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Comparative Analysis of Web-Based Learning and Traditional Learning: A Review

Monika, Rishikesh Yadav
Department of Education
Sri Satya Sai University of Technology and Medical Sciences, Sehore, India

Abstract – Web-based learning is a viable platform that offers diverse delivery methods to cater to different types of learners, surpassing the limitations of traditional classrooms. Moreover, it holds significant influence by providing opportunities for unique learning styles and enhancing students' academic performance. Through the web-based learning platform, teachers can effectively plan lessons and create user-friendly digital resources for evaluating and assigning tasks while automatically tracking the progress of individual students or the entire class. These platforms are comprehensive e-learning solutions, integrating various software tools to transmit and receive new knowledge, skills, and attitudes. They primarily aim to stimulate and guide learning by leveraging computers and internet connectivity. There are several differences between web-based learning and traditional learning. One notable distinction is that web-based learning utilizes virtual environments, allowing individuals to host and sell online courses. Students can choose the platform that best suits their training needs. This paper aims to compare past practices and emphasize the importance of focusing on learners, learning, and the technologies and emerging pedagogies that offer enriching and innovative learning opportunities for the future. Furthermore, this article provides a historical comparison between web-based learning and traditional learning. Additionally, the study conducts a systematic literature review that delves into the history of e-learning, web platforms, e-learning tools, and their evolution from earlier to the present.

Keywords: Information Communication technologies, E-learning, E-learning platform, learning management system

Introduction

Web-based learning refers to using web-based tools, including hardware and software, for educational purposes. Vedantu, Phusics-wallah, and BYJU'S are examples of web-based learning platforms. The term "e-learning" was first used in 1999, and since then, various terms like "online learning" and "virtual learning" have emerged to describe this form of education. However, the principles underlying e-learning have been documented throughout history, with evidence suggesting that early forms of e-learning existed as far back as the nineteenth century.

The e-learning sector has gained immense popularity for valid reasons. Online learning platforms have significantly improved, providing an engaging and interactive learning experience. These platforms have become the future of education. Even after the global health crisis subsides, the number of students seeking self-paced online learning to enhance their knowledge and careers is expected to rise.

Traditional teaching and learning methods are widely known, where a teacher instructs a large group of students without knowing if they truly understand the material. This approach is considered less effective compared to online learning. The purpose of this research paper is to emphasize the importance of web-based learning over traditional learning, particularly for student teachers. It explores the benefits of incorporating web platforms in e-learning and

discusses the challenges associated with web-based learning in the context of universal education.

Web-based Learning

Web-based learning, also known as online learning or e-learning, encompasses the delivery of course content through online platforms. It utilizes various communication technologies like email, videoconferencing, and live streaming to facilitate discussions and lectures. Additionally, web-based courses may include static pages with printed materials and resources. Web-based learning is a universal approach to education that leverages Information Communication Technologies (ICT) to enable individuals to learn at their convenience, regardless of location. It bridges the physical distance between teachers and students through technology, facilitating the exchange of knowledge and skills. This form of learning employs multimedia tools to enhance the learning experience and can involve training, providing just-in-time information, and expert guidance. It can be seen as a network-enabled transfer of knowledge and skills, reaching multiple recipients simultaneously or at different times. In today's rapidly evolving technological landscape, education has embraced ICT to offer convenient ways of enhancing knowledge, education, and literacy levels. Web-based learning platforms provide easy access to upgrade knowledge and skills anytime and anywhere. These platforms offer personalized learning experiences tailored to specific thematic areas through a self-guided learning process. Various authors have provided different descriptions of online learning. Here are a few notable ones: Online learning refers to education delivered electronically, partially or entirely through web browsers, utilizing platforms such as Compact Disc Read-Only Memory (CD-ROM) or Digital Video Disc (DVD). Online learning encompasses various applications and methods, including web-based education, computer-based education, virtual classrooms, and digital collaboration. It involves delivering content via the internet, audio and video resources, satellite broadcasting, smart television, and DVD/CD-ROM. Online learning is a structured and purposeful use of electronic processes or computers in the educational process. Online learning refers to teaching conducted through a computer via DVD/CD-ROM, the internet, or an intranet. It is designed to support self-paced education based on specific learning objectives.

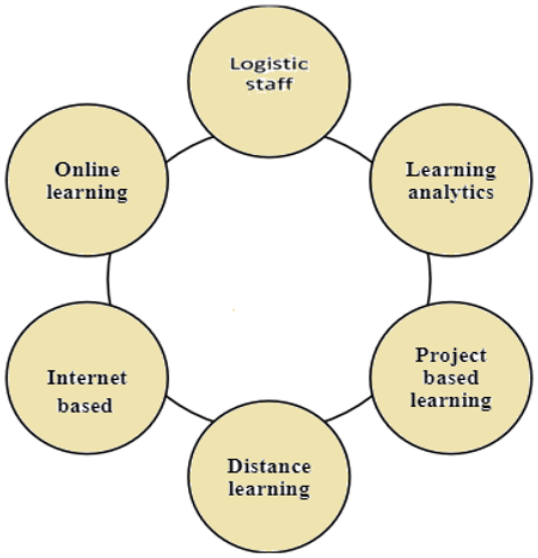

Fig 1: Web-based Learning Process

E-learning platform

An e-Learning platform is an interactive online service that combines information, tools, and resources to support and enhance educational delivery and management for teachers, instructors, learners, and others involved in education. One common type of e-Learning platform is a learning management system (LMS). The ultimate goal of a successful e-Learning platform is to create a robust learning experience that emulates a classroom environment, providing features like instructor-student interaction, Q&A sessions, discussions, collaborative projects, quizzes, and more. These critical learning environments are made possible through the features and tools offered by learning platforms, facilitating student interaction and engagement. Numerous e-Learning companies offer online learning platforms, some enabling individuals to host and sell their courses, effectively running their businesses. Other platforms provide an interface for

users to access and interact with course content. One significant advantage of online learning is the freedom to pursue various subjects. Whether advancing your academic career or exploring other fields, online learning allows you to choose what you want to study. It provides opportunities to develop soft skills, engage in art or music production lessons, or explore any other topic you've always desired to learn.

Review of Study of E-learning and Traditional Learning

E-learning offers a potential platform for delivering various methods of instruction to cater to different types of learners compared to traditional classrooms. It is also a powerful tool that can accommodate unique learning styles and enhance students' academic performance. In an e-learning environment, students can actively engage, improve their critical thinking skills, and foster independent learning (Dumford and Miller, 2018). E-learning provides structured lessons with content and exercises through animations, sounds, and videos. Jared Keengwe and Terry T Kidd (2010) aim to prompt reflections on effective strategies to support faculty transitioning from traditional pedagogical platforms to online learning and teaching. Their article presents a literature review on online learning and teaching, including a historical perspective and unique aspects of online education. The article also discusses barriers to online teaching, new faculty roles in online learning environments, and implications for online learning and teaching. Ritanjali Panigrahi, Praveen Ranjan Srivastava, and Dheeraj Sharma (2018) highlight the growing use of technology to facilitate better learning and training, overcoming the limitations of traditional learning related to time and space. However, retaining students on online platforms remains a challenge. Over the past decade, online education has experienced significant growth, evolving from an experimental novelty to a widespread teaching tool.

Many colleges presidents report offering online courses, and enrollments in online learning are increasing faster than traditional enrollments (Taylor, Parker, Lenhart & Moore, 2011; Allen & Seaman, 2010). This growth suggests that current and future faculty members will likely engage in online learning at some point in their careers. Studies have shown the positive effects of e-learning on learners, such as increased flexibility and reduced travel requirements (Gautam and Tiwari, 2016; Martínez-Caro, Cegarra-Navarro and Cepeda-Carrión, 2015; Chang, 2016). Instructors should embrace advanced technology and possess ICT skills to utilize e-learning (Aithal and Aithal, 2016) effectively. Additional benefits of learning management systems (LMS) have been highlighted by Al-Handhali, Al-Rasbi, & Sherman (2020), including user-friendliness, effective time management, course and teacher management, and generating reports. Aydin & Tirkes (2010) analyzed the usefulness of LMS and Moodle, while Holsapple & Lee (2006) and Wang et al. (2007) measured the positive benefits of e-learning in terms of learning enhancement, time savings, job performance improvement, strategic advantages, and organizational goal achievement. Overall, e-learning provides a dynamic and flexible learning environment with numerous advantages for students, instructors, and organizations.

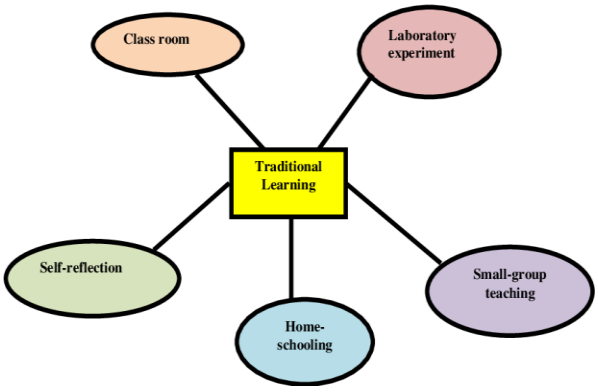

Fig.2: Traditional Learning

Web-based Learning and Traditional Learning

Traditional and online learning institutions each have their own set of advantages and disadvantages. However, there is a growing demand for online education. While traditional classrooms offer positive

social aspects that may be lacking in certain online learning environments, face-to-face classes allow for more personalized interaction between teachers and students. When comparing online classes to traditional classes, it is crucial to consider your learning style and scheduling requirements. E-learning has made significant progress, as it was initially met with skepticism due to the lack of human interaction necessary for effective learning. However, with advancements in learning systems and rapid technological developments, e-learning has gained widespread acceptance worldwide. The success of e-learning can be attributed to several factors, which are summarized below through a critical analysis in comparison to traditional learning:

1. Accessibility: E-learning allows learners to access educational resources and materials anytime and anywhere. This convenience eliminates the constraints of time and location associated with traditional learning methods.
2. Customization: E-learning platforms provide personalized learning experiences, allowing learners to tailor their educational journey to their needs and pace. This individualized approach enhances engagement and comprehension.
3. Interactive Multimedia: E-learning utilizes various interactive multimedia tools such as videos, animations, and simulations, which enhance the learning experience and make complex concepts easier to understand. These engaging resources promote active learning and knowledge retention.
4. Collaboration and Networking: Online learning platforms facilitate collaboration among learners through discussion forums, virtual group projects, and online communities. This promotes knowledge sharing, peer interaction, and networking opportunities often limited in traditional learning environments.
5. Continuous Assessment and Feedback: E-learning platforms offer continuous assessment tools and immediate feedback mechanisms, enabling learners to track their progress and identify areas for improvement in real time. This timely feedback promotes active reflection and self-directed learning.
6. Cost-effectiveness: E-learning eliminates the need for travel, accommodation, and physical learning resources, resulting in significant cost savings for learners. Additionally, organizations can save on training expenses by adopting e-learning solutions.
7. Scalability: E-learning allows for the efficient delivery of educational content to many learners simultaneously, regardless of geographical boundaries. This scalability makes it an ideal choice for organizations and educational institutions with a wide-reaching audience.
8. Technological Advancements: Rapid advancements in technology have led to the development of user-friendly and interactive e-learning platforms, making online learning more engaging, intuitive, and accessible to a diverse range of learners.

Table 1: Compare Web-based Learning & Traditional Learning

Factor	Web Based Learning	Traditional Learning
Role Play	Simulated	Face to Face
No. of learner	Unlimited	Limited
Learning transfer Process	Self-Studies	Instructor's- Led (Instructor's Characteristics)
Learning Achievement	New knowledge, Personal growth, Involvement	Limited knowledge
Students' performance	Evaluating the students' performance, student-student interaction, effective support, learning materials,	Direct Contact with Teacher

Feedback	Programmed Responded	Immediate Responded

Conclusion

Traditional teaching methods have been practised for centuries, and replacing schools and colleges with online courses is not recommended. The traditional approach offers unique advantages such as face-to-face interaction, interpersonal skill development, and group learning, which are crucial for a student's holistic growth. Implementing a web-based learning system involves a complex process of establishing and developing an integrated information technology infrastructure. Numerous studies conducted by researchers have demonstrated that effective utilization of e-learning can enhance student motivation, engagement, and attendance. It can improve student participation in class activities and performance in core subjects. This study aligns with existing literature and aims to compare web-based learning systems with traditional learning methods. It is a comparative analysis that reviews various articles related to e-learning platforms and their comparison to traditional learning approaches.

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