

TUTORIAL GUIDANCE THROUGH BLENDED LEARNING IN IMPROVING AN ABILITY NURSING EDUCATION COMPETENCY

¹Musrifatul Uliyah, ²Luthfiyah Nurlaela, ³Mustaji, ⁴Abdul aziz alimul hidayat, ⁵Dede
Nasrullah

Abstract:

Purpose: to analyze the effect of tutoring through the blended learning in improving the ability in pre-test of nurses competency results.

Method: This research used pre-experimental study design, the number of respondents was 60 respondents. Samples were taken by simple random sampling. The inclusion criteria of the study sample were: final semester students who would face competency exams who were not in a sick condition. The data was collected using the nurse competency test. With a total of 120 questions with the results of the Cronbach's alpha test on the competency test variable is 0.95. The data analysis used descriptive statistics to calculate the characteristics of respondents with frequency distribution, percentage, mean and standard deviation (sd). Paired t test is used to analyze the effect of differences that were before and after tutoring through the blended learning.

Results: showed the implementation of tutoring through the blended learning that are showing differences before and after following the tutorial guidance program through blended learning, with the test value paired t test $p = 0.000$. Other results from tutoring through the blended learning are in-house training and online training services, 9 (nine) enrichment book products for nurse competency tests.

Conclusion: to improve the results of the nurse competency test that the guidance can be made in tutorials and online through program blended learning. Thus tutoring through blended learning can be used as an alternative guidance for nursing competency tests for nursing students who can prepare nurse competency tests in Indonesia.

Keywords: Competency Test, Nurses, Blended Learning, Nursing

¹ Departement of Nursing, University Muhammadiyah of Surabaya, 60113, Indonesia

² Universitas Negeri Surabaya, Indonesia

³ Universitas Negeri Surabaya, Indonesia

⁴ University Muhammadiyah of Surabaya, 60113, Indonesia

⁵ University Muhammadiyah of Surabaya, 60113, Indonesia

I. INTRODUCTION

A nurse is a part of health professional who has the knowledge, skills and authority in providing nursing care to others based on their knowledge and tips within the limits of their authority ¹. In the Decree of the Minister of Health No. 1239 / Menkes / SK / XI / 2001, said nurses if they have passed nurse education both domestically and abroad in accordance with the provisions of the applicable regulations.

Furthermore, in the Health and Nursing Law that a nursing graduate can not work if it does not have a nurse's permit, and one of the requirements for obtaining a nurse permit is to have a certificate of nurse competence test, so not all graduates Nursing education can be a direct nurse working in the ministry health but must go through a nurse competency test. The problem is the high number of non-graduate nurses competence tests for the last three years 2015-2017 amounted to 67.9% throughout Indonesia, out of a total graduate of approximately 18,810 nursing students.

The high number of nurses' competence test can also be identified from the low learning achievement, such as the data of the research results on the three nursing diploma students in East Java, including in some nursing education institutions in other districts / cities on average problem solving ability on the value of care nursing obtained 72.2, metacognitive abilities with an average of 61.9 ^{2,3}

Several solutions to overcome these problems have been made, such as improvements in learning through the development of learning models. In research Sharif explained that to improve the competence and soft skills of students applying learning model problem based learning is more effective than the lecturing method ⁴. Contextual learning is a reflective learning action that can offer nurse educators to prepare nurses to think critically in practice ⁵.

These models are using constructivism learning theory. In this case also has similarities with the learning model developed in the tutoring through blended learning, a campus intellectual product development program, developed by combining online and direct tutorial. For this reason the purpose of this research is to analyze the effect of tutorial through the blended learning in improving the ability of pre-test nurses' competency results.

II. METHODS

Design

This research used pre-experimental study design.

Participants

In this research, the number of respondents was 60 respondents. Samples were taken by simple random sampling. The inclusion criteria of the study sample were: final semester students who would face competency exams who were not in a sick condition. In this research, it was approved by the ethics institute of Muhammadiyah University of Surabaya. All respondents prior to data collection were informed consent. The data was collected using the nurse competency test. With a total of 120 questions with the results of the Cronbach's alpha test on the competency test variable is 0.95.

Data analysis

The data analysis used descriptive statistics to calculate the characteristics of respondents with frequency distribution, percentage, mean and standard deviation (sd). Paired t test is used to analyze the effect of differences that were before and after tutoring through the blended learning. All statistical analyzes used SPSS 22.0 version software (SPSS, Inc., Armonk, NY) and $p < 0.05$ were considered significant.

III. RESULTS AND DISCUSSION

Table 1 shows the demographic characteristics of the respondents, including: the percentage of the average age is 21.5 years with standard deviation (sd = 1,155), with most women (65.0%). The whole thing can be presented in table 1.

Tabel 1. Demographic characteristics of respondents (n=60)

Variable	Mean	SD
Age	21.5	1.155

	Frequency	Percentage
Sex		
Male	21	35.0
Famale	39	65.0

Table 2 shows the differences before and after following the tutorial program through the blended learning, with the test value paired t test $p = 0.000$. The details are presented in table 2.

Tabel 2. The result in pre-test of nurse competency that before and after following the tutorial guidance program through blended learning (n=60)

Variabel	Pre test		Post test		Paired samples test (sig -(2-tailed)
	Mean	SD	Mean	SD	
The results try out the competency test of nurses	6.4	.30	7.2	.60	0.000

* $p < 0.05$; 95 % CI=95 % Confidence Interval, SD=Standard Deviation

Based on the results of statistical tests with paired t test showed $p = 0.000 < \alpha = 0.05$. From the results of statistical tests, there were differences in the ability of the try out results before taking part in the tour guide through the blended learning program after following tutoring through blended learning.

Learning with the tutorial method gives students the freedom to get the material needed, the freedom of learning methods that are tailored to the learning participants, this makes it easier or more free to explain the material. The learning conditions facilitated by the tutor make the participants learn to follow the learning effectively, because there is flexibility in managing the learning time, expected goals and targets of mastery of the material ⁶⁻⁸.

Roscoe and Chi explained that learning with tutors is expected to be able to use the ability to teach and direct students to achieve solutions and understanding in accordance with predetermined targets ^{6,9}. In the learning process in tutorial there is a process of building and informing knowledge, and there is a process of integrating concepts and principles that are taught and often generate new ideas ¹⁰⁻¹². Besides being able to provide knowledge development and strengthening the understanding of knowledge so that it can improve the competency or achievement of targeted learning. Besides that, blended learning models that combine tutorial guidance methods also have an online system, which has the advantage of being very efficient because in addition to students being able to take part in learning in the classroom can also access learning materials online wherever they are. In the development of online models there are two reasons for the development of the model, including because there are advantages for students and tutors or referred to as differentiated instruction and the presence of comfort and presence or called pacing and attendance ^{8,13}.

Differentiated instruction means that tutors can determine material content, learning process activities online, and face to face based on the level of difficulty, interest and learning style, as well as determine the time for students to work in groups and also can provide additional material that is not in the online module ¹⁴. Pacing and attendance means that the students can independently determine when students learn, so that if there are obstacles students are not present in lectures so the students still have access online so that learning materials are not left behind ^{15,16}.

This is in line with the theory of constructivism, which is to understand learning as human activities to build or create knowledge by giving meaning to their knowledge in accordance with their experiences. According to this theory, the fundamental principle is that teachers or tutors not only provide knowledge to students, but play an active role in building their own knowledge in their memory. In this case, tutors can provide convenience for this process, by giving students the opportunity to find or apply their own ideas, and teach students to be aware and consciously use their own strategies for learning. In general, the meaning of learning according to constructivism is an active activity, where the students develop their own knowledge, look for the meaning of what they are learning and are the process of completing new concepts and ideas with a framework of thinking that already exists and has it ¹⁷.

In addition, Jean Piaget's theory of constructivism learning describes the process of finding theories or knowledge built from the reality of the field ¹⁷. The role of teacher / tutor / tutor in learning according to the theory of constructivism is as a facilitator. This is in line with the edurner model is a tutorial model that is done in tutorial by combining online learning system and tutorial (face to face). Thus the tutorial tutoring process is able to improve the results of the competency tests conducted.

IV. CONCLUSION

The results of the try out of the competency test for nurses can be improved through learning programs with tutorial guidance using blended learning. A program developed by combining online and direct tutoring models (tutorials) about nurse competency testing. The suggestion that can be given in this research is that the blended learning program should be used as an alternative tutoring for nurses' competency tests for nursing students who can prepare for the nurse competency test in Indonesia.

Acknowledgements

We gratefully acknowledge the support ministry of technology research and higher education Republic of Indonesia Grants for funding this campus intellectual product development program.

References

1. Cahill H. Role definition: nurse practitioners or clinicians' assistants? *British Journal of Nursing*. 1996;5(22):1382-6.
2. Wulandari D. Metode Jigsaw Sebagai Upaya Meningkatkan Hasil Belajar Ditinjau dari Kemampuan Metakognitif. *Profesi (Profesional Islam): Media Publikasi Penelitian*. 2015;12(02).
3. Yuliyanti T. Kemampuan Metakognitif, Lingkungan Dan Motivasi Belajar Meningkatkan Prestasi Akademik Mahasiswa Poltekkes Bhakti Mulia (Metacognitive Competence, Environment, And Learning Motivation Increase Students' Academic Achievement Of Bhakti Mulia Health Polyte. *IJMS-Indonesian Journal on Medical Science*. 2015;2(1).
4. Syarif H. Soft skill mahasiswa keperawatan universitas syiah kuala pada kurikulum berbasis kompetensi dan pendekatan lecturing 2011. *Idea Nursing Journal*. 2014;5(1).
5. Forneris SG, Peden-McAlpine CJ. Contextual learning: A reflective learning intervention for nursing education. *International journal of nursing education scholarship*. 2006;3(1).
6. Roscoe RD, Chi MT. Understanding tutor learning: Knowledge-building and knowledge-telling in peer tutors' explanations and questions. *Review of Educational Research*. 2007;77(4):534-74.
7. Walker E, Rummel N, Koedinger KR, editors. To tutor the tutor: Adaptive domain support for peer tutoring. *International Conference on Intelligent Tutoring Systems*; 2008: Springer.
8. Lentell H. The importance of the tutor in open and distance learning. *Rethinking learner support in distance education*: Routledge; 2004. p. 76-88.
9. Maudsley G. Roles and responsibilities of the problem based learning tutor in the undergraduate medical curriculum. *BMJ: British Medical Journal*. 1999;318(7184):657.
10. Roscoe RD, Chi MT. Tutor learning: The role of explaining and responding to questions. *Instructional Science*. 2008;36(4):321-50.
11. Matsuda N, Cohen WW, Koedinger KR, Keiser V, Raizada R, Yarzebinski E, et al., editors. Studying the effect of tutor learning using a teachable agent that asks the student tutor for explanations. *Digital Game and Intelligent Toy Enhanced Learning (DIGITEL)*, 2012 IEEE Fourth International Conference on; 2012: IEEE.

12. Neville AJ. The problem-based learning tutor: Teacher? Facilitator? Evaluator? *Medical teacher*. 1999;21(4):393-401.
13. Alevan VA, Koedinger KR. An effective metacognitive strategy: Learning by doing and explaining with a computer-based Cognitive Tutor. *Cognitive science*. 2002;26(2):147-79.
14. Andini DW. "Differentiated Instruction " solusi pembelajaran dalam keberagaman siswa di kelas inklusif. *TRIHAYU Jurnal Pendidikan Ke-SD-an*. 2016;2(3).
15. Darmawan D. *Inovasi Pendidikan: Pendekatan Praktik Teknologi Multimedia dan Pembelajaran Online*: PT Remaja Rosdakarya; 2014.
16. Rowntree D. Teaching and learning online: a correspondence education for the 21st century? *British journal of educational technology*. 1995;26(3):205-15.
17. Shymansky JA. Using constructivist ideas to teach science teachers about constructivist ideas, or teachers are students too! *Journal of Science Teacher Education*. 1992;3(2):53-7.