub>a</sub> - Significant at .05 level

From the results shown in Table 4.5, it is evident that Online learning platform attributes, online learning effectiveness and learning environment have significant association with quality of education in online courses. Especially the Online learning attributes( $r = 0.832$ ) has strong correlation with the outcome variable.

### Regression Analysis

**TABLE 4.6: REGRESSION ANALYSIS**

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	Sig
.87	.75	.74	116.06	0.000

As per the result displayed in this table 4.6 , Adjust R square value is .74 This implies that 74% variability in the dependent variable i.e., quality education is being predicted by the independent variables online learning platform attributes, online learning effectiveness and learning environment.

**TABLE 4.7: REGRESSION COEFFICIENT**

Factors	Unstd. Coeff		Std. Coeff	t	Sig
	B	Std. Error	Beta		
Constant	-0.5	.21	.00	-.25	.799
Online learning platform attributes	.49	.08	.48	5.72	.000
Online learning effectiveness	.23	.09	.23	2.63	.010
Learning environment	.27	.09	.23	3.05	.003

The coefficients table 4.7, reveals that online learning platform attributes ( $\beta=0.49$  positive,  $t = 5.72$  positive,  $p<0.000$ ), online learning effectiveness ( $\beta=0.23$  positive,  $t = 2.63$  positive,

$p < 0.000$ ) and learning environment ( $\beta = 0.27$  positive,  $t = 3.05$ ,  $p < 0.000$ ) have an influence on quality education.

## **V. CONCLUSION**

The study on the impact of online learning platforms on improving the quality of education reveals several key findings. Online learning platforms have the potential to significantly improve the quality of education by enhancing students' academic achievements, providing flexibility, and enabling personalized learning experiences. The study also highlights the importance of considering the students' perspectives when implementing and utilizing online learning platforms. Factors such as motivation, interaction, and instructor training play crucial roles in the success of online learning. The integration of technology and pedagogy, as well as the consideration of students' demands and needs, are essential for the successful implementation and utilization of online learning platforms. The findings indicate that online learning platform attributes, online learning effectiveness and learning environment have an influence on quality education.

The study results suggest that online learning platforms need to focus on attributes like content delivery, instructor quality and also technology related attributes if they have to enhance learner's perception of quality education. Apart from that these, learning platforms also have to focus on increasing learner effectiveness and providing a robust and engaging learning environment to enhance students' perception of quality education. Also the higher education institutions especially those providing Under graduate programmes, have to focus on partnering with online platforms who have better learning environments and provide better learning experience by using quality content and good instructors. These factors can increase the learner perceived quality of education in Online learning platforms.

However, the study acknowledges limitations, such as the sample bias towards younger respondents, which may affect the generalize ability of the findings. Future studies can consider the instructor perspective and also the impact of technology on learner perceived quality of education.

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