

The correlation between blended learning motivation with knowledge and learning satisfaction among nursing students

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ABSTRACT

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Background: Blended learning is a new system that combines face-to-face and online learning. This new system in the Muhammadiyah Purwokerto University (UMP) requires evaluations from the students' feedback. Students' motivation was the influential factor on both accomplishments and presences in online learning. Students' motivation, satisfaction, and knowledge of blended learning were the components for the effectiveness of the course.

Objective: The study aims to describe the level of motivation, knowledge, and learning satisfaction, and also to observe the correlation of motivation on blended learning with knowledge and learning satisfaction.

Methods: This quantitative research used a cross-sectional approach. Data collection techniques used were questionnaires in the google form. The researcher made the questionnaire and has been tested for validity on 30 respondents with r-value of >0.3 (Pearson product-moment). Cronbach alpha for the reliability was ranged from 0.750 to 0.828, so it is valid and reliable to use. The sample was 254 nursing students from the 3rd, 5th, and 7th semesters selected by quota sampling. Data were analyzed by Pearson product-moment correlation.

Results: The results showed that students obtained moderate motivation (71.3%), knowledge (81.5%), and satisfaction (70.5%). There was a significant correlation between motivation with knowledge ($r=0.650$, $p<0.01$) and learning satisfaction ($r=0.636$, $p<0.01$) on blended learning.

Conclusion: The blended learning method can be used as a teaching and learning method for future nursing education, followed by evaluation. Furthermore, the lecturer should consider the students' characteristics and expectations toward blended learning.

Latar Belakang: Blended learning merupakan sistem baru yang menggabungkan pembelajaran tatap muka dan online. Sistem baru di Universitas Muhammadiyah Purwokerto (UMP) ini membutuhkan evaluasi dari umpan balik mahasiswa. Motivasi siswa adalah faktor yang berpengaruh pada prestasi dan kehadiran dalam pembelajaran online. Motivasi, kepuasan, dan pengetahuan siswa tentang blended learning adalah komponen untuk efektivitas pembelajaran.

Tujuan: Penelitian ini bertujuan untuk mendeskripsikan tingkat motivasi, pengetahuan, dan kepuasan belajar, serta untuk mengetahui hubungan motivasi blended learning dengan pengetahuan dan kepuasan belajar.

Metode: Penelitian kuantitatif ini menggunakan pendekatan cross sectional. Teknik pengumpulan data menggunakan kuesioner dalam bentuk google form yang dibuat peneliti membuat kuesioner dan telah diuji validitas pada 30 responden dengan nilai $r > 0,3$ (Pearson product-moment). Uji reliabilitas menggunakan Cronbach alpha dengan nilai antara 0,750-0,828, sehingga valid dan reliabel untuk digunakan. Sampel penelitian ini adalah 254 mahasiswa keperawatan semester 3, 5, dan 7 yang dipilih dengan quota sampling. Analisis data menggunakan korelasi Pearson product-moment.

Hasil: Hasil penelitian menunjukkan mahasiswa memiliki tingkat sedang pada motivasi (71,3%), pengetahuan (81,5%), dan kepuasan (70,5%). Terdapat hubungan yang signifikan antara motivasi dengan pengetahuan ($r=0.650$, $p<0.01$) dan kepuasan belajar ($r=0.636$, $p<0.01$) pada blended learning.

Kesimpulan: Metode blended learning dapat digunakan sebagai metode belajar mengajar untuk pendidikan keperawatan masa depan, diikuti dengan evaluasi. Selanjutnya, dosen harus mempertimbangkan karakteristik dan harapan mahasiswa terhadap metode blended learning.

INTRODUCTION

In the fourth industrial revolution, information and communication technology advanced quickly and was simple to use, specifically for the internet technology that provides information and knowledge. Digital transformation through the internet and information technologies is widespread in higher education.¹ The wide availability of Information and Communication Technologies (ICT) has turned Higher Education Institutions (HEIs) learning environments that enhance the student's learning experience and individual preference for independent learning in the classroom.² One of the popular learning approaches in higher education is blended learning.³ The quality of online learning needs to be improved and perceived as equal to the traditional classroom. The blended learning method can assist in achieving the best possible balance of education between high technology and high touch in e-education.⁴ Blended learning is a new method of education that blends online and face-to-face learning.⁵ Applying blended learning can minimize conventional learning

problems that are less able to facilitate a variety of student characteristics.

The blended learning method can also complement and support the materials that have not been conveyed while learning in class. It is essential to develop and enhance student involvement in the course because students should actively follow the advancement on campus.⁶ According to Stein⁷, although the development of e-learning shows an increasing trend, a face-to-face meeting is still considered necessary. In the Nursing Program, blended learning has been applied and proven to significantly improve knowledge to students⁸, of nursing students and their emotional attitude.⁹ According to Kintu, there are several significant learner outcome factors in blended learning: motivation, knowledge, satisfaction, structure, and achievement.¹⁰ The positive impact on students' motivation and performance in blended learning made its trending among institutions, studied by Lu et al.¹¹ Najafi et al., stated that the effective factor on both accomplishments and performances in online learning was student's motivation.¹² There are weaknesses of online-based learning. The media used in online learning must be available, and the variation of media can cause difficulties in applying the method because the facilities and infrastructures do not support it. Moreover, the lecturers or instructors lacked knowledge, learning resources, and skills regarding the technology. All of those inhibit the process of delivering information through blended learning. To better understand the possibilities in blended learning and the instructor's concern, It is necessary to have further study or investigation.¹³

Even though some research tools showed prospects for blended learning impact, it has been investigated how the effectiveness of the blended learning method. Studies showed that online learning results in poorer levels of student satisfaction, which has been linked to a loss of social presence, instructor feedback, and a failure to reflect the students' learning preferences, Sherman et al., which shows that blended learning can increase knowledge of nursing

students.^{8,13-15} There were absolute needs to facilitate blended learning in the institutions that were supposed to have transparent and supportive institutional policies, leadership, and practice regarding blended learning sessions.⁴ Science and technology get more advance in various areas, bringing changes, especially improving the quality of education. So, knowledge is essential and inevitable nowadays. One of the prevention for disadvantages of this method that are not optimal is to do an evaluation. The objective of this study was to describe the level of motivation, knowledge, and learning satisfaction in blended learning and to determine the effect of motivation on the Blended learning method towards knowledge and learning satisfaction.

METHODS

Research design and subject

This was a cross-sectional study that applied a descriptive method with correlational type, which collected the data at a specific time. The researchers collected the data after the blended learning was conducted. The study was located in the Nursing department, faculty of Health Science UMP. This research was carried out in November 2019 and selected samples from 3rd, 5th, and 7th-semester students. The inclusion criteria of this study were the student who experienced blended learning in at least one semester. The exclusion criteria were the student who did not participate in blended learning. The population in this research was 696 students in the bachelor nursing program. The whole population was taken 254 students as a sample in the research. The sampling technique in this study was quota sampling. There are samples taken from each semester that has been determined the quota. Quota sampling is a technique in determining the quota of each level population based on signs that influence the variables to be investigated, so it is determining the subject based on a predetermined capacity.¹⁶

Measurements

In this study, motivation was the independent variable, while student learning satisfaction

and knowledge were the dependent variables. The principal data collection techniques used in this research were questionnaires. The researcher made the questionnaire based on the concepts of motivation, knowledge, and satisfaction of blended learning. Motivation questionnaire with sub-component indicators of desire and willingness to succeed, encourage and need in learning, expectation, and goal in the future, reward in a learning session, and blended learning environment. The knowledge questionnaire was based on the concept of knowledge using the taxonomy bloom indicators: knowing, understanding, applying, analyzing, evaluating, and synthesizing in general subjects using the blended learning method. Satisfaction questionnaires were based on sub-component indicators tangible, reliability, responsiveness, assurance, and empathy in blended learning.

The questionnaire scale used a Likert answer, then the categories of motivation, knowledge, and satisfaction based on the scores obtained were then categorized into high ($X > \text{mean} + \text{SD}$), medium ($\text{mean} + \text{SD} > X > \text{mean} - \text{SD}$), and low ($X < \text{mean} - \text{SD}$). Bivariate analysis was based on the total score of the questionnaire used in the product-moment test. The questionnaire has been tested for validity on 30 students in the 5th semester with an r-value of >0.3 (Pearson product-moment). The reliability test used the Cronbach Alpha method, which ranged from 0.750 to 0.828, so it was valid and reliable to use. Skewness and Kurtosis were applied to analyze the normality test. Skewness and Kurtosis values between -2 and +2 showed a substantially normal distribution. The questionnaire was given to the 3rd, 5th, and 7th semesters who joined the blended learning sections, excluding students in the reliability test.

Statistical analysis

This research used univariate analysis techniques to describe the characteristics of respondents (3rd, 5th, and 7th) and level of motivation, knowledge, and satisfaction. Bivariate analysis used the Pearson correlation test to determine the correlation between

motivation with knowledge and blended learning satisfaction.

Ethical clearance

This study obtained approval from the health research ethics committee at the UMP No: KEPK/UMP/21/XI/2019. The aims of the study were explained to the participants. All student's data was kept confidential and only used for research purposes.

RESULTS

The sociodemographic of the participant was summarized and reported in Table 1. The majority of students were female (73.6%), the mean of ages (19.99), the participants from 3rd semester (40.2%), 5th semester (30.3%) and 7th semester (29.5%), majority of students used handphone as media (73.2%) and data cellular for the network (65.7%).

Table 1. Characteristics of the subjects

Characteristic	Categories	N (%)	%	Mean ± SD
Gender	Male	67	26.4	
	Female	187	73.6	
Age, year (mean, SD)				19.99±1.109
Semester of study	3rd Semester	102	40.2	
	5th Semester	77	30.3	
	7th Semester	75	29.5	
Media	Handphone	186	73.2	
	Laptop	68	26.8	
Network	Data Cellular	167	65.7	
	Wi-Fi	87	34.3	

Generally, the population obtained moderate knowledge, on average 207(81.5%), followed by high knowledge 36(14.2%), and low knowledge 11(4.3%) on blended learning. The majority of the subject population recorded moderate motivation, on average 181(71.3%), followed by high motivation 58(22.8%), and low motivation

15(5.9%) on blended learning. Generally, the subject population discovered moderate learning satisfaction, on average 179(70.5%), followed by high learning satisfaction 71(28%), and low learning satisfaction 4(1.6%) on blended learning (Table 2).

Table 2. Descriptive level of motivation, knowledge, and learning satisfaction

Category	N	%
Motivation	High	5.9
	Medium	71.3
	Low	22.8
Knowledge	High	4.3
	Medium	81.5
	Low	14.2
Learning satisfaction	High	1.6
	Medium	70.5
	Low	28

In this study, Pearson's correlation was used to analyze the relationship between three dimensions: motivation, knowledge, and learning satisfaction. The independent variable, knowledge ($r=0.65$, $p<0.01$) correlated with the dependent variable, motivation on blended

learning, interpreted as a moderate correlation. Whereas, learning satisfaction also showed correlation ($r=0.636$, $p<0.01$) to motivation, interpreted as moderated correlation. The knowledge variable showed a higher correlation than learning satisfaction (Table 3).

Table 3. The correlation between motivation with knowledge and learning satisfaction

Variable	r Pearson correlation	p-value (sig)
Knowledge	0.650**	0.001
Learning Satisfaction	0.636**	0.001

DISCUSSION

The majority of the respondents obtained moderate knowledge of blended learning. It was supported by Chang et al.¹⁷, the findings revealed that blended learning could effectively improve nursing students' knowledge and satisfaction, consistent with previous studies. Another research argued that online learning groups could contribute to establishing trust in other students as a source of knowledge construction and progress and the development of a sense of connection among students.^{9,10} The nursing students' achievements and knowledge were based on the learning process, such as watching a video and reading an article before the class meeting, forum discussion, task, weekly quizzes and exam, and learning outcome.^{1,5,21} The process and examination score in the blended learning session was more effective better than the traditional session.²⁰

The output showed that correlation or effect between knowledge and motivation on blended learning ($r= 0.65$, $p<0.01$) was a moderate correlation. One of the learning goals was knowledge besides skill and values gained through some courses. The most effective learning was based on factual knowledge. As a result, a more interesting method of gaining factual knowledge about various topics could lead to improved learning outcomes.²¹ In another research, some virtual communities of practice could not exist or be proper without effective knowledge that collaborations with highly motivated members who were willing

to contribute their time and effort.²² Successful factors of the blended learning approach in the curriculum required students to accept it.²³ Therefore, it was important to identify the social, psychological, cultural and pedagogical factors that might influence the acceptance of blended learning. Satisfied students were motivated and more likely to accomplish their cognitive goals.²⁴ Hence, the acceptance that links with motivation could increase level knowledge as one of the achievements.

Data analysis revealed the students obtained moderate satisfaction on blended learning, on average 179 students (70.5%), followed by high satisfaction 71 students (28%) and low satisfaction 4 students (1.6%). Students seemed satisfied with how the course's context was delivered to them. Supported by Cheng Li²⁵, blended learning could effectively improve nursing students' satisfaction. On the other hand, based on Dang et al.²⁶, students' (no matter males or females) perceived accomplishment and enjoyment toward the blended class could significantly influence their learning satisfaction.

The correlation between motivation and learning satisfaction on blended learning ($r=0.636$, $p<0.01$) was a moderate correlation also. If those variables were compared, the impact of knowledge toward motivation was higher than satisfaction. The willingness of students to enroll in a blended learning method represented both their initial motivation to participate in the courses and their commitment in achieving learning goals.²⁷ According to Tan & neo,²⁸ in

terms of motivation factor, this study discovered a significant correlation between motivation and students' satisfaction. Students' willingness and interest in e-learning were reflected in the idea of motivation for e-learning. These e-learning preparedness components have a major impact on blended learning learners' satisfaction.²⁹ The findings of Azizi²³ showed things that should be prepared were the positive atmosphere effect of learning, the perceived both enjoyment and usefulness, social interaction, content specificity, and the systematic performance expectation on the students' satisfaction with blended learning. Those factors may influence the acceptance of general desire or willingness to perform in the blended learning session.

This study showed a significant improvement in students' knowledge and satisfaction for the blended learning group.¹⁵ A study by Safiyeh⁶ highlighted a significant relationship between online learning methods and students' motivation. Another study comparing online-only and blended learning showed that in connection to clinical supervision, blended learning pedagogy had over benefits in enhancing students' motivation and attitudes, student satisfaction, and topic-specific knowledge.¹⁴ Blended learning was more useful than online, although it took time and could be improved. At the same time, students perceived that their learning session was applicable, fascinating, and fun, the experience of learning satisfaction would be increased and also the level of knowledge.³ After the students finish school, blended learning could support students to be more self-motivated to study and continue their study regardless of where the location was, prioritizing the flexibility.²⁰ Blended learning could be used to facilitate nursing education or other health science education. More research was done to evaluate the durability rate of the information from these approaches and with frequent evaluation.³⁰ The evaluation of blended learning achievement improved learning outcomes, such as evaluating students' students' Grade Point Average (GPA). Students' self-directed learning must be improved more actively in the

following session.²⁰ To attain the main purpose of the blended learning method, this study did not measure every semester associated with satisfaction, which could be a factor in estimating the effectiveness of a course. Because every semester had a different experience, data collection using google forms was easy to input data but it is difficult to retrieve students' data.

CONCLUSION

This study discovers that motivation on blended learning was effective towards knowledge and learning satisfaction of nursing students in UMP. The acceptance in the blended learning method is the first effective approach. Therefore, it is important to identify the key factors affecting its acceptance to discover the students' motivation or willingness towards performance in blended learning. Thus, the correlation of both variables showed in moderate level, and the Blended learning method can be used as a teaching and learning method for nursing education in the future, followed by evaluation. Besides, the lecturer should consider the students' characteristics and expectations toward blended learning.

CONFLICT OF INTEREST

The authors declare no conflicts of interest

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