

## TECHNOLOGY CHALLENGES IN IMPROVING E-LEARNING LEARNING AT THE UNIVERSITAS TERBUKA OF INDONESIA

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### **Abstract**

In e-learning learning at Open universities, it is necessary to master technology in education; so far in e-learning, there have been discussions, assignments, and webinars, but not all students have mastered technology in e-learning. The research aims to determine and analyze the organization and human resources of e-learning organizers, technical mastery, and students' skills in learning so that students can achieve good grades and graduate on time. This study uses descriptive qualitative methods using primary data through interviews with student respondents and the author's experience of carrying out e-learning activities and secondary data through literature and journal studies, mass media information, books, and others. The analytical method used is descriptive analysis through data reduction, presentation of data, and drawing conclusions or verification. The results of this study show that with the latest and more sophisticated technology in e-learning, mastery of technology is mandatory for organizations and managing human resources by increasing human resources and the reach of distance learning. Increase student technology mastery with study skills, communication skills, and the quality of learning technology.

**Keywords:** Technology quality; Learning; skills; communication.

### **1 INTRODUCTION**

Adult technology and information have developed quite rapidly in learning using webinar media. According to Wang, Cowie, & Jones (2008), technological challenges include internet access, online learning skills, online communication skills, and the quality of online learning technology (Wang et al., 2008).

Information technology's challenge is managing distance learning (PJJ) in e-learning. It is a task so education runs by technological developments and students can learn more efficiently (Maryeni, 2013).

The Quality Assurance System (SISMINTAS) is an effort to continuously improve quality based on formative evaluation results by looking at the e-learning learning process.

Its scope includes academic and non-academic programs and internal and external distance learning organizing organizations (PJJ) in e-learning learning that prioritizes information technology. Information technology interests young people and workers who need affordable learning and studying and does not interfere with their work. (*143969-Universitas-Terbuka-Terapkan-Kemajuan-Teknologi-Dalam-Proses-Belajar-Mengajar-Rektor-Pencetus-Pendidikan-Jarak-Jauh-Selama-38-Tahun @ Wwww.Tvonenews.Com, n.d.*)

Academic programs include Learning materials, exam materials, determining learning outcomes, student learning services according to the conditions of the student's learning environment such as tutorials, student learning skills, skills in using technology, solutions to student learning difficulties, and dropout; Group learning interaction services and student social interaction.

Socialization of non-academic programs includes Registration, Acceptance of learning materials by students and tutors on time, and Acceptance of announcements of student learning outcomes.

Management of PJJ regarding human resources management competence, student learning facilitation, responsive PJJ organization, management work facilities, and outreach. With online learning, use the internet to access learning materials and interact with content, instructors, and fellow learners. Students receive support during learning to gain knowledge, construct personal meaning, and develop from learning experiences (Ally M, 2004; Cleveland-Innes & Ally, 2013).

Learning in the digital era, individuals learn and work in a "networked environment" (Siemens, 2004). Students can explore and research; Information quickly expires due to change and innovation. Students may be able to identify information (Ally, 2019).

The results of research conducted by Yeni Maryani study aimed to evaluate the acceptance of the e-learning platform based on the users' perception of ease of use and usefulness. This is an action research design. This study found that 60% of the users (managers and lecturers) do not understand and have no experience with e-learning. Even though many users have limited understanding and knowledge of technology-based learning platforms, most of them, including students, agree that the e-learning system is easy to use and has usefulness in improving the learning process. More than 50% of the respondents answered Strongly Agree. This study also identified that no particular unit maintains the e-learning system. It is concluded that the

majority of the users agreed that the e-learning platform at the Pontianak Ministry of Health Poltekkes is easy to use and valuable to support the learning process (Maryeni, 2013).

The research conducted by Aylan Fatwa aims to determine the benefits of e-learning as a learning medium, which in the current new normal condition is indeed very necessary. The research method uses qualitative research. The research sample was FTIK IAIN Pekalongan lecturers and students selected by purposive sampling technique. Data collection is done using learning questionnaires in the network. The results showed that: (1) e-learning teaching objects were developed in the form of virtual classes in Google Classroom and the WA Group; (2) valid e-learning object is evaluated from the teaching object evaluation component; (3) practical e-learning objects are viewed from the lecturers' responses to the excellence of teaching objects and students' responses to e-learning. Online learning is relatively easy when learning activities with an online system have no problems with internet signals. During the Covid 19 emergency, the costs incurred in online learning were not large / medium. Media that is considered adequate for online learning is manageable for students. The interaction between lecturers and students using the online system is quite communicative. There are advantages in learning to use online strategies, and there are also shortcomings in online learning. Advice given by respondents for technical online education: The media used can be easily accessed by students. All learning activities were conducted well (structured, on schedule, coordinated). The media used for online learning is the WA Group (Fatwa, 2021).

Research about e-Learning as the Role of Information Technology in Modernizing Education by Alcianno G. Gani talks about the global era, whether, agree or not, want or do not want to be associated with technology, especially information technology. This is because the technology has affected our daily lives. Therefore, we should not be blind to the technology. Many research results indicate that whoever needs to be on time to control the information is too late to obtain opportunities to advance precisely. The developments of the science of information and communication technologies impact various aspects of life, including education. Distance education, which can also be referred to as distance learning, has started ogleed by the perpetrators of education to be one solution to the educational problems above. More precisely, it became a "trend-center" in our teaching. The term has long been echoed and even applied by educators and learners in a learning process, which, in this case, is mainly done separately outside the classroom. Educators and learners are in different rooms individually, and the time could differ. The development of Internet technology gives a feel of a distance

education system that is more open again. Web-based learning systems popular as electronic learning (e-learning), Web-Based Training (WBT), sometimes called Web-Based Education (WBE), virtual campus, mobile learning (m-learning), etc., have been developed extensively. Thus, distance or open learning will be pioneers entering the new decade (Gani, 2016).

Of the three studies above regarding technology in e-learning learning, it has yet to discuss technological challenges in technology learning, the use of information technology for students, and the preparation of organizing organizations in preparing e-learning lessons. This research aims to determine and analyze the use of information technology in e-learning learning by postgraduate students during 12 sessions and what problems students pay attention to in e-learning learning.

## **2 METHODOLOGY**

The method used in this research is a descriptive qualitative method by collecting primary data through a questionnaire asking questions to five postgraduate students who use e-learning and the author's teaching experience and the use of technology in e-learning. Secondary data is taken through studies of journals, textbooks, and distance learning materials.

The research analysis uses interactive analysis by Miles and Huberman (2007), analysis of qualitative data by collecting data displaying data. These data have been compressed into a form to help collect, condense, or reduce data, namely the process of selecting, focusing attention, simplifying, summarizing, and transforming raw data. Drawing conclusions or verification, namely the process of concluding research results while verifying that these conclusions are supported by data that has been collected and analyzed (Miles and Huberman, 1992; Sugiyono, 2017).

## **3 FINDINGS AND DISCUSSION**

According to Wang, Cowie, & Jones, 2008, The challenges of online learning design are 1. Pedagogical challenges Curriculum design, teaching methods, assessment methods, and interaction approaches 2. Personal challenges: Time management and changing roles 3. Technology challenges: Internet access, online learning skills, Online communication skills, and Quality of online learning technology (Wang et al., 2008).

The essence of distance learning (PJJ) is that teaching and learning as a human activity requires strong bonds ("bonding") between teachers and students and needs to foster motivational,

affective aspects in education. Technology is increasingly flexible and can build bonds between teachers and students and between fellow students. Pay more attention to human factors in teaching and learning in a technology-based environment (Bates et al., 2016; Supriyanto et al., 2021)

Quality assurance: fit for purpose in the digital era: Subject matter experts are well trained in teaching methods and use of technology; Education staff are professionally trained in learning technology; Adequate resources, including teacher/student ratio; Appropriate work methods (teamwork, project management); Systematic evaluation towards continuous improvement (Bates et al., 2016).

Steps to Quality Teaching in the Digital Era: Determine how you want to teach; Determine the mode of delivery; Work in Teams; Build on existing resources; Master technology; Set appropriate learning goals; Design course structure and learning activities; Communication; Evaluation and innovation (Bates et al., 2016).

The questionnaire conducted in this study was the submission of questions about e-learning learning to respondents from Master of Public Administration (MAP) students with answers summarized according to Table 1 below:

*Table 1 Respondents' Materials and Answers*

No	Question	Answer 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5
1	In learning e-learning information technology used from sessions 1-12 according to you is in accordance with your mastery and if not there is a need for a special introduction?	It is appropriate, but sometimes, the technology used is difficult to access in some places.	The information technology in the e-learning system that UT has built is quite good and user-friendly.	It is not difficult to recognize e-learning applications, but for the first time using the application, it needs an introduction.	I think the information technology in the e-learning system that UT has built is quite good and user-friendly.	It is appropriate

2	In each session, 1-12, the display of technology presented is by the development of information technology.	It is appropriate	The appearance is by existing information technology, which can use Word material, PDF, etc.	It is due to technological developments.	Technology is appropriate ; it is clear the features <sup>2</sup> provided. Suggestions for facilities/menu search course modules can also be linked to the e-learning page. Separate and have to access another page to search for the corresponding module.	It is appropriate and needs multimedia addition.
3	Is there material ranging from tutor introductions, course materials, RATs, student introduction forums, and rules of conduct in the introduction that need to be added or not?	enough	The material is enough; it only needs to be emphasized for all students to access it.	<b>Module 2</b> in eLearning is complete, starting with learning materials, rules, and forums.	It is enough to multiply the communication interaction.	Need to increase the duration of the Q&A session
4	In sessions 1-12 on discussions and assignments, you work according to your opinion, and module references and other references need	The application of Turnitin is for task preparation because all words that have ever been	All students can see each answer to the discussion, so students who answer it last must	Time is too short; it needs to be extended again.	Added the Palgiat Check application; only the boundaries given must	It must be completed because sometimes students' answers to

	to be equipped with plagiarism check applications (Turnitin) and sentence phrase applications (Quilt) so that they are not the same as other student references and answers.	loaded on the internet are considered plagiarism. I cannot explain the use of the Quiltbot application as a means of paraphrasing I cannot explain, because I have never used it.	answer with different sentences according to their respective opinions and references.	be clear. Can train students to be able to start making their scientific writings whose plagiarism elements are by the permissible provisions.	one another are similar.
5	What are your suggestions and opinions about information technology in MAP e-learning that does not exist compared to other e-learning?	For UT's e-learning map, the appearance is more attractive, like social media such as Facebook, where comments look more real-time and flexible in discussions.	Compared to the technology used in SMPN, learning applications are more varied, and technology makes students compete fast and compete correctly in answering questions. In presentations, students start leaving power points and switching to Canva because the results are more attractive.	Multimedia should be reproduced, with video and audio examples. Maybe from the beginning of the semester, students can begin to be guided in writing a thesis / TAPM that suits their interests/ideas/problems. Moreover, I have enough knowledge and time in the process of writing the final project.	Provide more opportunities for students to deliver material than the classical system.

Source : Respondent questionnaire results, 2023

In questions on problems held from sessions 1-12 by submitting questions to informants of postgraduate students of the Master of Public Administration (MAP) with the following results:

- a. In learning e-learning, information technology used from sessions 1-12 is by student mastery, and if there is no need for an introduction from the postgraduate organizer? Generally, students answer that learning is appropriate, but sometimes, in some places, the technology used is difficult to access; information technology in the e-learning system that UT has built is good enough and user-friendly; it is not difficult to recognize the e-learning application but for the first time using the application needs an introduction first, in the opinion of information technology students in the e-learning system that UT has built is reasonable enough and user friendly and appropriate.

In some places, technology has been accessed related to internet capacity, but each region is different; some are strong, and some are weak, which needs government intervention in the internet network. In the beginning, before learning e-learning, students need an introduction to e-learning technology. Moreover, students in e-learning learn faster to master e-learning technology.

- b. In each session, 1-12, the display of technology presented is by the development of information technology. The answer of student respondents is appropriate, for the display is by existing information technology, namely being able to use word material, PDF, etc. By technological developments, technology is **appropriate, quite clearly** the features<sup>2</sup> provided. Course module **search facilities/menus can also be connected to the e-learning page**. Separate and must access other pages to find the appropriate module.

Moreover, it is appropriate and needs the addition of multimedia. It is necessary to link when students search on the search menu to immediately work on discussions, practice questions, and learning tasks. The problem of visual appearance is significant because the teaching and learning process through the internet demands motivation, interest, and the ability to read actively and creatively from students (Oetomo, 2002, p. 22). According to expert Kuhlmann (2008), In visual display in learning, e-learning is the most influential tool to set the atmosphere, communicate critical concepts, and attract attention from learners because people do not want to access it if the display looks bad (Budhianto, 2020; Nisa, 2017).

- c. Is there material ranging from tutor introductions, course materials, RATs, student introduction forums, and rules of conduct in the introduction that need to be added or not?



The informant's answer is enough; the material is enough; it only needs to be emphasized for **all students to be able to access the material; module2** in learning, ranging from learning materials, rules, and forums, **is complete; it** is enough to increase the communication interaction and need to increase the duration of the question and answer session. Question and answer interaction between tutors and students has been provided with a group and private menu, how the tutor quickly responds to students' questions and provides explanations according to student questions.

In e-learning, learning is distance learning by combining learning principles with technology. According to Purwadi (2003), the electronic device in question is related to technology and information (ICT) and multimedia in the form of CD/room, video type, TV, and radio (Zubaidah, 2013).

- d. In sessions 1-12 on discussions and assignments, students working according to opinions and module references and other references need to be equipped with plagiarism check applications (Turnitin) and sentence phrase applications (Quilt) so that they are not the same as other students' references and answers. The respondent's answer was the application of the Turnitin application for assignment preparation because all words that have ever been published on the internet are considered plagiarism. While I use the Quilbot application as a means of paraphrasing, I cannot explain because I have never used it, for each discussion answer can be seen by all students so that students who answer it last must answer with different sentences according to their respective opinions and references, too short time needs to be extended again, Added the Palgia Check application, only the boundaries given must be precise. Can train students to be able to start making their scientific writings whose plagiarism elements **are by** the permissible provisions and **need to be completed** because sometimes students' answers to one another have similarities.

Turnitin and paraphrasing applications need to be completed in e-learning so that students can immediately use them to check the results of discussions and assignments. So far, only instructions or plagiarism guidelines are new to learning. The development of plagiarism among students is almost work, discussions, and many tasks are the same; for that, it needs to be seen writing different works between students so that students can provide fresh ideas (Suhartono, 2021).

- e. What are your suggestions and opinions about information technology in MAP e-learning that does not exist compared to other e-learning? The respondent's answer was For e-

learning Master of Public Administration (MAP) UT, in my opinion, **Its appearance is more attractive, perhaps like the appearance of social media**, e.g., Facebook, comments **more real-time visibility and flexibility in discussions**, Compared to the technology used in SMPN, learning applications are more varied, the use of technology makes students compete fast and compete correctly in answering questions. In presentations, students begin to leave PowerPoint points and switch to using Canva, etc., because the results are more attractive, multimedia must be reproduced, examples of video and audio; maybe **from the beginning of the semester, students can begin to be guided to the process of writing a thesis / TAPM** that is by the interests/ideas/problems. Moreover, I have enough knowledge and time in the process of writing the final project and provide more opportunities for students to deliver material than the classical system. The emphasis on learning retrieval is made with information technology as attractive as possible. Learning videos are also displayed as an illustration of module learning to enrich insights with module enrichment material. The main master's learning is compiling a thesis as a research writing work done by students and made early in the third semester with an independent assignment guided by a lecturer. At the beginning of the semester, students have been given the option to choose modules to support research. The master curriculum in public administration at the beginning of the semester was designed for students to compile a thesis (Ilyas, 2018; Nur & Junjunan, 2022).

Preparation for PJJ organizers is to provide common perceptions and explanations to course supervisors in e-learning learning is to update learning materials and technology by replacing material every semester with new material and replacing questions in each session with discussion material, exercises, and assignments with new ones and displaying material styles that match the new material(Herdiana et al., 2021; Pardede, 2011).

#### **4 CONCLUSION**

In the discussion above, the following conclusions can be drawn:

- a. In the internet network, students who are far from the reach of the internet can study more calmly, and the internet network in remote areas is strengthened because there are areas where the internet network still needs to be more vital in learning.
- b. Introducing e-learning first to students so that students understand the learning of e-learning technology applied.

- c. The search menu on the website ut.ac.id so that it can be linked to the e-learning page so that students can learn immediately.
- d. Technology in e-learning learning every semester to be updated according to technological developments
- e. The menu needs to be equipped with Turnitin and paraphrase applications on e-learning so that discussions and assignments can be directly used by students.

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