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Knowledge Acquisition and Sharing for Effective E-Learning in Higher Education: A Review of Literature

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Abstract:

In the modern era, e-learning has emerged as a major teaching tool in higher education institutions, providing a digital and collaborative format to traditional teaching methods. E-learning is not just about the use of technological tools, but also relies on the processes of knowledge acquisition and knowledge sharing. The aim of this study is to deeply understand the role of these two concepts and how they influence the effectiveness of e-learning in higher education. This research is based on a thorough literature review, which analyzed previous studies, reports, and theoretical models conducted nationally and internationally.

The study found that knowledge acquisition is not simply a process of acquiring information, but is also linked to learners' cognitive abilities, digital proficiency, self-motivation. Meanwhile, sharing knowledge and skills is a collaborative process that promotes dialogue, exchange of skills and experiences, and collective learning among students, teachers, and institutions. The literature review reveals that when knowledge acquisition and sharing work together, they significantly improve e-learning quality, learner engagement, and learning outcomes. The study concludes that for effective e-learning, it is not enough to have technical resources alone; it also requires the creation of a knowledge-sharing culture that encourages mutual learning and innovation. To this end, universities need to adopt knowledge management policies, strengthen digital collaboration platforms, and develop knowledge-sharing attitudes and competencies among both teachers and students. Thus, knowledge acquisition and sharing prove to be two essential pillars for the success of e-learning in higher education.

Keywords: Knowledge acquisition, Effect of E-learning, higher education**,** *Digital learning platforms, collaborative learning.*

Introduction:

Today, e-learning has become a particularly important component of the modern education system, making the teaching and learning process accessible, flexible, understandable, and participatory through information and communication technology (ICT). Its primary objective is to free education from the limitations of location, time, and resources, so that each learner can acquire knowledge at a pace, ability, interest, and environment that suits them. The concept of e-learning originated in the 1960s when Donald Bitzer developed a computer-based learning system called PLATO (Programmed Logic for Automated Teaching Operations) at the University of Illinois, USA. This system represented the first organized use of technology in education, laying the foundation for future e-learning models.

The 1970s and 1980s saw the rapid growth of computer-assisted instruction and software-based training programs. The advent of the Internet in the 1990s revolutionized education. This period saw the development of "web-based learning," which modernized traditional distance learning. At the same time, Learning Management Systems (LMS) such as Blackboard (1997) and Moodle (2002) emerged, enabling online interaction and assessment between teachers and students. After 2000, e-learning became widespread globally. MOOCs (Massive Open Online Courses), launched by Stephen Downes and George Siemens in 2008, made education accessible and global. Subsequent platforms like Coursera (2012), edX (2012), and Udemy opened new doors to digital learning in higher education.

The history of e-learning in India also begins around this time. In the 1990s, Indira Gandhi National Open University (IGNOU) pioneered the use of technology in education. Subsequently, government initiatives such as the National Programme on Technology Enhanced Learning (NPTEL, 2003), SWAYAM (2017), DIKSHA (2018), and the National Digital Education Architecture (NDEAR, 2021) institutionalized digital learning in higher education. These initiatives aimed to provide quality education to remote and rural areas.

The COVID-19 pandemic (2020) established e-learning as a necessity. When educational institutions closed worldwide, online platforms such as Zoom, Google Meet, and Microsoft Teams ensured continuity of teaching and learning. During this time, e-learning was no longer just an alternative medium but became a core learning system. This led to the development of new learning models such as Blended Learning and Hybrid Learning, which incorporate both traditional and digital modes.

Today, e-learning has become not just a technological tool, but a collaborative and knowledge-sharing learning model. It provides learners with opportunities to learn independently, exchange ideas, develop understanding, and communicate globally. Today, higher education institutions are not only disseminating knowledge through e-learning but also creating an educational

environment that fosters creativity, innovation, and collaboration. Thus, e-learning has given modern education a new form, direction, and purpose—transcending time, space, and boundaries, giving meaning to the concept of "Education Everywhere."

Review of the Related literature:

Usman & Oyefolahan (2014) analyzed the use of Web 2.0 technologies in Malaysian higher education institutions. Their study showed that tools such as blogs, wikis, and social networks promoted teamwork and information sharing among students. Their research found that online collaborative environments led to more active student participation. The study concluded that web-based platforms significantly strengthen the knowledge-sharing culture.

Majid et al. (2011) analyzed and evaluated a classroom-based knowledge-sharing environment in Singapore. Their study found that regular participation significantly enhanced students' cognitive, social abilities, and capabilities. The results showed that knowledge exchange led to positive changes in both self-confidence and active learning. The study demonstrated that knowledge-sharing in classrooms makes the learning environment more interactive, accessible, and effective.

Yemen (2020) analyzed collaborative learning on cloud-based platforms such as Google Drive and OneDrive. Their study found that shared digital workspaces deepen student exchange and knowledge construction. The research also shows that online collaboration significantly improves the continuity, ease, and quality of learning. The findings suggest that cloud tools make learning more participatory, sustainable, and understandable.

Castaneda & Cuellar (2021) examined the role of digital knowledge sharing in business education in their systematic review. The research found that online collaboration and digital tools positively boosted students' creative thinking. The research also demonstrated improvements in both problem-solving abilities and academic performance. The findings indicate that digital knowledge sharing plays an important role in enhancing the quality of education.

Wang & Li (2023) analyzed the role of digital knowledge-sharing communities in their study. The findings indicate that dialogue and exchange of ideas on online platforms positively motivate students to engage in content creation and collaborative learning. Their study found a significant increase in student participation and engagement. The research underlines that digital communities inherently enhance learning quality and innovation.

Kumar & Singh (2024) evaluated the impact of online learning on student engagement and performance in their systematic review. The study showed that discussion forums, video lectures, and multimedia tools increased students' active participation in knowledge acquisition. The study found that knowledge sharing through digital means enriched the expression of ideas. The study concluded that online education significantly and desirablely improves educational effectiveness.

Arun Kumar & Shekhar (2017) evaluated the status and challenges of knowledge sharing in Indian higher education institutions. The study found that lack of policy support and technical infrastructure are major obstacles. The study also revealed that there is little encouragement for collaborative activities among both students and faculty. The study concludes that strategic reforms are essential to develop a knowledge-sharing culture.De Sarkar & Banerjee (2011) analyzed digital knowledge-sharing systems in Indian academic libraries. They found that blogs, wikis, and digital tools have simplified andfacilitated access to resources. However, the study also shows that limited infrastructure and human resources remain significant challenges. The findings suggest that greater digital investment and training are necessary for effective knowledge sharing.

Kayal & Kayal (2020) evaluated Indian teachers' professional development through MOOCs and e-learning platforms. The study showed that teachers found these platforms more accessible and useful for acquiring new skills. However, the levels of peer-learning and knowledge-sharing were relatively low. The research suggests that teacher-friendly structures and training are essential for effective e-learning

Arun Kumar (2023) analyzed the challenges and policy needs of knowledge management systems in Indian higher education. The research found that a lack of technological investment and a lack of a collaborative culture are major obstacles. The study shows that strengthening technological learning infrastructure can lead to desirable improvements in both innovation and education quality. This research underscores the importance of KM policies.

Kumar et al. (2024) analyzed Indian students' e-learning receptivity and ICT usage in their SEM-based study. The research found that technology's ease of use and user experience are key factors in e-learning adoption. The study demonstrates that digital platforms enhance student engagement and the learning experience. The findings suggest that e-learning's success is based on technology acceptance and knowledge acquisition.

Sahani & Mishra (2020) evaluated the status, challenges, and potential solutions to e-learning practices in India. The research suggests that the lack of digital resources significantly impacts learning quality in many institutions. The study also presents motivating factors and future strategies. The findings indicate that policy, technical support, and knowledge acquisition skills are essential for effective e-learning.

Deora (2024) analyzed the trends, strategies, and challenges of Knowledge Management Systems in Indian higher education. The research revealed that lack of technical competence, infrastructure, and awareness are major barriers to KMS implementation. The study recommended digital investments, training, competencies, and developing a collaborative culture to improve KM. The findings indicate that effective KMS enhance the quality, accessibility, and innovation of higher education.

Need and Importance of the Study:

E-learning has significantly transformed the nature of teaching and learning in higher education; however, its success does not depend solely on the availability of technological resources. For any digital learning system to be effective, learners must actively acquire knowledge and be willing to share it with others. Several studies indicate that when students only engage in passive information intake, their learning remains superficial. In contrast, the process of knowledge-sharing encourages them to think critically, analyse, reason, discuss, and develop new perspectives.

In this context, the present study becomes highly important as it explains how the processes of knowledge acquisition and knowledge-sharing influence the overall effectiveness of e-learning. If a culture of collaboration and knowledge-sharing is fostered between teachers and students in higher education, e-learning will no longer function merely as a technological tool but will evolve into a powerful and meaningful educational philosophy.

This study will provide valuable guidance to higher education institutions in formulating policies and pedagogical strategies that enhance digital learning. It will help ensure that e-learning becomes more effective, understandable, participatory, and capable of promoting deeper learning outcomes.

Objectives of the Study:

1. To conduct a detailed study of the concept of e-learning, its utility, and its role in the teaching-learning process in the context of higher education.
2. To analyze how learners' knowledge acquisition processes influence the learning outcomes and quality of e-learning.
3. To study the role of knowledge sharing between students and teachers, and understand how it promotes collaborative learning and dialogue.
4. To determine the relationship between the processes of knowledge acquisition and knowledge sharing and to identify how these processes jointly enhance the effectiveness of e-learning.
5. To offer strategies and policy recommendations for higher education institutions that can make e-learning more effective and productive by strengthening the culture of knowledge acquisition and knowledge sharing.

Research Questions:

1. Does e-learning have a significant impact on the perception, utility, and teaching-learning process in the context of higher education?
2. Does learners' knowledge acquisition process have any impact on the learning outcomes and quality of e-learning?
3. Does knowledge sharing between students and teachers have a significant impact on

collaborative learning and communication?

4. Is there a relationship between knowledge acquisition and knowledge sharing processes?
5. If so, do they together influence the effectiveness of e-learning?
6. Do the strategies and policies implemented in higher education institutions promote a culture of knowledge acquisition and knowledge sharing?

Research Methodology:

The present study employs a qualitative and descriptive research approach without collecting any primary data. The analysis is entirely based on previously published books, research articles, and reports relevant to the topic. These sources were obtained from recognized online platforms such as Google Scholar, JSTOR, ResearchGate, as well as various library resources. Only those studies were selected that directly relate to the theme, are authored by subject experts, and were published within the last 10 to 15 years, while outdated or irrelevant materials were excluded. The reviewed literature was thoroughly examined to identify common patterns, divergent perspectives, and existing research gaps. As no surveys or interviews were conducted, ethical approval was not required; however, due credit has been given to all authors and sources referenced in the study.

Delimitations of the Study:

1. This research is based solely on a literature review; no primary data collection (such as surveys or questionnaires) was conducted.
2. This study focuses solely on the effectiveness of e-learning in universities, colleges, and higher education institutions; school education or vocational training are not included.
3. The study primarily includes research from India and select international contexts.
4. This study primarily reviewed research and articles published during the last decade (2014 to 2024).
5. The study focuses solely on the processes of knowledge acquisition and knowledge sharing; other factors related to e-learning, such as technical infrastructure, policy initiatives, or evaluation methods, are not included.

Background to the growing use of e-learning in higher education:

The twenty-first century is known as the century of information, communication, and knowledge, where technology has impacted every aspect of human life. In the field of education, its most profound impact has been on the higher education system. Today, the teaching-learning process in universities and colleges has moved beyond traditional methods and has adopted a digital and interactive format. Through e-learning, learners can access learning materials from anywhere, at any time, increasing both accessibility and flexibility of education. Higher education institutions are now using Learning Management Systems (LMS) such as Moodle, Blackboard, and Google Classroom for teaching materials, assessment, and communication. Additionally, Massive Open Online Courses

(MOOCs) platforms such as SWAYAM, NPTEL, Coursera, and edX have made quality education accessible and effective globally.

The Government of India has also taken several important initiatives towards the digital transformation of education. Programs like the National Digital Education Architecture (NDEAR), DIKSHA, and SWAYAM have not only expanded access to education but also encouraged transparency and innovation in teaching. These initiatives aim to realize the spirit of "education for all, education everywhere," ensuring that every student receives learning opportunities tailored to their circumstances and accessibility. The necessity of online learning during the COVID-19 pandemic made e-learning even more effective and relevant. During this period, educational institutions mainstreamed digital media, establishing e-learning as a permanent educational system.

However, the success of e-learning depends not only on digital resources or technical infrastructure, but also on how students acquire and share knowledge with others. E-learning in higher education can be effective and meaningful only when learners actively participate in the learning process, exchange knowledge, and create a collaborative learning environment. Thus, e-learning became not just a technological innovation, but a symbol of a social, educational and intellectual transformation based on knowledge-sharing.

Concepts of Knowledge Acquisition and Sharing:

Knowledge acquisition is the process through which individuals acquire new information, concepts, skills, values, and experiences. It is not limited to memorizing information but also involves higher cognitive abilities and skills such as understanding, analysis, application, and critical thinking. In the context of higher education, knowledge acquisition is a continuous and self-motivated process in which students learn not only from teachers but also from digital resources, online courses, their own understanding, and classmates. This process becomes more powerful and meaningful in e-learning environments, where learners achieve deeper learning through video lectures, interactive content, and virtual discussions.

Knowledge sharing, meanwhile, refers to the process by which individuals share their experiences, acquired knowledge, skills, and ideas with others. This process forms the basis of collaborative learning, which encourages dialogue, mutual support, and collective learning. Knowledge sharing in higher education not only enhances mutual understanding among students but also strengthens teaching quality, skills, and learning outcomes. Thus, both knowledge acquisition and sharing together create an effective and dynamic learning ecosystem, making e-learning meaningful and productive.

The Importance of These Processes in the Digital Age:

The education system is witnessing an unprecedented transformation in the digital age, where teaching and learning processes have become based on virtual mediums. In such an environment,

knowledge acquisition and knowledge sharing have become two key pillars of e-learning's effectiveness. Online platforms, educational forums, social media groups, blogs, and virtual communities have eliminated the boundaries of knowledge exchange. Students are no longer mere receivers of information, but have become co-creators of knowledge, learning themselves and helping others learn.

These processes have transformed learning from a one-way communication to an interactive and participatory format. When students exchange ideas, experiences, skills, and solutions, they develop deeper understanding, and learning becomes more effective and lasting. Furthermore, digital knowledge sharing fosters abilities such as creativity, innovation, teamwork, and critical thinking. Thus, knowledge acquisition and sharing in the digital age are not merely learning technologies, but rather embody a collaborative culture that makes education more accessible, relevant, and effective.

Theoretical Framework:

Various pedagogical and technological theories are considered useful for understanding the processes of knowledge acquisition and knowledge sharing in the context of e-learning. This study is primarily based on three major theories—knowledge management theory, constructivist learning theory, and the technology acceptance model (TAM). These theories collectively explain how learners acquire, share, and adopt technology in a digital environment.

1. Knowledge Management Theory (Nonaka & Takeuchi, 1995)

According to the knowledge management theory proposed by Nonaka and Takeuchi (1995), knowledge is a dynamic process that develops through continuous creation, transformation, and sharing. They described four stages of knowledge acquisition through the SECI model (Socialization, Externalization, Combination, Internalization).

- Socialization: The process of sharing experiences, skills, and disseminating tacit knowledge.
- Externalization: Expressing ideas explicitly to someone, such as through writing or presentation.
- Combination: Creating new knowledge by integrating knowledge from various sources.
- Internalization: Incorporating learned knowledge into personal experience and behavior.

This principle is relevant in e-learning because digital platforms allow learners to actively participate in all four of these processes. Online discussions, assignments, and collaborative projects become vehicles for building and sharing knowledge.

2. Constructivist Learning Theory (Piaget, Vygotsky)

According to constructivist learning theory, knowledge is not imparted to students by a teacher; rather, students construct knowledge through their own experiences, understanding, and interaction. Jean Piaget argued that learning is an active process in which learners connect new information with their prior knowledge and construct new meanings. Piaget described children as

active learners, who acquire knowledge through active engagement. Lev Vygotsky proposed the concept of social constructivism, which views learning as a social activity, where collaboration, language, society, culture, and dialogue play a crucial role.

This theory is particularly applicable in e-learning environments because digital platforms provide learners with opportunities for active participation, collaborative learning, and dialogue-based learning. Online group discussions, forums, and virtual projects allow students to become co-constructors of knowledge, making learning more intuitive, deeper, and long-lasting.

3. Technology Acceptance Model – Davis, (1989)

The Technology Acceptance Model (TAM) proposed by Davis (1989) attempts to explain how users decide to adopt new technology**.** This model has two key components-

- **Perceived Usefulness:** The belief that using technology will enhance work efficiency, understanding, and effectiveness.
- **Perceived Ease of Use:** The belief that using technology is simple, intuitive, and effective.

This model is important in the context of e-learning because students' and teachers' positive perceptions of technology ensure its effective and easy use. If learners perceive e-learning platforms as useful and accessible, they participate more actively, strengthening the process of knowledge acquisition and sharing.

Thus, a combined study of these three theories makes it clear that the success of e-learning depends not only on technological advancements, but also on learners' participation, communication, understanding, collaboration, and technology adoption. These theories provide a strong conceptual foundation for this study and help understand the effectiveness of knowledge acquisition and sharing in e-learning.

Analysis and Discussion:

An analysis of the literature review reveals that the effectiveness and usefulness of e-learning does not depend solely on the availability of technological resources, but rather on the principles of knowledge management—specifically, knowledge acquisition and knowledge sharing. Studies show that when learners actively participate in dialogue, discussion, and collaborative learning, both the quality and sustainability of learning are enhanced.

The process of knowledge sharing strengthens learners' confidence, creativity, and problem-solving abilities. Conversely, when e-learning is limited to mere information acquisition, learning becomes superficial and engagement levels decline. Therefore, it is crucial to create opportunities and mechanisms on e-learning platforms where students and teachers can exchange their knowledge, experiences, ideas, and resources.

Higher education institutions should develop strategies at the policy level that embed a knowledge-sharing culture into their institutional framework. This way, e-learning will not remain

merely a digital tool but will become an effective medium for collaboration, innovation, and collective learning.

Conclusion:

The reviewed studies and theoretical analysis clearly indicate that knowledge acquisition and knowledge sharing are two key pillars of e-learning effectiveness in higher education. E-learning is not merely a medium for information exchange; it is a collaborative learning process in which both teachers and learners actively become co-creators of knowledge. When learners do not simply acquire knowledge but share it with their peers, learning becomes deeper, more lasting, and practical.

A culture of knowledge sharing not only increases engagement but also fosters creativity, critical thinking, and a spirit of innovation. Thus, e-learning can be successful only when it transcends technological tools and is based on human interaction, collaboration, and collective experiences.

Therefore, higher education institutions should strengthen their e-learning platforms for collaborative learning, dialogue platforms, and knowledge-sharing mechanisms to make digital education truly inclusive, effective, and knowledge-centered.

Recommendations:

1. Universities should encourage digital collaboration platforms such as discussion forums, online study groups, and group projects so that students can actively share their knowledge, skills, ideas, and experiences.
2. Regular knowledge sharing workshops and training sessions should be organized for both teachers and students to effectively utilize e-learning resources.
3. Interactive tools, peer-learning activities, and collaborative assignments should be included in e-learning courses.
4. Knowledge management practices and digital literacy skills should be incorporated into higher education policies to positively promote a culture of knowledge sharing.
5. Institutions should develop incentive systems that encourage teachers and students to share knowledge.
6. E-learning platforms should be designed to be user-friendly, accessible, and culturally inclusive.
7. E-learning programs should be evaluated regularly to assess their effectiveness and limitations.
8. Partnerships should be established between academic institutions, industries, and research organizations to facilitate the sharing of practical knowledge and experiences.

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