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THE INFLUENCE OF SELF DIRECTED LEARNING READINESS AND SELF STUDY ON ACADEMIC ACHIEVEMENT OF MEDICAL STUDENTS

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ABSTRACT: Self-directed learning readiness (SDLR) is well-known as one of internal factors as well as the amount of time spent for learning that can certainly be used as a predictor for the success of the learning process in which student learning will result in a satisfactory academic achievement. This study analyzes the relationship of SDLR to the medical student's achievement, the relationship of study time towards the student's academic performance of medical students. This study conducted in July 2016 which involved 88 respondents of third level medical students. Data were analyzed using independent t test. There is a correlation between self-directed learning readiness (SDLR) and academic achievement with t value of 0,505 and p value of 0,615 and also there is a correlation between study time and academic achievement with t value of 2,267 and p value of 0,027. In overall, there is significant relationship between self-directed learning readiness and study time on academic achievement of medical students with F : 2,930 and R: 0,254.

KEYWORDS: self-directed learning readiness, study time and academic achievement.

1 INTRODUCTION

The newest paradigm of medical education change the way teaching and learning strategy from Teacher-Centered Learning (TCL) to Student-centered learning (SCL). This paradigm is the basis for all of the Faculty of Medicine to implement SCL. In the traditionally approach to education that is known TCL, lecturer plays dominant role in determining student learning. Lecturers are also very essential in controlling the learning process of students. This will then make the students become inactive. Students tend to rely on materials given by the teachers. As a result, students become less creative in learning what they want to study in more depth.

A finding stated by [1] which mentioned that the first-year students tend to have a lot of problems in the process of adaptation of learning in PBL's learning environment which especially for students from high school who do not normally apply independent learning. Consistent understanding as presented by [2] stated that the first-year students without have the readiness for self-learning will experience anxiety, frustration, and failure to achieve the expected performance. Furthermore, in the theory of Thorndike revealed that students will face learning environment that demands students to be self-reliance and active therefore the learning process will eventually be success. Hence the readiness of students enrolled in the PBL approach is absolutely required to maximize the learning process independently. Student readiness in implementing independent learning will greatly affect the learning process of students in the tutorial in which problems in it serve to provoke creativity and curiosity of students to learn more material related.

The ratio of students accepted to applicant students is quite high which constitute 1: 4 which are expected to attend lessons using PBL systems with a high readiness. However; in reality; there are still complaints from new students who have difficulty in following the lessons and methods of PBL. In addition, tutors are also delivering complaints that some students are still somewhat awkward and less active in the tutorial. This is also evidence that the final test scores are less satisfactory. This problem is prompted by the author to see how the readiness of students in following this lesson using PBL method and

how do they motivate students to follow lessons with PBL method. Researchers assume that a good readiness of students to learn independently during the course will result in a satisfactory achievement. Similarly, the high motivation to learn will result in higher academic achievement as well.

The formulation of the problem in this research is that the relationship of self-directed learning readiness (SDLR) and study time towards students's achievement in the third level medical student. The aims of this study are investigating the relationship between SDLR and the academic achievement of students in the third level of medical students, understanding the relationship between study time and academic achievement of students in the third level. This research is expected to benefit students in developing SDL skills obtaining a better learning process and a satisfactory achievement. For the institutions, from which the research results can be obtained information about SDLR and study time picture of third level medical students and their role in supporting the achievement of students.

Reference [3] expressed the factors that influence SDL including an understanding of the subject matter in advance (prior knowledge), independent learning skills, motivation to learn independently.

Meanwhile, according to [4] revealed that in order to be able to perform self-directed learning, a student must have a competency of self-observation, self-reflection, self-judgment, making their own objective, doing reactivation of existing knowledge, managing learning autonomy (e.g.: time management), building motivation and concentration in learning autonomy to determine their own learning strategies and problem solving strategies, understanding when to seek a help from a friend or tutor. Another research supports the fact that time management for study is likely leading to disturb mental health among students [5] Several research finding also mentioned that student in higher grade having more academic stress in relating with time management [6].

Another reference [7] stated that the competence to perform the SDL in nursing students's learning need an assessment, self and peer evaluation, reflection, information management, critical thinking and critical appraisal. [8],[9] stated that the faculty and learning environment affect the self-directed learning.

Research found that SDLR having influence on academic achievement as mentioned by [10] at the University Of Engineering students which SDLR is limited that only constitute for 5%. Research conducted by [11] stated that there was a positive association between SDLR and student achievement at the University Southern part of Taiwan ($r = 0.21$, $p < 0.05$). Research conducted by [12] on students at the University Southern United States have also found a positive relationship between SDLR and learning achievement ($r = 0.51$; $R2 = 0.55$, $p < 0.01$).

2 METHODS

This study was a cross-sectional design with the dependent variable of academic achievement using values taken before the revision. The data of independent variables of SDLR taken by distributing questionnaires. Quantitative research data used descriptive statistics and inferential statistics. Descriptive statistics used for investigating average value, standard deviation (SD), minimum and maximum values of the variables of the study. Inferential statistics of independent t test used for determining the relationship of SDLR to learning achievement, relationship of self study time to academic achievement. Relationship within the independent variables to dependent variable using linear regression [13], [14], [15].

The data of SDLR, self study time and academic achievement were taken from third level medical students of the subject of traumatology of academic year of 2016. The subjects were selected randomized of the third year students at the Faculty of Medicine, Universitas Muhammadiyah Surakarta in the academic year of 2016. All subjects who meet the inclusion criteria of the third year students must follow the subject of Traumatology, present at the time of the study and willing to be respondents. Exclusion criteria were the third-year students who were not present at the time of the study and were not collecting or filling questionnaires incomplete.

The data that collected in this study including primary data and secondary data. Primary data was taken by distributing questionnaires to students. The questionnaire used scales including self-directed learning readiness scale to express the variable of self-directed learning readiness developed by [16] and the Questionnaire Motivated Strategies for Learning Questionnaire (MSLQ) developed by the National Center for Research to Improve Postsecondary Teaching and Learning, University of Michigan.

Sub-scale can be taken to follow the needs of researchers [17]. This study only uses subscales 1, 3 and 5 and the translation version already have been tested for validity and reliability by [17]. Secondary data were drawn from the value of Traumatologi third level medical students of the Faculty of Medicine University of Muhammadiyah Surakarta.

Data analysis techniques used in this research is the analysis of quantitative data analysis consisted of descriptive statistics. Then, it will be followed by parametric test of Independent t test. Descriptive statistical analysis aimed to determine the average value, standard deviation (SD), minimum and maximum values of the variables of the study [15].

3 RESULTS AND DISCUSSION

Research investigates of the impact of SDLR and self study time on academic achievement by distributing questionnaires. Questionnaire on self-directed learning readiness to third year students at the Faculty of Medicine of the academic year 2016. Furthermore, the data obtained as follows:

Table 1. Distribution of SDLR scores, self study time and academic achievement (n = 88)

Variable	Mean	Median	Mode	Minimum	Maximum
SDLR	141,92	142	144	96	179
Self Study Time	2,5	2	2	0,5	8
Academic Achievement	56,9	55,93	55,86	37,71	80,95

Data that meeting the inclusion and exclusion criteria were as many as 88. The table above shows that the average student achievement of the third level student is equal to 56,9. Meanwhile, SDLR average score is obtained by 141.92. The average hours for self study time is 2,5 hours. The minimum value the achievement of students is 37,71 while the highest value academic achievement is 80,95. Minimum score of SDLR is 96 while the highest score of SDLR is 179. Meanwhile, the minimum hours of self study is 0,5 hours and the highest hours of self study reported 8 hours. Another study is also similar to this result which stated that students on average spent 1,8 hours daily for study [18], [19].

The results that have been processed with SPSS version 23.0 for Windows and the data were then analyzed using independent t test, revealed as follows:

Table 2. The differences of academic achievement on SDLR score and self study time in hours each day (n = 88)

Variable	N	Mean	t value	p value
SDLR SCORE -ACADEMIC ≥56	43	142,65	0,505	0,615
-ACADEMIC<56	45	141,22		
SELF STUDY HOURS-ACADEMIC ≥56	43	2,91	2,267	0,027
-ACADEMIC<56	45	2,18		
SDLR SCORE - SELF STUDY ≥2	68	142	0,334	0,739
- SELF STUDY<2	20	141,05		

Based on table 2 above, it clearly can be seen that there is a difference score of SDLR based on the academic achievement. It is can be concluded that the students with high academic score have higher SDLR score. It means the higher readiness for self directed learning students tend to achieve higher academic achievement with t value of 0,505 and p value of 0,615. Furthermore, there is also a difference of self study hours based on academic achievement. This, then will lead to a conclusion that students with higher academic score tend to spent their time on self study with t value of 2,267 and p value of 0,027. Another worth mentioning would be that students study more time tend to have higher SDLR with t value of 0,334 and p value of 0,739.

This correlation indicates that the higher the level of self-learning readiness, the higher the student achievement will be. The study is in line with [11] that found a positive association between SDLR learning achievement in students in the University Southernpar of Taiwan ($r = 0.21$, $p < 0.05$). Similar research has also been done by [12] on student Univeritas the southern United States have also found a positive relationship between SDLR learning achievement ($r = 0.51$; $R2 = 0.55$, $p < 0.01$). Another research conducted by [20] examined the role of learning achievement SDLR freshman at FK UNRI also found a positive relationship between SDLR and achievement of students in the first year. Another finding stated that the more student spent their time for study the more cognitive achievement will obtained [18], [19].

This result is also align with the research that stated the more time student spend for studying the more GPA will obtained [21], [22], [23]. Similar study also mentioned that the longer study time the better academic result will be [24].

Another study stated that self directed learning has significant relationship to academic performance [24], [25], [26], [27], [28], [29], [30].

Table 1. Multilinear regression of SDLR scores and self study time to influence academic achievement (n = 88)

Variable	F calculated	F table (significance 5%)	R calculated	R table (significance 5%)
Influence of SDLR and self study time to academic achievement	2,930	3,96	0,254	0,213

From these data of table 3 above, F calculated obtained 2,930 is lower than F table 3,96 which means the factors of SDLR and self study time have linearity to academic achievement. In other word from the linearity test can be concluded that the regression is linear. This means that SDLR together with self study time having an influence on academic achievement. This finding is also supported by R calculated that account for 0,254 is higher than R table 0,213 which has a meaning of there is a positive and significant influence in the amount of 0,254 to the academic achievement.

4 CONCLUSION

Based on the result, it is found that there is a significant correlation between self-directed learning readiness (SDLR) and study time towards academic achievement.

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