MOTIVATION AND SELF-LEARNING READINESS OF BLENDED LEARNING IN RESEARCH AND STATISTICS COURSE FOR UNDERGRADUATE NURSING STUDENTS

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ABSTRACT

Though blended learning has been applied in nursing schools in Indonesia, the number of studies with regards to students' motivation and self-readiness in their courses is still lacking. In addition, many student nurses claimed that the Research and Statistics course was more difficult than other nursing courses. This study aimed to assess the nursing students' motivation and self-learning readiness of blended learning in a Research and Statistics course of the Faculty of Nursing at Universitas Pelita Harapan. The preliminary study recruited forty nursing students for validity and reliability test purposes. Two questionnaires were translated and tested including the adapted Academic Motivation Scale and the adapted Self-Directed Learning Readiness Scale for Nursing Education. Both Cronbach's alphas of the questionnaires were above 0.8 (good reliability), however some questions were revised based on its validity test results and its readability. A total of 181 students were involved in the study and descriptive statistics were applied in the data analysis. The findings showed that nursing students had relatively moderate self-directed learning readiness (mean 90.18). With regards to academic motivation, students' intrinsic motivation to know (mean 3.35) was higher than in other subdimensions of academic motivation. It also means that most of the students felt happy while learning and exploring something new in the course. In conclusion, motivation and self-learning readiness of students are important when applied to a blended course. It is recommended that nurse educators should identify students' motivation and self-learning readiness to provide student-centered learning especially in a Research and Statistics course. Further research may involve more universities in different regions of Indonesia.

Keywords: academic motivation, self-learning readiness, blended learning, nursing students

ABSTRAK

Meskipun blended learning telah diterapkan di pendidikan keperawatan di Indonesia, sejumlah studi berkaitan dengan motivasi dan kesiapan diri mahasiswa dalam pembelajaran mereka masih kurang. Selain itu, banyak mahasiswa perawat mengklaim bahwa mata kuliah Penelitian dan Statistik lebih sulit daripada mata kuliah keperawatan lainnya. Penelitian ini bertujuan untuk mengidentifikasi motivasi mahasiswa keperawatan dan kesiapan belajar sendiri dalam mata kuliah Penelitian dan Statistik dengan blended learning di Fakultas Keperawatan Universitas Pelita Harapan. Studi pendahuluan merekrut empat puluh mahasiswa keperawatan untuk keperluan uji validitas dan reliabilitas. Dua kuesioner diterjemahkan dan diuji yaitu Skala Motivasi Akademik dan Skala Kesiapan Belajar Sendiri (self-directed readiness) yang telah disesuaikan untuk pendidikan keperawatan. Hasil uji kedua kuesioner mempunyai nilai Cronbach Alpha berada di atas 0,8 (reliabilitas yang baik), namun beberapa pertanyaan direvisi berdasarkan pada hasil tes validitas dan keterbacaannya. Sebanyak 181 siswa terlibat dalam penelitian ini dan statistik deskriptif diterapkan dalam analisis data. Dalam penelitian ini, terungkap bahwa mahasiswa keperawatan memiliki kesiapan belajar mandiri yang

relatif sedang (rata-rata 90,18). Sehubungan dengan motivasi akademik, motivasi intrinsik mahasiswa untuk mengetahui (rata-rata 3,35) lebih tinggi daripada sub-dimensi lain dari motivasi akademik. Ini juga berarti bahwa sebagian besar mahasiswa merasa bahagia saat belajar dan menggali sesuatu yang baru dalam pembelajaran. Sebagai kesimpulan, motivasi dan kesiapan diri adalah penting saat melaksanakan blended learning. Penelitian ini merekomendasikan agar pendidik perawat atau dosen untuk mengidentifikasi motivasi dan kesiapan diri mahasiswa dalam memberikan pembelajaran yang berpusat pada mahasiswa terutama dalam mata kuliah Penelitian dan Statistik. Penelitian selanjutnya dapat memasukkan lebih dari satu universitas di daerah yang berbeda di Indonesia.

Kata Kunci: motivasi akademik, *self-learning readiness*, *blended learning*, mahasiswa keperawatan

INTRODUCTION

Internet-based learning/IBL is becoming popular in higher education context, especially in Indonesia. Nursing education in higher education, is also using IBL for teaching-learning process (Sinaga, Eka & Sitanggang, 2018). One type of IBL that is popular in nursing education is called blended learning. Blended learning is a learning method using various sources that involves both learning of online and face-to-face classroom (Dziuban, Graham, Moskal, Norberg, & Sicilia, 2018; Wright & Hill, 2015).

With blended-learning, the course materials may be presented online and from multi-sources, shifting the learning method from a passive, teacher-centered into an active and student-centered learning (Zainuddin & Muftia Keumala, 2018). Self-directed learning (SDL), a main component in blended-learning, is perceived as a potential learning approach for education in health professions (Shang & Liu, 2018). A study of literature review (Murad & Varkey, 2008) revealed that SDL has been conducted in the various health care education settings but it was still lacked in studies of SDL that focused on its influence on educational outcomes. In addition to SDLR, academic motivation is also important in IBL (Gagnon, Gagnon, Desmartis, & Njoya, 2013).

IBL development in Indonesian higher education is funded by the Directorate of Higher Education in Indonesia, better known as DIKTI. DIKTI provides a program called Integrated Open and Online Learning Program Indonesia (SPADA) with the aim of improving the quality of learning in Indonesia. SPADA offers a number of grants for higher education that focused on online course, hybrid/blended learning course and open material course. Faculty of Nursing (FoN) Universitas Pelita Harapan (UPH) supported by DIKTI has developed a Research and Statistics (RS) course using blended learning.

It is claimed that research and statistics were difficult for students to comprehend (Dirgantoro, Saragih, & Listiani, 2019). Moreover, the implementations of the Research and Statistics course using blended learning at FoN UPH have never been evaluated regarding students' motivation and self-learning readiness. Previous studies argued that it is imperative to identify students' motivation and self-readiness since they could influence students' involvement in the teaching learning process especially in blended learning method (Deci & Ryan, 2008; Gagnon et al., 2013). This study was implemented in big class with more 100

students in which students should maintain their own motivation and readiness to involve in the course.

The aim of this study was to assess the nursing students' motivation and self-learning readiness of blended learning in a Research and Statistics course at FoN UPH.

LITERATURE REVIEW

Blended learning is established as a learning method to support the limitations of face-to-face traditional learning that lacking the usage of technology (Zainuddin & Keumala, 2018). On the other hand, blended learning is also support the shortcomings of the e-learning methods in which the learning might lead to ignore face-to-face learning (Zainuddin & Keumala, 2018). This learning method could use varied learning media in internet such as Website, YouTube video or Learning Management System (LMS). The usage of technology in blended learning is more used for learning process outside the classroom such as online discussion and collecting tasks (McLaughlin et al., 2013).

This blended method highlights that learning happen both inside and outside the classroom using online media (Zainuddin & Keumala, 2018). Many topics can also be studied independently off campus without depending on the lecturer in the classroom. This learning method is very relevant to be implemented in nursing education to support students to learn independently outside the classroom, build the capability to discuss and work together with their teammate to resolve problems.

Wiley, 1983 (as cited in Fisher & King, 2010) introduces Self-Directed Learning Readiness/SDLR concept as "the degree [to which] the individual possesses the attitudes, abilities and personality characteristics necessary for self-directed learning." Self-directed individuals are independent, purposeful and lifelong learners, self-regulated, managing and evaluating their process of learning (Caffarella, 2000). In this current era of information, it is important to select information needed, determine appropriate strategies and self-directed in own learning process to pursue the educational process effectiveness.

Fisher and colleagues developed SDLR for Nursing Education (Fisher, King, & Tague, 2001). Fisher and King also reassessed the SDLR and provided its validity (Fisher & King, 2010). SDLR in nursing has also been adapted in Indonesia (Saha, 2006). Saha's study aims to develop nursing students' SDLR by applying learning intervention.

Not only SDLR, motivation is also essential in nursing education using blended learning. Academic motivation is mostly explained using Self-Determination Theory/SDT (Deci & Ryan, 2008). SDT identifies that individual's natural drive is motivated intrinsically when individual is contented by his/her psychological needs (Deci & Ryan, 2000). Academic motivation is a continuing variable, start with amotivation, become extrinsic motivation, and attain the utmost level of motivation, which is intrinsic motivation (Deci & Ryan, 2000). As individual could be on the lowermost, between or uppermost level of motivation.

Academic motivation is divided into three dimensions including intrinsic motivation, extrinsic motivation and amotivation (Deci and Ryan, 2000). Intrinsic motivation consist of three sub-dimensions: intrinsic motivation to know (IMTK), intrinsic motivation to accomplish

things (IMTA), and intrinsic motivation to experience stimulation (IMES). Extrinsic motivation comprises three sub-dimensions: external regulation (EMER), introjected regulation (EMIN), and identified regulation (EMID). Amotivation as a lowest level of motivation, lacking of both intrinsic and extrinsic motivations (Cokley, Bernard, Cunningham, & Motoike, 2001).

An Academic Motivation Scale/AMS is an instrument to examine academic motivation developed by Vallerand and colleagues (Guay, Morin, Litalien, Valois, & Vallerand, 2015; Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N.M., Senecal, Caroline & Vallieres, 1992). Natalya & Purwanto adapted and validated the AMS by Vallerand and colleagues into Indonesian context (30 items) (Natalya & Purwanto, 2018).

It is further argued that the relationship between teaching method and SDLR can be affected by motivation (Gagnon et al., 2013). Gagnon and colleagues also revealed that blended learning as teaching method is suitable for some students based on the students' motivation and SDLR. In addition, motivation is crucial in academic field and motivation influences learning outcomes (Deci & Ryan, 2008).

RESEARCH METHODOLOGY

The Blended learning of the RS course was implemented using learning management system (LMS), Moodle, provided by Universitas Pelita Harapan (http://learn.uph.edu/). The LMS provided online course *management*, in this case, Research and Statistics course which contains learning sources such as course outline, videos, articles and assessments.

This study was part of a pre-experimental research at FoN UPH (Eka, Houghty, & Juniarta, 2019). Two-times tests were employed to measure the students' academic motivation and self-learning readiness/SLR after mid and final examinations. This current study only reported the results of the students' motivation and SLR after mid examinations. A descriptive statistics analysis was conducted to describe the students' academic motivation and SDL. Moreover, the Mochtar Riady Institute for Nanotechnology Ethics Committee approved this current study ethical clearance and FoN UPH gave permission for implementing this study.

The preliminary study recruited forty nursing students for validity and reliability test purposes. Two questionnaires were translated and tested including the adapted Academic Motivation Scale/AMS (Natalya & Purwanto, 2018; Vallerand, R. J., Pelletier, L. G., Blais, M. R., Briere, N.M., Senecal, Caroline & Vallieres, 1992) and the adapted Self-Directed Learning Readiness Scale/SDLR for Nursing Education (Fisher & King, 2010). Both Cronbach's alphas of the questionnaires (AMS and SDLR) were above 0.8 (good reliability) (Field, 2013), however some questions were revised based on its validity test results and its readability.

The AMS-Indonesian version (30 items) was divided into three dimensions: Intrinsic Motivation, Extrinsic Motivation and Amotivation (Natalya & Purwanto, 2018). The intrinsic motivation consisted of three sub-dimensions: intrinsic motivation to know /IMTK (four items), intrinsic motivation to accomplish things/IMTA (four items) and intrinsic motivation to experience stimulation/IMES (four items). The extrinsic motivation comprised of three sub-dimensions: external regulation/EMER (four items), introjected regulation/EMIN (four items)

and identified regulation/EMID (four items). The amotivation/AMOT included six items with no sub-dimension. The original AMS-Indonesian version was a 6-point Likert scale (1 does not correspond at all, to 6 corresponds well) (Natalya & Purwanto, 2018). This study applied a 4-point Likert scale by eliminating 2 points in the middle (3 and 4 from the original AMS Indonesian version) that identified as "moderate". The reason was to provide a simple questionnaire that participants can understand and choose to represent themselves.

The SDLR for Nursing Education by Fisher & King (40 items) was allocated into three sub dimensions: self-management (13 items), desire for learning (12 items) and self-control (15 items) (Fisher & King, 2010). The original SDLR version by Fisher was a 5-point Likert scale (1 strongly disagree to 5 strongly agree). This study applied a 4-point Likert scale by eliminating "unsure" in the middle of the scale. The reason was the participants were assumed to likely choose the middle than decide to disagree or agree. The changed of the Likert scale further influenced the overall score. The original overall scores ranged from 40-200 and this current study's overall score ranged from 40-160. Higher scores reflect stronger SDLR.

DISCUSSION

A total of 181 students were involved in the study. The characteristic of participants can be seen in Table 1. Table 1 shows that most of the respondents were female (81.8%), came from western part of Indonesia (63%) and public high school graduates (65.7%).

The characteristics of the respondents in this study represented the population of nursing students in Indonesia and abroad. For example, most nursing students were female (not only in Indonesia, also outside of Indonesia) (Buthelezi, Fakude, Martin, & Daniels, 2015). Most of the participants were also from the western part of Indonesia, as expected, the nursing school was in the same location. In addition, due to economic status of the students, it was not surprising that most of them were graduated from public high schools due to its affordable tuition fee.

Table 1 Characteristics of participants (N=181)

Characteristics	N (%)
Gender	
Female	148 (81.8)
Male	33 (18.2)
Origin	
West part of Indonesia	114 (63)
Central part of Indonesia	38 (21)
East part of Indonesia	29 (16)
Previous of high school type	
Private	44 (24.3)
Public	119 (65.7)
Vocational	18 (9.9)

As can be seen in Table 2, most of the participants also have never experienced blended learning (52.5%) and most of them mentioned that their first experience of blended leaning was at their current nursing school (89%). These conditions were due to the fact that participants came from many cities in Indonesia with disparities in educational facilities. The participants were also in their fifth semester and have experienced the blended-learning since their first semester.

Table 2 Participants experiences of blended learning (N=181)

Have ever experienced blended learning	
Yes	86 (47.5)
No	95 (52.5)

When experiencing blended learning for first time	
Junior high School	5 (2.8)
High School	15 (8.3)
Current Nursing School	161 (89)

Academic Motivation

Based on the seven sub-dimensions of AMS-Indonesian (see table 3), the highest score was IMTK (Mean 3.35; Median 3.25) and the lowest score was Amotivation (Mean 1.69, Median 1.67). This also means that the students felt happy, satisfied and adequate when engaging in the blended learning course of RS (Guay et al., 2015; Natalya & Purwanto, 2018). These students condition might happen due to teachers who disciplined, being a role model, and in dealing with a variety of negative student behaviors that arise in teaching-learning process (Imran, Hidayat, & Winardi, 2019).

Table 3 further shows that the highest score for intrinsic motivation dimension was IMTK (Mean 3.35; Median 3.25). The highest score for extrinsic motivation dimension was EMID (Mean and Median 3.25). Not only feeling of happiness and satisfaction, the student respondents, on average, consciously motivated themselves when learning RS using blended learning (Deci & Ryan, 2000; Natalya & Purwanto, 2018).

This current study also revealed that students' motivation at FoN was more intrinsic than extrinsic. It is noted that students with higher intrinsic motivation could do better in their learning performance, they experienced lack of attrition, and lack of anxiety (Próspero & Vohra-Gupta, 2007). The results of this current study are contrary to a previous study in Saudi Arabia that compared students' motivation in various academic levels. It revealed that the mean scores of students' extrinsic motivation were higher than those of their intrinsic motivation (Elbsuony, 2016). Students with higher extrinsic motivation will have strong commitment in choosing their career (Gambino, 2010).

Table 3 Academic motivation of the respondents (N=181)

	Intrinsic motivation			Extrinsic motivation			Amotivation
	imtk	imta	imes	emer	emin	emid	amot
Mean	3.35	3.20	3.14	2.99	3.14	3.25	1.69
Median	3.25	3.00	3.00	3.00	3.00	3.25	1.67
Mode	3	3	3	3	3	3	1
Std. Deviation	0.420	0.361	0.406	0.548	0.389	0.414	0.491
Minimum	2	3	2	1	2	3	1
Maximum	4	4	4	4	4	4	3

Note:

IMTK : Intrinsic Motivation to Know

IMTA : Intrinsic Motivation to Accomplish things

IMES : Intrinsic Motivation to Experienced Stimulation

EMER : External Regulation

EMIN : Introjected Regulation

EMID : Identified Regulation

AMOT : Amotivation

Self-directed learning readiness

The self-directed learning readiness scale of the participants was determined using SDLR for Education by Fisher (see table 4) (Fisher & King, 2010). Higher scores showed a higher level of SDLR. The total mean score was 90.18 (SD 6.648), with a range of 74-110, showing that the SDLR of the respondents was in the moderate level. This also means that the students had possibilities of successful independently though they lacked confidence to identify, plan and implement their learning needs (Guglielmino, & Guglielmino, 2019).

The findings of this current study matched a study in Semarang Indonesia with the mean score of SDLR of the students ranging from low to moderate (Lestari & Widjajakusumah, 2009) and a study in China with students having intermediate and higher SDLR (Yang & Jiang, 2014). However, the results of this current study contradicted with two previous studies in Jordan and Iran which found that their students' mean scores of SDLR were relatively high (Abu-Moghli, Khalaf, Halabi, & Wardam, 2005; Safavi, Shooshtari, Mahmoodi, & Yarmohammadian, 2010).

Based on the three sub-dimensions of SDLR: self-management (13 items), desire for learning (12 items) and self-control (15 items) (Fisher & King, 2010), the self-management subscale had the highest mean score (31.51) with SD 2.845, followed by self-control subscale (mean 30.21; SD 2.652) and the desire for learning subscale revealing the lowest mean score (28.45) with SD 2.670 (see table 4). Subscale indicated that students needed support in their desire for learning and the possibility of improvement in their desire for learning area. For

example, Panggabean, Anditya, & Dirgantoro, (2017) suggested to have direct interaction with students.

The findings this current study of SDLR subscales score contradicted with a study in Turkey that had the highest mean score of students' desire for learning followed by self-management score, while nursing students' readiness to self-control score was the lowest (Örs, 2018). A study in Australia also revealed different result that the students' SDLR score was the lowest in self-management subscale, followed by the desire in learning and self-control (Smedley, 2007). Similar with Smedley, a study in Saudi Arabia found that the highest mean score was students' self-control subscale, followed by self-desire subscale and students' self-management score was the least (El Seesy, Sofar, Ali, & Al-Battawi, 2017). Interestingly, the three studies above revealed that the students' desire for learning score was in the middle of two other subscales while in this study it was in the lowest. As mentioned previously, it is noted that further effort is needed to improve students' desire for learning especially in the Research and Statistics course using blended learning.

Table 4 Self-directed learning readiness of the respondents (N=181)

	Self-Management	Desire for Learning	Self-Control	Self-Directed Learning Readiness (Total)
Mean	31.51	28.45	30.21	90.18
Median	32.00	28.00	30.00	90.00
Mode	32	26[a]	29	89[a]
Std. Deviation	2.845	2.670	2.652	6.648
Minimum	24	22	21	74
Maximum	43	36	38	110

[a]Mutiple modes exist. The smallest value is shown

CONCLUSION

This study identified students' motivation and SDLR in their blended learning. The students experienced feeling of happiness and satisfaction, and consciously motivate themselves in their learning process. Moreover, with regards to students' readiness of self-directed learning, students could be successful independently though they lacked confidence to identify, plan and implement their learning needs. The findings of this study can assist nurse educators to identify students' needs in regard with providing student-centered learning especially in Research and Statistics course. Further research may include more universities in different region of Indonesia.

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