

Conference Paper

Evaluating Preceptee's Learning Achievements During the Covid-19 Pandemic

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Abstract

Since the beginning of the Covid-19 pandemic, higher education institutions in Indonesia have had to revise their learning management systems to ensure they can be accessed from anywhere and anytime by students and lecturers. This study aims to evaluate whether there is a difference in learning achievement by Nursing Students in the professional stage (Ners Preceptee) when comparing offline learning programs with online programs. The independent variable is learning method; the dependent variable is learning achievement. A cross-sectional study design was conducted through a secondary data. This study used two different groups, in which preceptees' score' within offline learning programs and online learning programs were compared in June 2020. A total of 52 Ners Preceptee scores were analyzed by using Mann-Whitney U test. The result revealed that significant differences exists in median Learning Achievement scores between the online group and offline group ($p = 0.002$). It can be concluded that Learning Management Systems including supporting facilities can have an impact on student learning outcomes.

Keywords: Learning, Method, Covid-19, Ners, Profession.

1. Introduction

The Covid-19 pandemic is an outbreak that has occurred globally throughout the world, including Indonesia. COVID-19 is an infectious disease caused by acute respiratory syndrome coronavirus 2 (severe acute respiratory syndrome Coronavirus 2 or SARS CoV-2). This group of viruses belongs to the Coronavirus family that can attack animals. When it attacks humans, Coronavirus usually causes respiratory infections, such as flu, MERS (Middle East Respiratory Syndrome), and SARS (Severe Acute Respiratory Syndrome). COVID-19 itself is a new type of coronavirus found in Wuhan, Hubei, China at the end of 2019 [1]. Several policies and regulations were made by the government which ultimately had an impact on changing aspects of human life, one of which was education. The government requires that educational institutions work from home and

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study from home in order to reduce people's contact massively so as to minimize the spread of the Covid-19 virus.

Nursing education in Indonesia refers to UU No. 20, of 2003 concerning the National Education System, which states that Professional Education is higher education after the undergraduate program that prepares students to have jobs with special skill requirements. Learning is a process of attaining knowledge, skills and performance. Therefore, the learning process is ultimately considered one of the fundamental pillars of changing people's behavior [2].

The learning method used to achieve skills in the nurse profession, direct practice in the hospital area, which will train students' psychomotor / skills / competencies in the nursing field. The nurse profession stage is a learning style that focuses on education in a clinical setting that uses clinical staff as a role model. The aim of this method is to allow students adapt to their roles, develop clinical skills and socialize in the workplace. Preceptorship is to prepare nursing students for the multifaceted role of professional nurse, the learning process involves components that will provide a solid foundation for developing clinical judgment and clinical reasoning skills. In other words, the student must learn to think like a nurse, or how does one begin to think like a nurse. Unfortunately, the learning method during a pandemic become a different learning style, when the government issued a policy to implement online learning at all stages of education. The learning method chosen can be in the form of case studies, discussions, bedside videos teaching, making health education media, clinical tutorials, scientific journal presentations and others. Expectantly, when the emergency period ends, the time is used for achieving the target of learning / skills that must be done by the demonstration method and skills testing in real cases.

Online learning is a form of distance learning that utilizes the internet and digital media in delivering material [3]. While the offline method is a learning that is done face-to-face and field practice which is done directly by students. Therefore, it can be assumed that online and offline learning can have a direct impact on student achievement. According to Pei & Wu, to ensure the effectiveness of online learning, digital learning design principles, materials, learning objectives, and student preferences and characteristics must be rigorously evaluated [4]. Online learning can be an effective alternative to learning, but it must be realized that the method has unique advantages and disadvantages. Various obstacles can arise in online learning, especially constraints on facilities and resources [5].

Student achievement is an integral part of the learning process experienced by students. Where the learning is a process and achievement is the result of that process.

According to Atta & Alqahtani, the results of their research show that when the learning achievement of medical students tends to be low, this is because of lack of tools and equipment that support learning; and it is necessary to modify learning methods to increase interaction and discussion between students and lecturers [6]. It will be imperative that faculty continually “rethink” their approach to “teaching” and use varied learning methods to meet the needs of all students.

Components of learning style are the cognitive, affective, and physiologic elements, all of which may be influenced by a person’s cultural background. Faculty should put effort into matching instruction to the content they are teaching and the expected learning outcomes. Nurse educators are challenged to identify learning-style preferences and develop appropriate learning experiences to match content that will meet the complex needs of the current nursing student. Therefore, learning style preferences and strategies should be identified early in the undergraduate nursing curriculum with the intent to empower individual students to use their knowledge of learning style preferences to achieve positive outcomes. On the other hand, as a group, underrepresented minority students and nontraditional students have diverse learning style and cultural learning preferences. Acknowledgment of diverse students’ learning styles enhances the learning environment while supporting academic achievement [7].

Before WHO declared COVID-19 pandemic, the nurse professional study program at STIK Indonesia Jaya was still implementing face-to-face learning. Curriculum design and online learning support facilities have never been prepared. Since the world was declared a pandemic, educational institutions have been required to carry out an online learning program, even though with contrasting conditions that institutions, lecturers and students are still not ready. This study aims to evaluate whether a difference in learning achievement of Ners preceptee within offline learning method than online learning method.

2. Methods and Equipment

2.1. Method

This research is an analytic observational study, with a cross sectional design.

2.2. Type of Data

Data was collected by using a student's grade sheet (secondary data), obtained from the evaluation section of Nurse professional study program for the 2019 - 2020 academic year. Student scores used in this study were data before the pandemic and during the pandemic. They were in a different clinical stage and different student group. Before pandemic, the students were in Professional Basic Nursing Stage. During pandemic the students were in Pediatric Nursing Stage. Student scores of offline learning method came from non-regular student (before pandemic, on February 2020). Meanwhile, student scores of online learning method came from regular student (after pandemic, on June 2020).

Before pandemic, the learning process was face-to-face, going directly to the practice area (hospital / health center area). Meanwhile during pandemic, the learning process uses virtual cases made by lecturers, then students compile case reports based on these cases. During the pandemic, the discussion process was also held online, via Google meets / Zoom / WhatsApp video call. Students are also given assignments to make health promotion videos, which seem to be done in front of patients or the community.

In this study, the independent variable is the learning method. The methods of mentoring the preceptees in carrying out the nurse professional program; which offline learning method and online learning method. While, dependent variable is learning achievement. Achievement is an outcome obtained by the preceptee after the mentoring process. Students learning achievement (as a formative evaluation) were measured by three domains include theoretical concept of disease, nursing process and their performance while presentation.

2.3. Population and Sample

The population of this research is the nursing students in the professional stage and 52 students obtained as a sample. All student scores are used as data in this study. This study used two different groups, in which preceptee's score within offline learning method (32 students) and online learning method (20 students). Student scores are arranged in order of values 0 -100.

2.4. Data analysis

Data were analyzed by using SPSS 25 for Windows and statistical tests used the Mann-Whitney as bivariate test. Mann-Whitney test was chosen to measure the differences between the means of two unrelated groups. Before analyzing data using Mann-Whitney test, Shapiro-Wilk normality test must be done. The results of the Shapiro-Wilk normality test showed that the data were not normally distributed. Consequently, statistical tests were carried out using the Mann-Whitney bivariate test.

3. Results

A total of 52 student scores were analyzed by using Mann - Whitney U test. H_0 is accepted if the probability value is significant > 0.05 and H_0 is rejected if the significant probability value is < 0.05 . Table 1 shows that the P value = 0.002. Therefore $p < 0.05$, it means there is a significant difference in student achievement scores between the online and offline groups. Finding indicates that preceptees who use offline learning method significantly difference in learning achievement score than preceptees within online learning method. The following are the results of the Mann - Whitney U test:

TABLE 1: Distribution of Respondents Based on Research Variables.

Learning Methods	N	Variable	P
		Learning achievement	
Offline learning	32	21,25	*0,002
Online learning	20	34,90	

4. Discussion

This research study was a survey conducted by the Ners Profession Study Program to evaluate the learning process of students. Because during pandemic, Ners Profession Study Program was applying online learning method, which was being applied for the first time. This study included fifty-two nursing students as a primary target sample, and they score as a secondary target sample. These respondents completed the course within the past 9 and 5 months (before pandemic and during pandemic). The result of this research study revealed that significant difference exists in median Learning Achievement scores between offline group and online group. Hence, it can be assumed that The Learning Management System including supporting facilities can have an impact on student learning outcomes.

According to Dale (1946), “the Cone of Experience model” shows the progression of experiences from the most concrete (at the bottom of the cone) to the most abstract (at the top of the cone). The Cone of Experience purports to inform readers of how much people remember based on how they encounter the information. The Model shows, there are 3 level of cone included base, middle and up (it reveals that “do, show, tell” in experience). The least effective method at the top, involves learning from information presented through verbal symbols, i.e., listening to spoken words. The most effective methods at the bottom, involves direct, purposeful learning experiences, such as hands-on or field experience. Direct purposeful experiences represent reality or the closet things to real, everyday life [8].

Some literature also explains that Nursing student in a profession stage called Preceptee of Ners should be provided with a basic foundation in such areas as nursing history, theory, philosophy, socialization into the nursing role, professional development, the social context of nursing, and professional nursing competencies. Based on American Nurses Association, 2015, competence has been defined as the ability to demonstrate an integration of knowledge, attitudes, and skills necessary to function in a specific role and work setting. As applied to nursing, competence is an expected and measurable level of nursing performance that integrates knowledge, skills, abilities, and judgment; based on established scientific knowledge and expectations for nursing practice [9, 10]. On the other hand, the construction of curriculum and teaching–learning methodologies must be linked with students need [7].

Based on previous research study, there were many things that affect a person’s knowledge, include experience, learning style, motivation, infrastructure, curriculum design – teaching method, technology and learning management system [11 – 21]. There are some pros related to this topic, especially online and offline learning methods as found in several studies.

John Traxler (2017), in his study stated that the universities and colleges are under unprecedented pressures, where the technologies and trends of educational technology represent a crowded and chaotic space and where a critical examination of distance learning is necessary to underpin its methods and its mission [19]. Since the first of positive case (Covid -19) in Indonesia was identified on March 2, 2020, it has changed lives and policies, include the education sector where teaching and learning processes that are usually in classroom must be done through e-learning. This has an impact on, the learning process is not limited by time and space. But, the implementation of the new system is not easy because it requires the readiness of lecturers, students, and complete facilities. Iskandar (2020) found that the effectiveness of online method was

55.6% effective and 44.4% ineffective. It can be concluded that the e-learning system (in pandemic) has been accepted by the Nursing Academics of Abulyatama University, Aceh [24].

Lee (2016) study from Seoul, show that using mobile devices (video clips learning) are useful tools that educate student nurses on relevant clinical skills and improve learning outcomes. Because, technology-enhanced learning, especially using mobile devices, has the potential to aid in educating the younger generations [22]. Sukardi (2019), stated that the effort that can be done to improve the effectiveness of the learning process is to make additional interaction extensions outside the classroom. In this case, information technology can be used for learning. The use of information technology that has the same function as conventional learning is available in online learning. The study revealed that Student learning outcomes using the blended learning model are higher than students who use the conventional learning method in Palangka Raya [23].

Shu-Chen Yen (2017), show that students performed equally well on all three examinations, research paper, and the overall course total grade across three teaching modalities; allaying traditional reservations about online and blended teaching efficacy. The study was to compare three leaning method: face-to-face, online, and blended teaching. The result show that students from the three modalities were equally satisfied with their learning experiences. A Two-Factor Model identifying Face-to-Face interaction and learn on demand (Flexibility) as factors determining student academic outcomes [15]. Distance learning within the wider context of the global technological and economic, against the context of specific educational. This has not been easy since these trends are characterized by fragmentation and diversification. Thus, the providers / the funders, the managers and the trainers of distance learning, must to consider through their planning for individual programs and institutions [19].

On the other hand, there is a gap of knowledge related to this topic, where several studies have shown results that are not in line with previous studies. Those who are not accustomed to working online (familiar with internet), or for some people who are not interested in visual learning methods, will feel obstacles and difficult to adapt to online learning methods.

Riaz (2018) study from France, proved that the nonverbal cues are missing in online learning hence the encoding and decoding process is affected. Encoding is a process in learning and memory which involves using sensory input to transfer information to memory while decoding is a process which consists of the interpretation of the coded data. Since the e-learning does not involve face-to-face physical interaction between students and teachers, it may create some communication barriers. Such communication

barriers may affect the process of encoding and decoding. The researcher concludes that online medium affects the encoding and decoding process of student and teachers. Also, there is no significant association in the encoding and decoding process between the student and teachers [18]. Some things that become obstacles in the application of online learning in Lombok, include limited internet quota and the unfamiliar teaching staff and students in applying it. So that there is a need for more massive special efforts to overcome this problem, they were starting from each individual, family support, educational institutions, service providers, and government. One learning approach that can maximize online learning is project-based learning. This learning provides opportunities for students to learn concepts in depth while also being able to improve their learning outcomes [25].

The online learning process is also supported by network access, if students live in areas that have limited internet access, the learning process cannot run effectively and efficiently. Yesita (2018), revealed that blended learning learning methods have not been effective for improving cognitive learners; however, the blended learning method can increase the learning motivation of Nursing students at STIKES An Nur Purwodadi [26]. Furthermore, since the online learning does not involve face-to-face physical interaction between students and teachers, it may create some communication barriers during learning process.

Health teaching is a primary component of nursing practice and a dimension of nurse caring, nurses are legally and professionally expected to teach. Simulation can help nursing students broaden their knowledge of the teaching-learning process, identify common experiences, generate explanations and analyses, and address a number of issues important to their practice experiences. The student-centered case study method of teaching has also been used extensively in schools of business, law, and medicine, and may present actual problems encountered by practitioners. Learners analyze and discuss cases, retrace and critique steps taken by the characters, try to deduce outcomes, and apply didactic content and theory to the case, all of which enhance critical thinking, problem-solving skills, retention, and recall. Case studies can be modified to the discipline and students' learning stage and, therefore, are particularly suitable for adult learners who desire peer interaction, recognition of prior experience, connection to everyday situations, active participation, and validation of thinking [27, 28].

5. Conclusion

Based on the result, there was a difference in student achievement between two groups (online and offline method). Therefore, the learning process must be prepared at the beginning of the teaching and learning process. The process that is applied in the institution greatly impacts students as the output of the existing learning process. The curriculum must be redesigned if the institution changes its vision and mission, or when locally - globally disaster / pandemic occurs. The Institution needs to pay attention to human resources who will implement the determined several programs. Because human resources are the capital of institutions, as well as the infrastructure and the learning management system. The Institution must always consider those things and must remain innovative to achieve goals.

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Conflict of Interest

The authors have no conflict of interest to declare.

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