

E-LEARNING SATISFACTION ANALYSIS OF CLINICAL ROTATION NURSING STUDENTS

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ABSTRACT

Objective: To identify the learning satisfaction of clinical rotation nursing management students. **Methods:** A descriptive study took place in a class of clinical rotation nursing management. Participants were 22 female clinical rotation nursing student who were in the nursing management stage period September-October 2017. Eligible criteria for the students are voluntary participating in the research, fully engaged in the whole learning activities and following brief introduction and course evaluation. Research instrument is the form of learning satisfaction questionnaire developed by Center of Innovation and Academic Policy UGM. Validity test incorporate product moment resulting 13 valid items. 10 items required modification to meet the validity. Cronbach's Alpha reliability test yields internal consistency value of 0.839. Data analyses were using frequency distribution with means considered as cutoff point. **Results:** Clinical rotation nursing students have a similar learning satisfaction between high and low (50%: 50%). **Discussion:** Based on 4 attributes of the questionnaire, the majority of respondents have high satisfaction on the aspect of online assignment (54.5%), aspect of online lecture materials and eLearning facilities have the same satisfaction (50%: 50%) and the online discussion aspect of the majority of respondents have low satisfaction (54.5 %). **Conclusion:** Clinical rotation students in nursing management show the same level of satisfaction between high and low on e-learning. Development of learning media and electronic learning delivery methods required to value the benefits in the future.

Keywords: clinical rotation; e-learning; nursing student; students' satisfaction.

INTRODUCTION

Professional education programs, also called clinical learning process offers implementation of professional education in real setting practice areas such as hospitals, health centers, families, and communities (Gcawu & Rooyen, 2022). At these places students are expected to be able to carry out various clinical skills. Communication skills, interpersonal relationships, problem solving, and other various skills are competencies that must be owned by nurses who have passed clinical rotation education (Asosiasi Institusi Pendidikan Ners Indonesia, 2016). In a form of competency-based education, students were evaluated on what has been learned in specific time to reach a learning goal. Students demanded to achieve completion of work in a

finite timeframe or in environment where the learning process occurs (Elsevier Education, 2014).

In the course of clinical rotation nursing education, students are programmed to practice their management competencies. This practice is organized in the management stage. In this learning, students are expected to have main competence to perform role of nurse managers by applying management functions in the treatment room. Achievement of these competencies is obtained in groups to make a change through the assessment and analysis of the obtained data by the student's group (School of Nursing, Faculty of Medicine UGM, 2017).

The development of information and communication technology (ICT) now able to be utilized as a promoting tool in the process of

teaching and learning in the higher education, especially in nursing education (Ministry of Research Technology and Higher Education Republic Indonesia, 2014). The application of electronic learning (e-Learning) in institutions of higher education and health education has also been widely applied and shown its effectiveness in supporting health education (Ongor & Unsusloy, 2023). Several benefits identified including blended learning as a part of electronic learning promote students' critical thinking and satisfaction (Jang & Hong, 2016). In many ways, electronic learning embraces a student-centered-approach during the study period (Harerimana et al., 2016).

E-learning has the potential to increase learning opportunities for those who are autonomous and self-directed. Thus, e-learning encourages constructivist and active learning approaches that focus on students, not on lecturers (Moule, Ward, & Lockyer, 2010). E-learning also has the capacity to provide access and methods of educating nursing clinical skills more efficiently (Bahrambeygi et al., 2019). IT-based learning in a broader geographical area enhances health practitioner's knowledge without limitation of time and border (Vaona et al., 2018). Accessibility toward virtual library, opportunity to collaborate with peers, more objective evaluation and flat-hierarchy communication in the system enable students to gain more benefit from e-learning (Oproiu, 2015).

School of Nursing, Faculty of Medicine, Universitas Gadjah Mada (UGM), develops learning innovation through e-learning in order to improve student competence with support from Grant of Indonesia Online Learning System (SPADA). Blended learning through Learning Management System (LMS) e-learning: Open for Knowledge Sharing (eLOK) UGM is intended to facilitate learning activities through the provision of online materials, discussions and assignments and also

active communication to contribute to solving problems or constraints faced by students during the execution of management function.

Evaluation of learning programs is necessary to provide input for decision makers in order to improve the quality, performance, or productivity of an institution in implementing the program (Ministry of Research Technology and Higher Education Republic Indonesia, 2014). Kirkpatrick wrote *Evaluating Training Programs: The Four Levels*. Evaluation in the implementation of the program consists of four levels: Reaction, Learning, Behavior, and Results. This study evaluates level 1, the evaluation of the reaction. This level measures participants' reactions to program implementation. Reaction is the quantity of how much the participant feels about the following learning program (Cahapay, 2021). Evaluation of user satisfaction is one of measurement tools in the success of e-learning system on the practice of clinical rotation nursing management.

The current study aimed to identify the clinical rotation nursing management students' learning satisfaction during their practices. Satisfaction measured as how students' opinion toward the program execution and management at Learning Management System: e-learning: Open for Knowledge Sharing (eLOK) UGM.

METHODS

This research is a descriptive study with cross sectional design. Participants of the research were clinical rotation nursing students and willing to participate in the study. Involved students fully contribute to the blended learning activities and followed pre-post events (briefing and evaluation). Respondents were taken in total sampling as many as 22 female clinical rotation students and were in clinical rotation of nursing management stage in the School of Nursing, Faculty of Medicine, Universitas Gadjah Mada, Indonesia period September-

October 2017.

A blended learning method implemented during the course. Combined learning activity encompasses classical and online interactions. Briefing and debriefing took place as a face-to-face learning method, while assignment, multimedia resources and discussion channel provided to boost students' knowledge in an e-learning platform. Specific to this study, evaluation based on the student's satisfaction toward implementation of e-learning course in clinical rotation nursing management stage.

Survey questionnaire distributed to the research participants. The evaluation focused on electronic learning implementation in the clinical rotation program. Assessment of the study based on the framework of electronic learning in a clinical environment. This study linear to Center for Innovation and Academic Policy UGM evaluation guideline incorporate items from Grant of Indonesia Online Learning System.

The instrument used in this study was a form of learning satisfaction questionnaire developed by Center of Innovation and Academic Policy UGM (2019). The questionnaire consists of 4 attributes of (1) online assignment, (2) online lecture materials, (3) e-learning facilities and (4) online discussions. Assessment of satisfaction attributes is done through relevance to the topic of lectures, benefits in the ease of achieving competence, increasing the spirit of learning, diversity and ease of access. A product moment validity test ($r_{table} = 0.432$; $\alpha = 0.05$) generates 13 valid

items. Remaining evaluation items modified in order to comply with the criteria. The reliability test in this study employed Cronbach's Alpha and generated internal consistency 0.839. Descriptive statistics in a frequency distribution displayed the study results. Due to parametric data discovered from the results, mean treated as cutoff point (normal distribution).

This study conforms to several ethical considerations. Prior to survey, an informed consent acquired from the students as a legal-formal-standard for the study. A confidentiality declaration was made to ensure privacy data processing. In addition, compensation was given as a reward for students' participation. Ethical approval granted from Indonesian National Nurses Association.

RESULTS

All of the participants were female nursing students and have no previous experience in the e-learning courses at clinical rotation nursing program. Participant's average age was 22.9 years old with $SD = 0.75018$. A total of 22 students have similar learning satisfaction between high and low (50%: 50%). Mean 66.32 identified as a cutoff point with a minimum value 23 and maximum value 92 (see table 1)

In the online lecture material, the students' satisfaction of School of Nursing, Faculty of Medicine UGM towards e-learning as a whole has a similar learning satisfaction, which is 50%: 50%. The distribution of categories is based on the mean value of online lecture

Table 1. e-learning Satisfaction of Clinical Rotation Nursing Student (n = 22)

Attributes	Fair		Less		Mean	SD
	f	%	f	%		
1. Online lecture materials	11	50	11	50	14.77	1.69
2. Online assignment	12	54.5	10	45.5	20.18	0.58
3. Online discussion	10	45.5	12	54.5	17.18	1.56
4. E-learning facilities	11	50	11	50	14.18	1.33

Table 2. Clinical Rotation Nursing Students' Satisfaction to e-learning on the Attributes of Online lecture material (n = 22)

No	Item Question	Strongly agree		Agree		Disagree		Strongly disagree	
		f	%	f	%	f	%	f	%
1	The online lecture material is relevant to the topic of lectures	6	27.3	15	68.2	1	4.5	0	0
2	Online lecture materials help make it easier to achieve competence	3	13.6	16	72.7	3	13.6	0	0
3	Online lecture materials make more enthusiasm to learn	0	0	12	54.5	10	45.5	0	0
4	Online lecture material has an interesting design.	4	18.2	15	68.2	3	13.6	0	0
5	Online lecture material is easily accessed	2	9.1	17	77.3	3	13.6	0	0

Table 3. Clinical Rotation Nursing Students' Satisfaction to e-learning on the Online Assignment Attributes (n = 22)

No	Item Question	Strongly agree		Agree		Disagree		Strongly disagree	
		f	%	f	%	f	%	f	%
1	Online assignments are relevant to the course topic	4	18.2	18	81.8	0	0	0	0
2	Online assignment makes it easy to achieve competencies	1	4.5	19	86.4	2	9.1	0	0
3	Online assignments make the spirit more learning	0	0	12	54.5	10	45.5	0	0
4	Lecturers provide constructive feedback	3	13.6	16	72.7	3	13.6	0	0
5	Lecturers provide feedback on task / quiz not in a long time	2	9.1	18	81.8	1	4.5	1	4.5
6	Lecturers give the end of the task / quiz not in a long time	1	4.5	14	63.6	7	31.8	0	0
7	Online tasks / Quizzes are easy to find	1	4.5	17	77.3	3	13.6	1	4.5

Table 4. Clinical Rotation Nursing Students' Satisfaction to e-learning on the Attributes of Online Discussion (n = 22)

No	Item Question	Strongly agree		Agree		Disagree		Strongly disagree	
		f	%	f	%	f	%	f	%
1	Online discussions are relevant to lecture topics	2	9.1	19	86.4	1	4.5	0	0
2	Online discussions make it easier to achieve competence	0	0	19	86.4	3	13.6	0	0
3	Online discussion makes the spirit more learning	0	0	11	50.0	11	50.0	0	0
4	Lecturers provide constructive feedback	1	4.5	19	86.4	2	9.1	0	0
5	Lecturers give feedback discussion not in a long time	0	0	21	95.5	1	4.5	0	0
6	Online discussions are easily accessible	2	9.1	16	72.7	3	13.6	1	4.5

material with 14.77 (Table 1).

Furthermore, judging from the question items in the aspect of online lecture material, it is known that 17 respondents agree that online lecture material is accessible (Table 2). On the aspect of online assignment of student satisfaction of clinical rotation nursing students

School of Nursing, Faculty of Medicine UGM mostly in good category that is 54.5%. The classification of the category based on the mean value of respondents' answer on the aspect of online assignment by the score 20.18 (Table 1). Based on the constituent item of online assignment aspect, it was revealed that

Table 5. Clinical Rotation Nursing Students' Satisfaction to Facility Attributes of e-learning (n = 22)

No	Item Question	Strongly agree		Agree		Disagree		Strongly disagree	
		f	%	f	%	f	%	f	%
1	The e-learning learning feature is easy to find	1	4.5	17	77.3	4	18.2	0	0
2	The e-learning learning feature is simple and easy to operate	1	4.5	9	40.9	12	54.5	0	0
3	E-learning can be used quickly and smoothly from UGM environment	2	9.1	18	81.8	2	9.1	0	0
4	E-learning can be used quickly and smoothly outside UGM	0	0	18	81.8	4	18.2	0	0
5	The registration process is easy to do	1	4.5	20	91.0	1	4.5	0	0

19 respondents agree that online assignment makes it easier to achieve competencies (Table 3).

In the aspect of online discussion, the satisfaction of clinical rotation nursing students at School of Nursing, Faculty of Medicine UGM toward e-learning mostly in the less category by 54.5%. The distribution of categories based on the average value of respondents' answers at the online discussion aspect is 17.18 (Table 1). On the attributes of online discussion item constituent, It was known that 11 respondents disagree that online discussion makes more enthusiasm to learn (Table 4).

In the aspect of e-learning facilities, the satisfaction of clinical rotation nursing students at School of Nursing, Faculty of Medicine UGM toward e-learning has an equal learning satisfaction, which is 50%: 50%. The division of the category based on the mean value of the e-learning facility aspect of 14.18 (Table 1). Further seen from the question items in the aspect of the online lecture material, 20 respondents agree that the registration process is easy to do (Table 5).

DISCUSSION

Study results indicate balanced satisfaction among 22 students. In evaluating the training program, Cahapay (2021) measure reaction level by assessing the participants' reactions to the training program execution, and how much participant satisfaction with the implementation of the training. Education should be evaluated by encompassing students' perspectives, teachers, and administrative staff (Dent & Harden, 2021). The evaluation is necessary to address rapid intervention and correction of faults. Since nowadays innovation has been emerging an evaluation needs to be made in order to gauge whether learning improves whether changes might be occurred (Hagler & Morris, 2017). The results of the evaluation at the reaction level are used to determine the

effectiveness of the program and to improve the training program implementation in the future. To evaluate satisfaction, participants asked to react to the implementation of the training program in the form of opinions, comments, attitudes towards the instructor (mastery of material, appearance, use of methods/ media, and the ability to manage training), training facilities (quality and completeness of training facilities); management of training activities (schedule, paper, arrangement of training activities, service to participants) (Ministry of Research Technology and Higher Education Republic Indonesia, 2014). Similar to the lack of simplicity and e-learning easiness (see Table 5), technical issues, limited supervision and exposure to online material challenge the successfulness of e-learning (Harjanto & Sumunar, 2018).

The media usability in an interactive online learning environment (e-learning) is a teaching strategy that results in high satisfaction and improved self-efficacy as well as nursing student achievement. Creating a virtual learning environment with streaming video for clinical education programs is a complex process that must be carefully designed in order to have a positive effect on learning outcomes. Given the benefits gained from learning with pedagogical approaches as above, e-learning needs to be done by faculty, institutions, and students as a solution to the problems that occur in the clinical setting nursing (Azizeh & Sowan, 2014). Previous research has shown that e-learning incorporates multimedia features such as video demonstration and interactive formative activities as an effective tool in clinical skills education (Ongor & Unsusloy, 2023). As many as 72.7% of the participants indicated more support to gain competence (Table 2). In terms of electronic learning, IT-based education simplifies and improves nurse's knowledge and tends to be an alternative method (Ali, Khalil & El-Sharkawy, 2020).

E-learning had a profound impact on the accessibility of journals, articles and other scientific resources that have been integrated into the learning process. The use of e-learning in building online learning processes aimed to improve student-oriented-learning and pedagogy guiding instruction related to constructivism (Arkorful & Abaidoo, 2015). According to this study's findings, sufficient learning materials provided on the platform enable students to gain more experience (Table 2). In this context, learners' knowledge is based on the acquisition of prior knowledge, and learners are considered to play an active role in the learning process. Extensive resources availability boost learner's opportunity to attain expected competencies (Harjanto & Sumunar, 2018). For example, e-learning and mobile applications have proven positive in cognitive development with the effectiveness of e-learning in improving clinical competence (McCutcheon et al., 2015).

A similar level of satisfaction perceived by students related to the initial introduction to e-learning course. Several studies have explored the use of e-learning in nursing education (Hidayah, Lazuardi, & Lismidiati, 2017; Wahyuningrum, Pertiwi, & Harjanto, 2021). Lahti, Hätönen & Välimäki (2014) stated that the influence of e-learning on the knowledge, skill, and satisfaction of nurses and nursing students compared with the conventional method found that there is no statistically difference in the three variables.

The current study revealed that students' satisfaction was moderate. One of the contributing factors for similar levels of satisfaction and dissatisfaction is inadequate provision for e-learning. At the time of commencement, the course lacked institutional support, limited resources and insufficient individual skills. Various challenges also emerged, in a sense that clinical rotation remains focused on offline activities, which

demand direct interaction between students and instructors.

Although e-learning methods perceived equally for its benefit compared to conventional methods, they can be a flexible alternative method that meets every element of education. Yet, this study confirms flexibility and easiness of e-learning platform to support educational activity despite further improvement is necessary (Table 5). In addition, embedding video and attaching interactive materials to e-learning platform enhance students' confidence and self-efficacy (Wahyuningrum, Pertiwi & Harjanto, 2021). However, it is essential to chart the course organization from simple to complex to promote better understanding of the topics.

Zapko et al. (2017) study about the evaluation of simulation learning practice then stated that simulation can improve students' satisfaction and confidence in clinical practice. Nursing education with simulation practice in a safe and controlled environment would be an effective learning method when integrated with virtual media or e-learning either through web-based learning, mobile learning or even combination of face-to-face students with educators and electronic-based media stimulation or blended learning (Ha, 2018; Lee et al., 2019; Martini et al., 2019). Relevant to this study, students reported high satisfaction to the attractive design which improve enthusiasm to learn (Table 2).

Students have their own expectation in following the electronic learning activities. At the beginning of the brief overview, participants realized their participation was the first in the project implementation. Students have no previous experience in a blended learning situation, especially in clinical rotation nursing program. New learning interventions need to be properly introduced. This is necessary to make sure that students are able to adapt to the learning environment (Jang & Hong, 2016).

Particular to developing countries, different cultural background and lack of resources challenge students to master current learning initiatives (Harerimana et al., 2016). As shown in Table 5, students complain about connection issues due to out of campus area coverage.

This study reports similar satisfaction among students in the blended learning activity in clinical rotation nursing management program. Regardless of the novel findings, several limitations identified throughout the research. The number of research participants due to single period of rotation did not represent general population. Since the study took place in a single center nursing study, characteristics of the students, resources and clinical placement may vary among other institutions.

CONCLUSION

Clinical rotation of nursing management students show the same level of learning satisfaction between high and low towards e-learning. E-learning can be an alternative-flexible environment to meet every educational element that supports decision-making to choose appropriate methods. The proper methods impact on students' satisfaction, knowledge enhancement and support changes in nursing practice.

At the implementation, e-learning courses should be fully flexible for all of the participants. Continuity of the program demanded to engage students more in the electronic learning platform. It remains challenging to migrate the whole educational activity into electronic based. Therefore, an electronic learning course could be offered as a supplementary (mandatory) learning activity.

The learning outcomes were able to be fully achieved through the course delivery. Nevertheless, students' satisfaction and learning effectiveness need to be enhanced. Optimizing blended learning by considering a well-established instructional design for

clinical practice is necessary to gauge the advantages of the course.

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