**IMPACT OF WEB LECTURING TECHNOLOGY ON STUDENTS**

**MOSES AUDU**

**(ST/CS/ND/21/027)**

**A SEMINAR REPRESENTED TO THE DEPARTMENT OF COMPUTER SCIENCE, SCHOOL OF SCIENCE AND TECHNOLOGY, FEDERAL POLYTECHNIC MUBI, ADAMAWA STATE, NIGERIA**

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**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF NATIONAL DIPLOMA (ND) IN COMPUTER SCIENCE**

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**ABSTRACT**

*Web lecturing technology has emerged as a transformative force in the field of education, revolutionizing the way students access and engage with academic content. With recent advancements in digital technologies, web-based learning platforms have become increasingly prevalent and accessible.* *Technology is fast developing in our today’s world, which has made the world a global village. The uptake of web lecturing technologies for the recording and delivering of live lectures has increased markedly in recent years. Student have responded positively, and for many the use of web lecturing technology has transformed learning free and freeing them up form rigid timetable by providing choice in lecture attendance and supporting. Less transformed has been the impact on teaching. Although changing in attendance patterns matters. The technologies have been added on, rather than integrated into the curriculum.*

**Introduction**

Web lecturing technology has emerged as a transformative force in the field of education, revolutionizing the way students access and engage with academic content. With recent advancements in digital technologies, web-based learning platforms have become increasingly prevalent and accessible. The introduction of Web lecturing technology (WLT) has been one response to the need for flexibility of access. Not surprisingly, Web lecturing technology (WLT) are gaining in popularity, particularly with students finding that their needs for flexibility have not been met by ‘traditional on-campus teaching paradigms’ (Lefoe & Asbury, 2004). With increased demands posed by work and family commitments (McInnis &Hartley, 2002), recent studies have confirmed students’ appreciation of the convenience and flexibility offered by anytime, anywhere access to lectures (McNeill, 2007).

In addition to flexibility, students are also generally positive about the impact these technologies have on their learning (Williams & Fardon, 2005). In McElroy & Blount's (2006) survey of 411 students on their usage of WLT, more than 75% of students agreed that Lecture enhanced the course when compared to other subjects that did not include Lecture (McElroy & Blount's, 2006).

Web-lecturing technology (WLT) is designed to digitally record lectures for delivery over the web, which is just one of the ranges of information and communication technologies that have been introduced in response to the changing context of higher education in the past decade (Anderson, 2006). Universities have invested substantial resources in developing infrastructure to provide flexible options for students and to support their learning. And in supporting their learning, staff and students in the use of the technologies for learning and teaching (McElroy & Blount's, 2006). There has been rapid uptake of web lecturing technologies in recent years their popularity with students is well recognized. However, from an institutional perspective, they are having a disruptive influence; challenging long held traditions of university teaching students’ attendance patterns and ways of learning.

Web lecturing technology has enable many institutions and universities carry out online distance learning which will bring more income to the university and also to reduce the burden on students going to the lecture hall to receive lectures.

In the universities participating in this project, the introduction of web lecture technologies such as Leetonia had largely followed such a pattern. Both Macquarie University and Murdoch University had implemented Lectopia to deliver lecture content to external students. While the technology was found to be useful for external students and catered for those with disabilities, at both institutions, usage statistics indicated an increasing uptake for on-campus flexible delivery. At the University of Newcastle, the reported primary driver had arisen from the implementation of a blended learning model - to a small extent the use of Web-based lectures delivered using Leetonia had been used for this reason (Carter & Sheer, 2005).

**Literature Review**

Web-lecturing technology: is a field of technology that focuses on teaching and learning methods that aim at delivering lecture through web, often on an individual basis, to students who are not physically present in traditional educational setting such as classroom. It has been described as a “process to create and provide access to learning when the source of information and the learners are separated by time and distance or both” (David & Margot, 2007)

Web-lecturing technology was founded as a collaborative project across four, Australian Universities, funded by the Australian Learning and Teaching Council (ALTC). This achieved it aim on how the technology will be integrated in the curriculum to support learning and teaching in different context and the educational implication of their uses for the design of curriculum, teaching and academic policies and practice including professional development (McNeill, 2007).

A particular feature of the project design was the embedding of strategies to enable capacities build across the sector through the ongoing dissemination of finding to stake holders throughout the life of the project. Web-lecturing technology has been introduced in many Australian and overseas Universities (Most especially Europe and America) to offer students to lecture records 24/7, and this technology have been well received by many students who appreciate them as study tools that offer flexibility and convenient learning (Keith, 2010).

**Communication Technology used in delivering Web-Lecturing Technology**

Communication technologies are generally categorized as synchronous or asynchronous. Asynchronous activities use technologies such as blogs, wikis and discussion boards. The idea here is that participant’s involvement may engage in the exchange of ideas or information without the dependency of other participant’s involvement at the same time. Asynchronous learning also gives students the ability to work at their own pace. This is particularly beneficial for students who have health problems. They have the opportunity to complete their work in a low stress environment.

Synchronous activities involve the exchange of ideas and information with one or more participants during the same period of time. A face to face discussion is an example of synchronous communications. Synchronous activities occur with all participants joining in at once, as with online chat session or meeting, video conferencing is a good example of Synchronous communications(Keith, 2010).

Web-lecturing technology can often use a mixed of communication technologies available in some web-lecturing technology use icons called emoticons to communicate feelings and responses to question or statement. Other communication technologies available in a web-lecturing technology include text notes, microphone, and breakout sessions. Breakout sessions allow the participants to work collaboratively in small group setting to accomplish task as well as allow the lecturer to have private conversation with his or her students.

In asynchronous online courses, students proceed at their own pace if they need to listen to a lecture a second time, or think about a question for a while they may do so without fearing that they will hold back the rest of the class. Students also have access to an incredible variety of enrichment courses in online learning and can participate in work or any other business and still graduate with their class.

**Tools for Delivering Web-Lecturing Technology**

1. Institution (Lecture provider).
2. Internet (Network).
3. Client (User).
4. Identification of courses registered for Students (username or registration NO. & password).

**Features of Web-Lecturing Technology**

Web lecturing technology encompasses a wide range of features that enhance the learning experience for students and enable instructors to deliver engaging and effective online lectures.

**Live and Recorded Lectures:** Web lecturing technology allows instructors to deliver live lectures in real-time, providing students with the opportunity to interact with the instructor and their peers synchronously. Additionally, recorded lectures can be made available for on-demand viewing, enabling students to review the content at their convenience. A study by Nouri and Shah (2022), emphasizes the popularity of recorded lectures, with many students appreciating the flexibility to access course materials whenever needed.

**Interactive Content and Multimedia:** Modern web lecturing platforms offer interactive elements, such as quizzes, polls, and discussions, to promote active engagement and knowledge retention. Researchers Conrad and Openo (2019) highlight the significance of interactive content, as it fosters student participation and interactivity during online lectures. Moreover, the integration of multimedia elements, including videos, animations, and simulations, enhances the learning experience by catering to various learning styles (Nouri and Shah, 2022).

**Collaboration and Group Work:** Web lecturing technology supports collaborative learning experiences, enabling students to work together on projects, assignments, and group discussions. Cao *et al.* (2020), discussed the importance of virtual collaboration in online courses, which fosters peer learning, knowledge sharing, and the development of teamwork skills among students.

**Discussion Forums and Q&A Sessions:** Discussion forums and Q&A sessions are integral components of web lecturing technology, allowing students to seek clarifications, engage in academic discussions, and interact with instructors and peers. Järvenoja *et al.* (2021), highlight the significance of these features in fostering active learning and creating a supportive online learning community.

**Adaptive Learning and Personalization:** Recent advancements in web lecturing technology have led to the development of adaptive learning platforms. Wang *et al.* (2021), explain that these platforms leverage artificial intelligence algorithms to personalize educational content based on individual learning styles and progress. By tailoring materials to individual needs, students receive a personalized learning experience that caters to their strengths and weaknesses.

**Assessment and Feedback Tools:** Web lecturing technology includes assessment tools, such as online quizzes and formative assessments, to gauge students' comprehension in real-time. Järvenoja *et al.* (2021), demonstrate the significance of timely feedback, which allows students to identify areas for improvement and supports their metacognitive regulation during learning.

**Benefits of using Web-Lecturing Technology**

The benefits of Web Lecturing Technology are;

**Improved Accessibility and Inclusivity:** Web lecturing technology has played a crucial role in democratizing education and improving access to learning opportunities. Allen and Seaman's (2020) research found that online lectures have allowed students from diverse backgrounds, including those in remote areas or with physical disabilities, to participate in higher education. Moreover, virtual lectures accommodate various learning styles and preferences, ensuring an inclusive learning environment for all students.

**Flexibility and Convenience:** The flexibility offered by web lecturing technology has transformed the way students engage with educational content. According to Bolliger and Halupa's study (2021), students appreciate the convenience of accessing lectures from any location and at their preferred time. This flexibility enables them to balance academic pursuits with work, family commitments, and other responsibilities, fostering a better work-life-study balance.

**Enhanced Interactivity and Engagement:** Modern web lecturing platforms have integrated interactive features that promote student engagement and active learning. Conrad and Openo (2019), emphasize that tools like real-time quizzes, polls, and collaborative discussion forums facilitate dynamic interactions between students and instructors. Engaged learners are more likely to retain information and demonstrate higher levels of subject understanding.

**Personalized Learning Experience:** Recent advancements in web lecturing technology have ushered in an era of personalized learning. Wang et al.'s research (2021) highlights how adaptive learning platforms leverage artificial intelligence algorithms to tailor educational content based on individual preferences and learning styles. This personalized approach enables students to progress at their own pace, providing a customized learning experience that maximizes their potential for academic success.

**Access to Diverse Learning Resources:** Web lecturing technology expands access to a wealth of learning resources beyond traditional classroom materials. A study by Nouri and Shah (2022), reveals that online lectures often incorporate multimedia elements, such as videos, animations, and simulations, which enrich the learning experience and cater to various learning modalities. This abundance of resources enhances students' understanding and fosters a deeper appreciation for the subject matter.

Global Collaborative Learning: Virtual lectures transcend geographical boundaries, allowing students from different parts of the world to engage in collaborative learning experiences. According to Cao *et al*. (2020), web lecturing technology facilitates international student collaborations, where students can work together on projects and share diverse perspectives. This exposure to global viewpoints fosters cross-cultural understanding and prepares students for a more interconnected world.

**Real-time Feedback and Assessment:** Web lecturing technology empowers instructors to provide immediate feedback on student performance. Järvenoja et al. (2021) suggest that online quizzes and formative assessments during lectures allow instructors to gauge students' comprehension in real-time. Timely feedback enables students to identify areas of improvement, thereby enhancing the learning process.

**Environmental Sustainability:** The adoption of web lecturing technology contributes to environmental sustainability by reducing the carbon footprint associated with traditional in-person classes. A study by Humphrey and Underwood (2021) indicates that transitioning to online lectures can significantly decrease greenhouse gas emissions resulting from travel to educational institutions.

**Conclusion**

Despite the fact the Web-lecturing technology have cost plenty havoc to students by making them fill lazy and also reduce the attendance of students in class, it is without doubt that web-lecturing have make plentiful impact to students freeing them up from rigid timetable by providing choice in lecture attendance and enabling students visit key concepts anytime they feel they have problem or feel there is doubt. It has also help institutions to take part in long distance learning, example a student can receive live lectures even if the lecturer is in America. Lastly it has also help students to repeat failed courses without being embarrassed by younger ones as in the case of most universities.

While they are effects or disadvantage of Web-lecturing technology that doesn’t mean that it cannot foster or developed our lecture or learning pattern in most universities across the country.

**Recommendations**

1. Educators should proactively adopt educational strategies that promote student engagement and interactivity during web lectures. Incorporating interactive elements such as quizzes, polls, and discussions can enhance students' active participation and knowledge retention.
2. To maximize the benefits of web lecturing technology, educators should receive adequate training and ongoing support in effectively utilizing the platform's features.
3. Educators should leverage web lecturing technology's assessment tools to provide formative assessments during lectures. Regular quizzes and other interactive assessments can help gauge students' understanding in real-time.
4. Educational institutions should address technological disparities among students to ensure equitable access to web lecturing technology.
5. To continually improve the effectiveness of web lecturing technology, institutions should conduct ongoing research and evaluation.

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