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Strengthening Human Resources as Lecturers Through the E-Learning Learning Method

Agus Supinganto¹, Suharmanto², Irwan Budiana³, Kusniyati Utami¹

¹Lecturer in Department of Nursing Science, STIKes Yarsi Mataram, Indonesia, ²Lecturer in Department of Public Health, Faculty of Medicine, Universitas Lampung, Indonesia, ³Lecturer in Department of Nursing Science, Poltekkes Kemenkes Kupang, Indonesia

Abstract

Introduction: The concept of e-learning is an alternative for students who are unable to attend face-to-face lectures. The use of e-learning as an alternative learning is increasing in line with technological developments. **Aim:** This study applies e-learning learning methods to strengthen educational human resources as lecturers using Computer-based Multimedia Communication (CMC). **Method:** This research is a pre-experimental study. The research was conducted in STIKes Yarsi Mataram, Indonesia in 2020. The measuring instrument used a questionnaire. The study population was all students, with a total sample of 81 students. The independent variables include a method of learning. The dependent variable in this study was knowledge. The analysis used was univariate and bivariate using paired t-test. **Result and Discussion:** frequency of e-learning based on CMC in the experimental group, namely 63% in the evaluation and 80% in the implementation process. While in the control group using conventional methods, 50% of the intervention and 23% of the implementation. **Conclusion:** Improving student learning outcomes in the community nursing process by using the CMC learning method is more effective than using conventional methods.

Keywords: E-Learning, Method, Learning, Human Resources, Lecturer

Introduction

Along with the development of technology, the need for a concept and mechanism for teaching and learning based on information technology is very necessary. One of these concepts is e-learning. The concept of e-learning has an influence on the change from conventional education into digital form. The concept of e-learning has been widely accepted by the community, especially in educational institutions. E-learning is an alternative for students who are unable to attend face-to-face lectures.¹

The use of technology for learning activities in educational institutions in Indonesia is getting better, supported by regulations regarding the implementation of distance education. This study uses e-learning as alternative learning in educational institutions. This learning method will certainly create human resources as skilled and competent lecturers in teaching.²

The application of e-learning for online learning at this time is very easy by utilizing various electronic media such as smartphones, personal computers and so on. The application of technology in learning is suspected to improve learning outcomes. Information and communication technology-based learning will run effectively if the teacher's role in learning is as a learning facilitator or making it easier for students to learn, not just as an information provider. The learning process by

Corresponding Author:

Suharmanto

suharmanto@fk.unila.ac.id

utilizing information and communication technology is a guide from the teacher to facilitate effective learner learning.

Effective learning can be said to be learning that utilizes information and communication technology optimally in the learning process as a tool. One of the uses of information and communication technology in learning is to use e-learning, especially with the CMC approach which makes it easier for students and lecturers to be freer to communicate and discuss related subjects.

The purpose of this study was to compare the effectiveness of giving lectures with e-learning methods and conventional methods.

Method

This research is pre-experiment. The research was conducted in STIKes Yarsi Mataram in 2020. The

measuring instrument used a questionnaire. The study population was all students, with a total sample of 81 people. The independent variables include a method of learning. The dependent variable in this study was knowledge. The analysis used was univariate and bivariate using paired t-test.

The stages carried out in e-learning research include planning, implementation, and evaluation. At the planning stage, it is expected to be able to analyze learning programs, make semester or annual programs, prepare lesson plans, and make learning assessment plans. At the implementation stage, it is carried out on aspects of approaches, strategies, techniques, and learning procedures. The type of e-learning that will be developed by the researcher is Computer-based Multimedia Communication (CMC). The developed e-learning focuses on community nursing courses.

Result and Discussion

Table 1 Initial Evaluation of the Community Nursing Process

Community Nursing Process	Control Group (n=40)		Experiment Group (n=36)	
	Right Answer	%	Right Answer	%
Assesment	15	37	13	36
Diagnose	13	32	17	47
Intervention	16	40	19	52
Implementation	20	50	24	66
Evaluation	17	42	16	44

Most of the respondents did not understand the community nursing process for both the control group and the experimental group before the learning method was carried out. In the experimental group, the components of assessment, diagnosis, and evaluation, less than 50%

answered the questions correctly. Meanwhile, in the intervention and evaluation components, more than 50% answered correctly. For the control group, almost every component, less than 50% answered correctly.

Table 2 Final Evaluation of the Community Nursing Process

Community Nursing Process	Control Group (n=40)		Experiment Group (n=36)	
	Right Answer	%	Right Answer	%
Assesment	21	52	28	77
Diagnose	18	45	25	69
Intervention	20	50	24	66
Implementation	23	57	29	80
Evaluation	19	47	23	63

Most of the respondents already understood the community nursing process for both the control group and the experimental group after the learning method was carried out. In the experimental group, the components of assessment, diagnosis, intervention, implementation, and evaluation, more than 50% answered the questions correctly. For the control group, only in the assessment and implementation component, more than 50% answered correctly.

Table 3 Comparison of Evaluation Results of Community Nursing Process (Control Group)

Community Nursing Process	Control Group (n=36) Pre		Control Group (n=36) Post	
	Right Answer	%	Right Answer	%
Assesment	15	37	21	52
Diagnose	13	32	18	45
Intervention	16	40	20	50
Implementation	20	50	23	57
Evaluation	17	42	19	47

The results showed that there was an increase in the proportion who answered correctly before and after using conventional learning methods.

Table 4 Comparison of Evaluation Results of Community Nursing Process (Experiment Group)

Community Nursing Process	Experiment Group (n=36) Pre		Experiment Group (n=36) Post	
	Right Answer	%	Right Answer	%
Assesment	13	36	28	77
Diagnose	17	47	25	69
Intervention	19	52	24	66
Implementation	24	66	29	80
Evaluation	16	44	23	63

The results showed that there was an increase in the proportion who answered correctly before and after the e-learning learning method was carried out

In the assessment component, the control group who answered correctly increased by 15%, while the experimental group who answered correctly increased by 41%. In the diagnosis component, the control group who answered correctly increased 13%, while the group who answered correctly increased by 22%. In the intervention component, the control group who answered correctly increased by 10%, while the experimental group who answered correctly increased by 14%. In the implementation component, the control group who answered correctly increased 7%, while the experimental group who answered correctly increased by 14%. In the evaluation component, the control group who answered correctly increased by 5%, while the experimental group who answered correctly increased by 19%. So it can be concluded that the increase in those who answered correctly in the experimental group who received the e-learning method was more significant than the control group who received the conventional learning method.

Student learning outcomes obtained through the pre-test and post-test showed that the difference between the pre-test and post-test of the two groups was significantly different. This is shown from the evaluation results obtained that learning outcomes using the CMC-based e-learning approach have better results when compared to conventional methods. This means that improving student learning outcomes in the community nursing process using the CMC learning method is better than using conventional methods. This means that student learning outcomes in the community nursing process using the CMC learning method are better than those using conventional methods such as the lecture method in a class. The difference in learning outcomes between the control class and the experimental class occurred because the experimental class used CMC learning and the control class used conventional methods. The advantages of using the CMC learning method are: (1) independent learning, (2) high interactivity, (3) increasing

memory levels, and (4) reducing costs. Activities in both classes during the learning process include 3 types of activities, namely preliminary activities, core activities, and closing activities.³

The implementation of this research was carried out for 3 meetings. Learning in the experimental class uses the CMC learning method, in the initial preliminary activity, the lecturer in charge of the course greets and gives apperception, at the first meeting students are given an initial test to determine students' initial abilities, at the next meeting to determine students' initial abilities, it is done by giving initial questions about the material the community nursing process lesson, then the researcher through the subject lecturer conveys the plan of activities to be carried out in the learning experimental class with the CMC learning method and the researcher communicates the indicators of learning outcomes to be achieved so that students know the competencies to be achieved after receiving the lesson. Before the learning begins, the lecturer in charge of the course motivates to arouse student interest.⁴

The activity after the introduction is the core activity. This activity begins with the researcher through the lecturer in charge of the course explaining CMC. Then the lecturer in charge of the course began to step on the learning ministry, namely about the maintenance or service of manual transmission and components. To check students' understanding, the lecturer asks questions related to the material being studied and allows students to ask questions.⁵

The last activity is the closing activity in the form of concluding the community nursing process material that has been studied with the guidance of the course lecturer. In this activity, the lecturer explains the important parts to unify the students' frame of mind, so that students can correctly conclude the material that has been given. At the third meeting of the closing activity, students were given a final test to determine the improvement in student learning outcomes that had been carried out. The test is in the form of a theory test and the ability to carry out the community nursing process including assessment,

diagnosis, preparation of interventions, implementation, and evaluation. The theory test is carried out in the classroom. Each student faces a sheet of questions and must answer theoretical questions in e-learning.⁶

While the implementation of the practical test was held in the community who had health problems, each student was tested one by one to carry out all the community nursing care processes from assessment to evaluation. In this test, students are also required to be able to answer the questions asked by the examiner and must be able to practice it. The control class does not use the Browser Based Training method but uses a conventional method, namely learning is carried out as usual by lecturers teaching every day.⁷

The preliminary activities in the control class are the same as the preliminary activities in the experimental class. The next activity is the core activity where the lecturer in charge of the course explains the subject matter and students listen and take notes on the explanation from the lecturer in charge of the course. Because only listening to students learning becomes less fun. A conducive learning climate is a backbone and driving factor that can provide the greatest attraction for the learning process, otherwise a less pleasant learning climate will cause boredom and boredom.⁸

To check the students' understanding, the lecturer in charge of the course asks questions related to the material being studied and provides opportunities for students to ask questions. Lecturers who support courses answer student questions clearly without guiding students to find their answers so that students feel that the correct answer only comes from the lecturer in charge of the course. This is because the lecturer in charge of the course conveys all the information intended for the achievement of the material being taught without involving students to play an active role in learning so that the experience gained by students is only through listening to students only as passive recipients without contributing ideas in the learning process. Learning should involve students as much as possible so that they can explore to form competencies by exploring various potentials and

scientific truths. The last activity is the closing activity in the form concluding the material that has been studied with the guidance of the course lecturer. In this activity, the course lecturer explains the important parts to unify the students' thinking framework, so that students can correctly conclude the material that has been given.⁹

At the third meeting of the closing activity, students were given a final test to determine the improvement in student learning outcomes that had been carried out. The tests are in the form of theory tests and practical tests. In the implementation of the control group theory test, students were given the same questions as the experimental group theory test, but the questions had been recorded. The implementation of practice tests in the control group is the same as the implementation of practical tests in the experimental group.¹⁰

Increasing student learning outcomes by using e-learning learning media in the community nursing process, especially with the CMC approach, is important to study or try to apply in other courses because e-learning is a form of learning model that is facilitated and supported by the use of information technology and information technology. communication. E-learning has the following characteristics: 1) has content that is relevant to the learning objectives; 2) using instructional methods, for example presenting examples and exercises to improve learning; 3) using media elements such as words and pictures to deliver learning materials; 4) allows direct learning centered on the teacher or designed for independent learning; 5) build understanding and skills related to learning objectives either individually or improve group learning performance.⁵

The application of e-learning for online learning at this time is very easy by utilizing various electronic media such as smartphones, personal computers and so on. The application of technology in learning is suspected to improve learning outcomes. Information and communication technology-based learning will run effectively if the teacher's role in learning is as a learning facilitator or making it easier for students to learn, not just as an information provider. The learning process by

utilizing information and communication technology is a guide from the teacher to facilitate effective learner learning.¹¹

Effective learning can be said to be learning that utilizes information and communication technology optimally in the learning process as a tool. One of the uses of information and communication technology in learning is to use e-learning, especially with the CMC approach which makes it easier for students and lecturers to be freer to communicate and discuss related subjects.

Conclusion

Based on the discussion above, it can be concluded that the E-Learning learning method based on Computer-based Multimedia Communication (CMC) is more effective on the learning achievement of undergraduate Nursing students, especially in the community nursing process course.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: This research has received ethical approval from STIKes Yarsi Mataram, Indonesia with Number: 5/KEP/STIKES/Y.III/II/2020

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