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Higher Education in India: Recent Progress and Current Challenges Ahead

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Abstract: *This study examines the present state of national policies for quality assurance and discusses some of the difficulties that higher education will encounter as it moves into the twenty-first century. It has been determined by several governments that more specific guarantees about quality are required, as the old academic regulations are insufficient to address the issues of the modern world. The problems that electronic learning and the mobility of overseas students provide to higher education are two of its main issues. Adopting a student-cantered approach will be essential in addressing these two obstacles. An institution's ability to provide a quality educational program must be taken into consideration by quality assurance organizations, and their presumptions must be made clear. Every nation will have a significant challenge in creating a learning-based quality assurance system. Universities, government organizations, and experts in educational research will all need to work together in this endeavour. More agreement and clarity must be reached about the kinds of new frameworks that are suitable for learning assessment in all contexts.*

Keywords: *ICT, Distance Education (DE), e-Learning and e-Learning Challenges.*

1. INTRODUCTION:

The number of working-class and high school graduates in India has surged over the previous 20 years or so, creating a greater demand than ever before for university education [1]. The number of universities and middle-level institutions has expanded as a result of this need. As of November 2017, the Commission of University Education (CUE) reported that there were fourteen universities operating on letters of temporary authority, eighteen privately sponsored universities with five constituent colleges, and thirty-one state-supported universities with six constituent colleges (CUE, 2017). To meet the growing demand for education, there are still not enough higher education institutions, notwithstanding this expansion. This is due to the fact that Indian higher education institutions have not grown at the same rate as the demand, which has resulted in an even wider disparity in educational access. As a result, several Indian colleges have adopted e-Learning in an effort to close this gap and provide learning flexibility, particularly for working students. E-learning programs are offered by five private and eight state-sponsored colleges [2]. The e-Learning departments of Indian universities expanded throughout the course of several significant developmental generations, eventually acquiring well-proven and operational e-Learning systems. Through its correspondence program for teacher preparation, University of Nairobi (UoN) introduced Distance Education (DE) to India in the 1960s. Seminars and in-person tutorials were added to this curriculum both locally and on campus. Weekend sessions, overseen by these learner support centres, were scheduled to occur one day a month in certain teacher training institutions or high schools that had classrooms, labs, and libraries.

2. Research Problem:

There are numerous advantages to e-Learning, such as increased flexibility in reaching a large number of students, enhanced efficacy of teaching and learning through technology, increased administrative efficiency in e-Learning, decreased public spending on training and education, and improved research quality [4]. Even yet, e-learning efforts in Indian higher education institutions confront a variety of obstacles that, when they don't live up to expectations, leave stakeholders disappointed. This is despite the fact that e-learning offers several advantages, promises, and prospects. [5, 6] state that the majority of e-learning initiatives in developing nations either partially or completely fail, falling short of their initial goals. [1] showed that 85.6% of the e-tutors said they were unmotivated to carry out their e-Learning duties, while the majority of e-learners (90.8%) expressed dissatisfaction with the way e-learning was delivered.

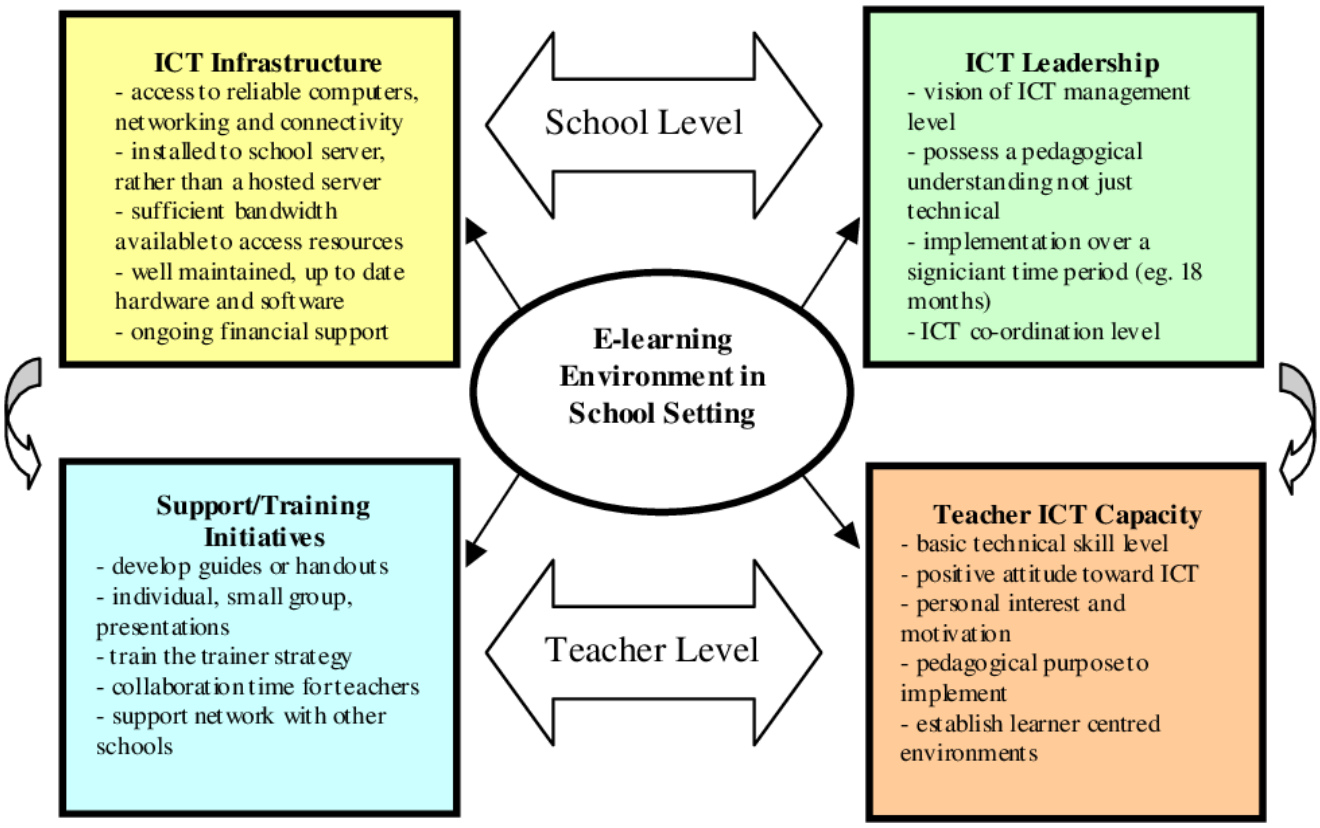

Figure 1. Importance of e-learning in different environment

The delayed adoption of e-Learning in Indian higher education institutions is a result of these disadvantages [2]. Thus, the goal of this literature analysis is to identify the main obstacles to e-learning delivery in the Indian setting. E-learning is important in many sectors, as figure 1 above illustrates.

3. Literature Review & Method:

The scoping review strategy, which is a thorough and all-encompassing way of examining literature, was used in this study to swiftly match the primary variables and key phrases to the most important sources of the literature [7]. In order to determine the key themes or constructions that appear often in the corpus of research that is currently accessible, the review used content analysis to compare and integrate findings from earlier studies [8]. After the discovered resources were combined, a thematic summary of the results was created. We focused on the unique e-Learning difficulties encountered in the Indian context, even if the inquiries produced a vast number of papers and resources. The review summarized and adhered to the procedures of the scoping review process as outlined by [9] shown below in Table 1.

Table 1: Some steps/Activities in e-Learning process and their outcomes

S. No.	Steps/Activities	Outcomes
1.	Identify research questions	Challenges Faced by Universities e-learners and e-tutors in the implementation Delivery of e-learning

2.	Identify key terms and use them to find pertinent studies	e-learning Opportunities and Challenges e-learning Successes and Failures e-learning Advantages and Disadvantages Pedagogical Issues and Challenges ICT and e-learning Policy Framework Interactive and Collaborative e-learning

4. Results and Discussion: The literature has identified the main difficulty categories that frequently arise when e-learning is implemented and delivered in Indian institutions. These are presented in this section.

ICT and e-Learning Policy Implementation Issues: Policy frameworks are essential for directing the delivery and use of e-learning [2]. The success or failure of e-learning projects is dependent on the existence or non-existence of such a framework. In the Indian context, the 1966 Act of Parliament that established the Adult Education Board served as the foundation for the first government strategy addressing DE in higher education institutions. DE and e-Learning have been emphasized as an alternative form of delivering education over time by several additional educational commissions and studies [10]. The Republic of India (2005) proposed the establishment of a National Open University and the utilization of e-learning to enhance human resource capacity in Sessional Paper No. 1 of 2005, which was another government policy effort. Though these recommendations have mainly remained unimplemented at the national level to date, the 2012 Sessional Paper established an e-Learning policy framework to direct the practice in the nation from the year 2012 onward. The National ICT Policy of 2006, which oversaw the deployment of ICT in India for ten years, lacked an e-learning strategy and hence was unable to address the practice of e-learning. The National ICT Policy of 2016 included a thorough section on e-learning policy solutions in response to this shortcoming. One such plan calls for the establishment of educational databases by the government to facilitate the exchange of teaching and learning materials. In order to encourage the development and extension of e-Learning capability, the strategy also contained additional relevant policies. These tactics included developing a single e-learning curriculum that will support the use of ICTs in teaching and learning, as well as accelerating public-private partnerships (PPP) in an effort to gather resources required to finance e-Learning deployments. Nevertheless, despite the inclusion of these e-Learning initiatives in the 2016 National ICT Policy, we are still lacking a national e-Learning policy framework that would provide direction for the practice. The practices of particular organizations have governed e-learning in India as there is no national policy that guides the field. A national e-learning policy is important because it provides a common framework that individual organizations may use to base their organizational policies on when designing, implementing, and delivering e-learning. It would also be very helpful for quality control and the distribution of e-learning resources. One major barrier to the successful implementation of e-Learning at some of the Indian state-sponsored institutions, according to research by [11], is the lack of operational e-Learning policy. Additionally, the study found that even while some institutions had e-learning policies, they were unable to put them into practice because of budgetary constraints and a lack of appropriate ICT equipment. Some colleges' e-learning policies remained in draft form for years before being put into practice. The ways in which attendees used ICT resources at the different level shown below in Table 2.

Table 2. Availabilities of ICT resources among participants at home and at university

ICT resources	**At Home**		**At University**	
	Facility	%	Facility	%
Computer	201	79.1	198	78.2

Laptop	221	87.2	75	29.5
Internet	223	91.2	218	83.1
Printer	69	27.1	191	76.1
Scanner	48	17.5	168	65.1

Poor or Missing ICT Infrastructure: ICTs were acknowledged as the primary means of e-Learning delivery in the Government of India's June 2012 Sessional Paper on Policy Framework for Education and Training. Delivering e-learning requires a thriving ICT infrastructure, which is not at all present in India. The nation's major digital divide-which stands at 69% on average—between urban and rural regions pertains to essential ICT infrastructure and internet access [12]. The India Digital Economy Blueprint, 2019 study also noted this disparity, stating that around 160 sub-locations in India have no mobile signal at all, while 580 sub-locations have GSM (Global System for Mobile communication) coverage of less than 50%. Additionally, it states that 83% of the nation lacks internet access since broadband network services only cover a tiny geographic region, or 17% of the country's geography. The fiber optic cables, which also cover 17% of the continent, were observed to exhibit similar characteristics. The study did note that, albeit very slowly, the digital divide has been closing. According to a previous [2] report, a number of universities, including the University of Nairobi, United States International University, Jomo Indiatta University of Agriculture and Technology, Nazarene University of Africa, St. Paul's University, and Indiatta University, have strong ICT infrastructure. Universities with low ICT infrastructure were found in rural areas, such as Moi University, Garrissa University, and Masinde Muliro University of Science and Technology, while universities in suburban or medium-sized towns, like Maseno University, Karatina University, and Egerton University, had moderate ICT infrastructure. The public and commercial sectors have been gradually closing the digital gap through projects including installing fiber optic infrastructure, which has expanded Internet capacity and improved e-learning (Communication Authority of India, 2018). Furthermore, as ICTs require electricity to function, further government initiatives to expand the country's ICT infrastructure include the last mile electrical connectivity project and the rural electrification programme (REP). As an illustration, the government aimed to link 314,200 non-commercial users as well as elementary and secondary schools to the national electricity grid by the end of July 2015 as part of the program's first phase (India electricity and Lighting Company, 2017). From 1,269,500 consumers in the 2016–17 fiscal year to 1,332,100 customers in the 2017–18 fiscal year, there were more connections under the REP (India National Bureau of Statistics Economic Survey, 2019, p. 160). According to the Communications Authority of India (2018), this surge was caused by the ongoing decline in smartphone pricing.

Nevertheless, in light of the geographic and economic differences already noted in the country's ICT infrastructure deployment, more needs to be done to close the digital divide as the coverage and accessibility of ICT infrastructure and services remain inadequate in the face of these initiatives [13]. Some universities have low levels of ICT and e-Learning infrastructure at the institutional level due to the high costs of acquiring, implementing, and maintaining the ICT infrastructures required to provide a successful e-Learning environment (Nyerere, 2016).

Due to the limited capacity of the current ICT infrastructure to support both the increasing number of e-learners pursuing higher education and the large quantity of ICT resources required, this further restricts access to eLearning [14]. A low ratio of personal computers (PCs) to students was discovered by the "E-Readiness Survey of Indian Universities," which was undertaken at 30 institutions. Only 16,174 computers were found in the laboratories to cater to the 423, 664 students that were enrolled in those universities, according to the survey. Even while this obstacle prevents certain students from accessing e-learning, the same research noted that the enormous number of pupils (200,000 = 53%). The same research used availability and price as two variables to support its claim that a thriving e-learning environment requires access to the internet. Their research consequently suggested that, in order to benefit from the Indian government's ongoing efforts to enhance the ICT regulatory framework, individual institutions should assume responsibility for developing policy strategies to expand Internet access to the higher learner enrolment rates. In order to enable students to connect their mobile devices and access learning services, the research also suggested that universities make sufficient investments in local area networks (LANs) and wireless LANs, given their current connection to the national fibre backbone network [15].

Lack of ICT and Pedagogical Skills/Training: Insufficient ICT capacity for e-tutors poses a problem to the delivery of e-learning, according to the Government of India's June 2012 Sessional Paper on Policy Framework for Education and Training. In response to this issue, the sessional paper suggested the following policy measures: making ICT training mandatory for all educators by 2015; guaranteeing that all pre-service teacher candidates obtain ICT competencies; providing ongoing professional development for educators to ensure they retain ICT competencies; and creating and

executing an ICT Education and Training Strategic Plan. Regretfully, as was previously said, the sessional paper's policy suggestions and tactics have mostly gone unexecuted.

There were two facets to capacity building for the particular institutions: pedagogical training and technical training. In order to increase the number of trained individuals and raise the calibre of their technical abilities, the National ICT Policy (2016) also acknowledged the necessity of strengthening the ability of different institutions offering ICT-related training. In their separate research, [1] also noted that one major obstacle to the implementation of e-Learning in state-sponsored Indian colleges is the e-tutors' lack of e-learning technical abilities and e-content development skills. They further noted that, in the cases in which e-tutors receive training, the emphasis is on the technical features of the platform rather than the pedagogical training associated with e-learning, which is the true obstacle. But [16] contended in their e-Learning Africa (2012) Report that Indian e-tutors have a pessimistic and resistance to the idea that ICTs will displace them from their positions. As a result, rather of generating the intended interest, some online instructors have a misconception about ICT training and the integration of ICTs in educational delivery. There is still space for development in the ICT training and abilities of e-tutors, as this is one level below the highest attainable level of 4.0.

Financial Constraints and Sustainability Issues: [14, 17] According to their separate e-Learning research, implementing and delivering e-Learning in third-world nations is significantly hampered by expenses. According to their observations, many institutions in poor countries, like India, find it extremely costly to maintain a reliable ICT infrastructure, which is why they lag behind industrialized nations in terms of technical advancements. Conversely, [15] contended that increased ICT adoption and application improves research, teaching, and learning. Additionally, it helps colleges accomplish their administrative and academic goals. But still, the e-Learning Africa (2012) Report highlights that with the installation of undersea fibre optic cable in India and the entry of new ISPs into the market, bandwidth prices have been declining. Even if this could be the case for certain universities, some institutions nonetheless incur very high bandwidth expenses.

e-Learning Quality Issues and Negative Attitudes Towards e-Learning: According to [18], quality in the context of e-learning is defined as the exceptional, great, valuable, and positively affecting service provided to the e-learner. [19] states that the general quality of the e-Learning programs completed as well as the credentials obtained have occasionally been questioned and challenged, forcing e-learners and e-tutors to deal with unfavourable opinions from their conventional learning counterparts and potential employers. [20] pointed out that the difficulty in measuring the quality of e-learning at Indian universities stems from the numerous stakeholders involved, all of whom have competing interests. These stakeholders include employers, government agencies, e-tutors, learners, and institutions. Another issue with quality is that it's measured not by educational objectives, methods, or inputs, but by e-learning technology, courses, and programs. There is still no comprehensive national quality assurance (QA) plan to propel the e-Learning agenda, even with CUE in control. Additionally, the deficient QA rules apply more broadly to traditional learning programs than they do to e-Learning [2]. Additionally, [21] noted that while there exist e-Learning models and frameworks for evaluating the quality of e-Learning, some of them are more appropriate for use in industrialized countries than in India, which highlights the necessity for customized quality frameworks. They are also deprived of the chance to research and evaluate how these new technologies will affect e-pedagogy. Technology firms are the major propagators of this mindset [22] and sell it to education administrators in an effort to boost sales of their products. This ultimately results in technology and commercial pressures controlling educational goals and institutional growth plans; in e-learning, the emphasis is therefore placed on the "e" rather than the "learning." tools do not by themselves enhance learning; rather, the proper selection and application of these tools alters the process. As previously noted, many institutions in third-world nations still struggle to implement cutting-edge e-learning solutions due to the high financial and ICT infrastructure requirements. As a result, borrowing has become somewhat necessary. Their research also revealed that e-tutors did not start collaboration activities with the e-learners; according to 41.3% of e-learner respondents, their e-tutors did not assign them to collaborative projects. When the e-learners were participating in cooperative activities, 47% of them reported that they were having difficulty receiving feedback from their e-tutors. This issue was linked by [1] to the e-tutor's lack of training and poor motivation. [1] further mentioned that the majority of e-tutors post course materials, such as lecture notes, exams, and assignments, to the universities' eLearning portals using asynchronous delivery and interaction methods, which are the only kinds of e-Learning systems now in use in Indian institutions. These notes, exams, and assignments are then downloaded by e-learners via the eLearning websites of the respective universities.

Due to the systems' inability to support cooperative group work, they read the lecture notes and complete the tasks on their own. Inadequate engagement, communication, and teamwork are characteristics of these asynchronous systems. [19] states that e-tutors' and e-learners' feedback is one of the performance metrics used in the online teaching

and learning process. A deficiency in feedback may lead to e-learner isolation, which in turn may cause various issues such as a high dropout rate, unfulfilled pedagogical demands, and unfavourable opinions from peers and employers regarding e-learning as inferior instruction. Behaviourism, cognitivism, and constructivism are among the CLTs that have been appropriated and used in e-learning practices worldwide, including in India, under the pretence that e-learning is akin to traditional learning. With the "e" acting as a conduit or vehicle for the delivery of learning, as the sole distinction [23]. The three e-learning pedagogical paradigms that have been used in its delivery are dispersed learning, learning communities, and open learning [24]. It's enough to state that these e-Learning pedagogical models were created to meet the requirements and available resources of developed-country educational institutions, which were already reaping the rewards of fully established ICT infrastructures and cutting-edge technology. Attempting to adapt them to the Indian context would present additional difficulties, as the country is typified by the previously described issues related to ICT infrastructure, insufficient regulatory frameworks, restricted finance, and insufficient or limited ICT capabilities.

5. Conclusions, Recommendations and Future Research:

The aforementioned literature review makes it clear that these obstacles impede the use and delivery of e-Learning in India's higher education institutions, which in turn affects the full realization of the advantages and opportunities that can result from the adoption of e-Learning in the nation's higher education sector. Nevertheless, not all Indian colleges face the same difficulties, and even in cases when there are shared difficulties, the experiences vary. That is to say, the extent to which they impede the deployment and availability of e-Learning differs between the various institutions. Limited bandwidth, inadequate ICT skills, low priority in ICT financing, ICT sustainability, and poverty-related constraints are among the top e-learning issues in India, according to the e-Learning Africa (2012) Report. But each of the issues raised offers a chance for eLearning to develop, and as such, they must be dealt with. In order to reduce these obstacles' negative effects on the adoption and delivery of e-learning in India, this research suggests that they be addressed. The participants and researchers in national and organizational e-learning need to step up and look for solutions to these problems. Further research is being conducted to address some of these difficulties, with the review of these challenges serving as the foundation. An overview of these problems serves as the foundation for ongoing research aimed at resolving some of these challenges. Thus, this study is a component of a PhD project that is now underway to determine how these issues interact to affect the delivery and implementation of e-learning in India. The aim of this study is to investigate the potential impact of a deficiency in guiding theory on some issues encountered in e-learning, particularly those related to insufficient or non-existent learner assistance, interaction, and cooperation. Additionally, the study aims to determine the benefits and shortcomings of CLTs in relation to e-learning.

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