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**Original Article**

# *Effect of the Cooperative Learning Model through E-Module regarding Third Stage of Labor Care on the Increase in Knowledge, Skills and Learning Motivation among Midwifery D-III Students*

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***ABSTRACT***

*The era of the industrial revolution 4.0 has led to technological developments, especially in the world of education. This era emphasizes the pattern of digital economy, artificial intelligence, big data, robotics, and so on or commonly known as the phenomenon of disruptive innovation, for example the use of Android as a mobile learning medium. This study aims to determine the effect of the cooperative learning model thorugh e-module regarding third stage of labor care on the increase in knowledge, skills, and learning motivation among midwifery D-III students. This was a quantitative study with a pre-experimental approach using a two-group pre-test- post-test design. The results showed that the majority of respndents in the two groups of variables before being given treatment had poor knowledge as many as 33 respondents (73.3%) and 34 respondents (75.6%), all respondents had poor skills, and the majority had low motivation as many as 39 respondents (86.7%) and 45 respondents (100%). The statistical test for knowledge, skills and motivations variables obtained the same p value of 0.000 <0.05. Thus, the research hypothesis was accepted. There was an effect of the cooperative learning model with e-module regarding third stage of labor care on the increase in knowledge, skills and learning motivation among midwifery DIII students.*

***Keywords : Third Stage of Labor Care, E-Module, Cooperative Learning Model, Skill, Learning Motivation.***

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## INTRODUCTION

The era of the industrial revolution 4.0 has led to technological developments, especially in the world of education. This era emphasizes the pattern of digital economy, artificial intelligence, big data, robotics, and so on or commonly known as the phenomenon of disruptive innovation, for example the use of Android as a mobile learning medium. Online-based mobile learning provides opportunities for students to study anytime and anywhere. The development of cooperative learning-based modules for teaching can make a very large contribution, especially to student reading comprehension[2].

Media and learning resources are factors that can influence learning. The function of cooperative learning system is to create information media so as to deliver information more interactively and also informative. The media must be interesting, not boring but still have a significant effect in improving psychomotor, cognitive and affective aspects[14].

E-modules are electronic and practical teaching materials designed by lecturers which will later be used by students to learn the

subjects. The application of the cooperative learning model through learning media (E-Module) is expected to be able to optimize mastery of the material and increase learning motivation both in terms of knowledge and skills of students [1]. The reason for using android is because it's easy to bring anywhere and currently, almost everyone has an android. Android also has complete, open, free and easy to access application system wherever students are. Lecturers can also organize lectures without having to bring personal computers or laptops. Interaction between lecturers and students will occur easily. Students can access learning materials from lecturers anytime and anywhere by using the Android application[10].

The existence of E-modules is also expected to assist in understanding concepts in subject matter which can make it easier for students to carry out practicums and increase collaboration between students in completing assignments. Learning method using E-modules basically aims to help students or university students to achieve their learning goals independently. In turn, students will be able to develop their thinking processes and also directly increase their knowledge according to the learning topic during the lecture process[3]. The current study aims to determine the effect of the cooperative learning model through e-module regarding third stage of labor care on the increase in knowledge, skills, and learning

## METHOD

This was a quantitative study with a pre-experimental approach using a two-group pre-test- post-test design. The study was conducted at STIKES Nani Hasanuddin of Makassar. The samples were selected using total sampling. The study samples were assigned into 2 groups consisted of 45 respondents respectively. Group 1 was the treatment group using the cooperative learning model through android-based e-module, and group 2 was the control group without any treatment as the comparison group.

## RESULTS

Results of analysis on the effect of the cooperative learning model through e-module regarding third stage of labor care on the increase in knowledge, skills, and learning motivation among midwifery D-III students showed that most of respondents in the intervention group were 19-20 years in age as many as 25 respondents (55.6%), and had the last GPA of >3.00-<4.00 as many as 42 respondents (93.4%). Furthermore, most of respondents in the control group the majority were 21-25 years in age as many as 31 respondents (68.9%) and all respondents had the latest GPA of >3.00-<4.00 (100%)(Table 1).

**Table 1. Characteristics of Respondents in the Intervention Group and Control Group.**

| Characteristic | Intervention | | Control | |
|---|---|---|---|---|
| | N | % | n | % |
| Age | | | | |
| 19 – 20 years | 25 | 55.6 | 14 | 31.1 |
| 21 – 25 years | 20 | 44.4 | 31 | 68.9 |
| Total | 45 | 100 | 45 | 100 |
| GPA | | | | |
| ≤ 3.00 | 3 | 6.6 | 0 | 0 |
| > 3.00 - < 4.00 | 42 | 93.4 | 45 | 100 |
| Total | 45 | 100 | 45 | 100 |

Results regarding the level of knowledge, skills and learning motivation of students before and after treatment in the Intervention Group and Control Group showed that before being given treatment, the majority of respondents had less knowledge, namely as many as 33 respondents (73.3%) and 34 respondents (75.6%), respectively. Furthermore, all of respondents had poor skills, motivation among midwifery D-III students. and the majority of respondents had low motivation, namely as many as 39 respondents (86.7%) and 45 respondents (100%), respectively. Table 2 also showed that after study population involved 90 4th semester students of Midwifery DIII study program at STIKES Nani Hasanuddin of Makassar. The being given intervention, the majority of respondent in both groups had good knowledge,

namely as many as 38 respondents (84.4%) and 36 respondents (80.0%), respectively. In addition, the majority of respondents had moderate motivation, namely as many as 42 respondents (93.3%) and 32 respondents respectively. Regarding Skills, the majority of respondents in the intervention group had moderate skills, namely as many as 20 respondents (44.4%) and all respondents in the control group had poor skills.

**Table 2. Level of Knowledge, Skills and Learning Motivation of Students Before and After Treatment in the Intervention Group and Control Group.**

| Variable | Before Treatment | | | | After Treatment | | | |
|---|---|---|---|---|---|---|---|---|
| | Intervention | | Control | | Intervention | | Control | |
| | n | % | n | % | n | % | n | % |
| Knowledge | | | | | | | | |
| Good | 3 | 6.7 | 1 | 2.2 | 38 | 84.4 | 36 | 80.0 |
| Moderate | 9 | 20.0 | 10 | 22.2 | 6 | 13.3 | 8 | 17.8 |
| Poor | 33 | 73.3 | 34 | 75.6 | 1 | 2.2 | 1 | 2.2 |
| Total | 45 | 100 | 45 | 100 | 45 | 100 | 45 | 100 |
| Skills | | | | | | | | |
| Good | 0 | 0 | 0 | 0 | 13 | 28.9 | 0 | 0 |
| Moderate | 0 | 0 | 0 | 0 | 20 | 44.4 | 0 | 0 |
| Poor | 45 | 100 | 45 | 100 | 12 | 26.7 | 45 | 100 |
| Total | 45 | 100 | 45 | 100 | 45 | 100 | 45 | 100 |
| Motivation | | | | | | | | |
| High | 1 | 2.2 | 0 | 0 | 2 | 4.4 | 8 | 17.8 |
| Moderate | 5 | 11.1 | 0 | 0 | 42 | 93.3 | 32 | 71.1 |
| Low | 39 | 86.7 | 45 | 100 | 1 | 2.2 | 5 | 11.1 |
| Total | 45 | 100 | 45 | 100 | 45 | 100 | 45 | 100 |

Study findings regarding the effect of the cooperative learning model thorugh e-module regarding third stage of labor care on the increase in knowledge, skills, and learning motivation showed that the knowledge variable obtained a Zcount value = -8.133 and a p-value = 0.000 <0.05; the skill variable obtained a Zcount value = -5.190 and p value = 0.000 <0.05. Therefore, the study hypothesis was accepted. The cooperative learning model thorugh Android-based E-module regarding third stage of labor care had a better effect and could increase students' knowledge, skills and learning motivation.

**Table 3. Effect of the Cooperative Learning Model with E-Module regarding Third Stage of Labor Care on the Increase in Knowledge, Skills and Learning Motivation.**

| Variable | Effect of Cooperative Learning Model | |
|---|---|---|
| | Zhit | p value |
| Knowledge | -8.133 | 0.000 |
| Skill | -5.190 | 0.000 |
| Motivation | -8.258 | 0.000 |

## DISCUSSION

### Knowledge

The results showed that the Cooperative Learning Model through Android-Based E-Module (Magguru) regarsing Third Stage of Labor Care had a better effect and could increase student knowledge with a p value = 0.000 <0.05. Before the intervention using the e-module, the majority of students had poor knowledge, and after being given intervention, there was a positive change wherein the majority of students had good knowledge.

Android-based cooperative learning methods can train students to collaboratively share ideas to each other in groups so that students are trained to express their ideas during the teaching and learning process. Thus, the existence of an Android-based e-module can emphasize the participation and involvement of students, both individually and in group student which further affect the level of student knowledge. Such finding is in line with the

result of a study conducted by Kalsum[6] which found that the use of Android-based 3D science could increase students' knowledge by showing very responsive nature in learning. One of the advantages of android-based learning media is that it is able to stimulate students to think actively in learning so that it tends to increase students' knowledge.

The success of interactive e-modules in learning indicated that the use of interactive e-modules as learning media was categorized as very good with a mean score of 84.72%. The results regarding student responses also showed that all aspects of the questionnaire were categorized as very good. Thus, interactive e-modules were appropriate for use as learning media in the teaching and learning process.

According to Sidiq, R dan Najuah[14], it was explained that the Android-based cooperative learning learning system could encourage, trigger, strengthen students' interest in learning independently and the learning process would become more effective, efficient. Such condition would further increase the quality of learning and affect knowledge.

**Skills**

The result of the study showed that the cooperative learning model thorugh Android-based E-module regarding third stage of labor care had a better effect and could increase students' skills. Before the intervention using e-module, the majority of students had poor skills, and after being given intervention, there was a positive change wherein the majority of respondents had moderate skills.

This increase in skills is also due to the GPA of the respondents. Most of them had GPA of >3.00 - <4.00 by 93.4%. This data support the opinion that respondents are basically able to understand learning using e-modules, so that it is expected that students' skill may increase after the use of learning e-modules.

The result of this study is in line with a study conducted by Suarsanah and Mahayukti[15] which explained that Android-based E-modules could improve students' skills in critical thinking, problem-solving skills. Furthermore, according to Yang and Liu, learning using online-based e-modules provided a significant increase in student skills in carrying out work procedures for the second stage of labor.

**Motivation**

The results of statistical analysis revealed that age and GPA had a significant correlarion with skills (p value=0.02 <0.05). A study conducted by Rahman[12], which was conducted at the National University of Malaysia, found that there was a positive relationship between critical thinking skill and academic achievement.

The result of the study showed that the cooperative learning model thorugh Android-based E-module regarding third stage of labor care had a better effect and could increase students' learning motivation with a p value = 0.000 <0.05. Before the intervention using e-module, the majority of students had low learning motivation, and after being given intervention, there was a positive change wherein the majority of respondents had moderate learning motivation.

The cooperative learning model thorugh Android-based E-module regarding third stage of labor care had a better effect and could increase students' knowledge, skills and learning motivation. Before the intervention using the e-module, the majority of students had low learning motivation, and after being given intervention, there was a positive change wherein the majority of students had moderate learning motivation. the result of a study conducted by Vansteenkiste proved that good quality motivation could be increased by creating a teaching climate with high support characteristic for autonomy, structure, and student involvement which could be a contribution to the learning process. High learning motivation can improve student learning achievement.

According to Giantera[4], it was found that one of the external factors that influenced student learning motivation was environmental condition. The school's physical environment, facilities and infrastructure need to be organized and managed so as to create fun situation and make students feel comfortable to learn. In this case, the facilities and infrastructure used are regarding the use of e-modules based on problem-based learning method.

**CONCLUSION**

Cooperative Learning Model through Android-Based E-Module regarding the Third Stage of Labor Care had a better effect and

could increase students' knowledge, skills and learning motivation. Thus, E-module can be used as one of the learning materials for teachers to deliver subjects towards students so that they are motivated to take part in lectures regularly and their knowledge and skills may further increase. Future researchers should use the E-module in other subjects besides childbirth care, so as to increase students' knowledge, skills, and learning motivation in various subjects.

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**CONFLICTS OF INTEREST**

The authors declare no conflict of interest.

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