21 (2), 2020, 163-169

Jurnal Pendidikan MIPA

e-ISSN: 2550-1313 | p-ISSN: 2087-9849

http://jurnal.fkip.unila.ac.id/index.php/jpmipa/

Analysis of Students Readiness in Online Learning During The Covid-19 Pandemic

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Abstract: The educational paradigm, which was originally face-to-face based, has shifted to virtual education or e-learning especially during the Covid-19 pandemic. Student readiness is an important factor in the success of e-learning. In this study, an analysis will be carried out on the readiness of students in online learning and the relationship and its effect on learning outcomes. This research procedure includes several stages, namely: (1) adapting the instrument based on a literature review, (2) analyzing the validity of the content and distributing the instrument to the research sample, and (3) evaluating research data, examining correlation, and its effect on learning outcomes. The data obtained were analyzed statistically through reliability analysis and Pearson correlation. The research sample consisted of 120 students of chemistry education at the FKIP, University of Lampung. Based on the results of statistical tests obtained results. Based on the research results, it was found that all dimensions of student readiness in online learning had a significant positive correlation with learning outcomes with a sig <0.05. Based on the linear regression test, it was found that student readiness in online learning had an effect on learning outcomes by 20.6%. It can be concluded that student readiness in online learning has an effect on learning outcomes.

Keywords: student readiness, online learning, learning outcome, Covid-19 pandemic.

Abstrak: *Paradigma pendidikan yang semula berbasis tatap muka telah beralih menjadi pendidikan dunia maya atau e-learning terutama dimasa pandemi covid-19. Kesiapan siswa merupakan salahsatu faktor penting dalam keberhasilan pembelaran e-learning. Pada penelitian ini akan dilakukan analisis terhadap kesiapan mahasiswa pada pembelajaran online dan hubungan serta pengaruhnya terhadap hasil belajar. Prosedur penelitian ini meliputi beberapa tahapan yaitu: (1) mengadaptasi instrumen berdasarkan kajian literatur, (2) menganalisis validitas konten dan menyebar instrumen kepada sampel penelitian, dan (3) mengevaluasi data hasil penelitian, mengkaji korelasi, dan pengaruhnya terhadap hasil belajar. Data yang diperoleh dianalisis secara statistika melalui analisis reliabilitas dan korelasi Pearson. Sampel penelitian terdiri dari120 orang mahasiswa pendidikankimia di FKIP Universitas Lampung. Berdasarkan hasil uji statistik diperoleh hasil. Berdasarkan hasil penelitian didapatkan semua dimensi kesiapan mahasiswa pada pembelajaran online berkorelasi positif terhadap hasil belajar secara signifikan dengan nilai sig <0,05. Berdasarkan uji regresi linear didapatkan kesiapan mahasiswa pada pembelajaran onlilne berpengaruh terhadap hasil belajar sebesar 20,6%. Dapat disimpulkan kesiapan mahasiswa pada pembelajaran online berpengaruh terhadap hasil belajar.*

Kata kunci: *kesiapan mahasiswa, pembelajaran online, hasil belajar, pandemi COVID-19.*

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DOI: http://dx.doi.org/10.23960/jpmipa/v21i2.pp163-169
Received: 16 September 2020
Accepted: 30 November 2020

▪ INTRODUCTION

The reality of technology and information development has given rise to a new educational paradigm that was originally based on traditional reliance on face-to-face, turned into an education system that is not limited by space and time by relying on information technology, especially the cyber world, this education system is known as e-learning. Through this definition, a term that is equivalent to e-learning appears, namely virtual learning (learning in cyberspace) and distance learning (Munir, 2010). E-learning has been introduced as a tool in the learning process and characterizes the education system in the early 21st century, a century that resulted from various disciplines, such as computer science, communication technology, and pedagogy (Sangra, Vlachopoulos, and Cabera, 2012). The definition of e-learning refers to the use of information and communication technology to enable access to online learning / teaching resources (Abbad et al, 2009). Features in internet-centered online learning, containing learning resources, broadcasting information through a network course and a flexible computer-generated learning process using the internet to solve the problem of distance and time (Liu and Wang, 2009).

Online learning that is applied has several functions or models. There are three online learning functions, there are as a supplement, e-learning functions like a traditional classroom assistant and students have the freedom to choose whether to use the e-learning facility or not; as a complement,where e-learning is used to complement the traditional classroom learning process, usually the material on e-learning is used as enrichment or remedial material; and as a substitution, where e-learning will replace the overall learning process in traditional classrooms (face-to-face directly), thus providing maximum independence to students (Siahaan in Waryanto, 2006; Algahtani in Abaido and Arkorful, 2014).

E-learning itself is in demand in the world of education apart from the demands of the 21st century which are also known to be more flexible, not limited to the distance and time of receiving subject matter and sending assignments (Smedley, 2010; Abaidoo & Arkoful, 2014; Hammad et al, 2018), in Indonesia's geographical conditions E-learning in rural areas is also expected to be able to get education (Indriani et al, 2018). It is easy to access information and interact using the available features, such as discussion forums, videos, digital libraries, etc. (Arkoful & Abaidoo, 2014; Rusman & Riyana, 2012).

The current condition where the world is experiencing a global pandemic (COVID-19 pandemic) requires students to study online. One of the factors in determining the success of a lesson is readiness. Students' readiness in online learning can be seen from five dimensions: (1)computer / internet self-efficacy, the belief of computer / technology users in using it at a basic level; (2) online communication self-efficacy, the individual's perception of understanding language and culture that is typical in an e-learning environment and how well individuals can express themselves in that environment; (3) motivation, the desire and effort to improve behavior (physical), cognitive and affective, and encourage other students to learn with e-learning; and (4) self-directed learning, a process where students take the initiative with or without the help of others to find their learning needs, determine learning objectives, choose and implement appropriate learning strategies and evaluate learning outcomes; (6) learner control, the student's ability to direct learning as desired.

Having good readiness allows students to get good learning outcomes. Mulyani (2013) reveal that there is positive correlation between student achievement and learning readiness, this means that if the student's learning readiness is good, it is predicted that

their learning achievement will be good. Hung et al. (2010) in a study entitled "Learner Readiness for Online Learning: Scale Development and Student Perceptions" revealed that based on gender differences, there was no significant relationship to learning readiness. If it is based on class groups, the readiness of students at the senior level is higher than students in the second year and junior students. In this study, the students' readiness profiles in online learning will be examined and the relationship and effect on learning outcomes.

▪ METHOD

This study used a survey method conducted on Chemistry Education students in Lampung Province. Survey research design is a procedure in quantitative research where the researcher conducts a survey of the sample to describe the attitudes, opinions, behavior or characteristics of the population (Creswell, 2012). The population in this study were all students of the Chemistry Education Study Program at the University of Lampung in the 2019/2020 academic year. The research sample was active students in the even semester which consisted of students in semesters 2,4, 6, totaling 120 students selected by random technique. This research was conducted in the Mathematics and Natural Sciences Education Department, Teacher Training and Education Faculty, University of Lampung.

The stages in this research are (1) adapting the instrument based on a review of the literature on student readiness instruments in online learning and inserting question items into the google form (2) analyzing the content validity and distributing the instrument to the research sample (3) evaluating outcome data, examining the correlation and influence of the five dimensions of student readiness on learning outcomes. The instrument used in this study was adapted from the student readiness questionnaire in online learning by Hung et al. (2010). The instrument was adapted and transliterated into Indonesian, making it easier for research subjects to understand each item in the instrument. The instrument was then converted into a google form to make it easier for students to access, make it easier to collect data, and be paperless.

The data collection technique in this study is a conventional survey technique, namely through distributing questionnaire instruments to each research sample. They were asked to access the google form website page, fill out questions in a 5-Likert scale, and submit their answers online. Data analysis in this study was carried out in several stages (1) correlation analysis is used to test the hypothesis in the study. The correlation coefficient is used to determine and measure the relationship between variable X and variable Y. The parametric characteristic used is Karl Pearson's Product Moment correlation (Sugiyono, 2012). The calculation of the correlation coefficient price uses SPSS version 22.0 for windows with a significance level of 5%; (2) Analysis of the effect of independent variables on the dependent variable. In this case, the F test or Anova test will be carried out, which is a test to see how all the independent variables influence the dependent variable together. Furthermore, the analysis of the effect if it is done by means of the T test or partial test to see how the influence of each independent variable itself on the independent variable.

▪ RESULT AND DISCUSSION

Based on the results of filling out the questionnaire, it was found that students' readiness profiles in online learning were shown in Table 1.

Table 1. Profile of students readiness in online learning

Students readiness dimension	N	Minimum	Maximum	Mean	Std. Dev.
Computer/internet self efficacy	120	2.33	5.00	4.0139	.61932
Self directed learning	120	2.80	5.00	3.9583	.49664
Learner control	120	2.33	5.00	3.6917	.55368
Learning motivation	120	3.00	5.00	4.3850	.43784
Online communication self efficacy	120	2.00	5.00	3.7611	.57522
The average of student readiness	120	3.19	4.87	3.9620	.38838

From Table 1, it can be seen that in each dimension the readiness of students has an average more than 3. This shows that students have a good perception of their readiness to take online learning. Among the five dimensions of student readiness, the dimension of learning motivation has the highest average score of 4.3850 (87.7%), while the lowest score is shown by the student control dimension (73.84%). The average student readiness was 3.9620 (79%) with the lowest score 3.19 (64%) and the highest score 4.87 (97%). The pattern of the relationship between the dimensions of student readiness and student learning outcomes is studied using Pearson correlation analysis, especially on the significance value. Student learning outcomes in this case are seen based on student IP. The relationship between dimensions of student readiness in online learning and learning outcomes can be seen in Table 2.

Table 2. The relationship between student readiness and learning outcomes

		v1	v2	v3	v4	v5	v6	IPK
v1	R	1	.386**	.465**	.335**	.468**	.764**	.350**
	Sig.		.000	.000	.000	.000	.000	.000
v2	R		1	.536**	.527**	.273**	.731**	.248**
	Sig.			.000	.000	.003	.000	.006
v3	R			1	.420**	.371**	.775**	.256**
	Sig.				.000	.000	.000	.005
v4	R				1	.239**	.658**	.236**
	Sig.					.008	.000	.010
v5	R					1	.675**	.335**
	Sig.						.000	.000
v6	R						1	.401**
	Sig.							.000
IPK	R							1
	Sig.							

Notes: **. Correlation is significant at the 0.01 level (2-tailed).
v1, v2, v3, v4, v5, dan v6 are computer/internet self efficacy, self directed learning, learner control, learning motivation, online communication self efficacy, the average of students readiness, respectively.

Based on Table 2, it can be observed that each dimension of readiness to learn is correlated with each other with a sig value <0.05. This indicates that every effort to

improve one of the dimensions of students' online learning readiness can automatically have an impact on increasing contributions from other dimensions.and only provide the data that support discussion. This part includes table(s) and graph(s) taken from the research results data.

Based on the Pearson correlation value in Table 2, it can be seen that all dimensions are correlated with each other on student readiness and learning outcomes. The correlation between student readiness and learning outcomes has a significant positive correlation with each other. To determine the effect of student readiness on learning outcomes, the ANOVA test and simple linear regression were carried out. The results of the influence test are shown in Tables 3 and 4.

Table 3. ANOVA and linear regression results

	Model	Unstandardized Coefficients (B)	Sig. (Linear Regression)	α	F	Sig. (ANOVA)
1	(Constant)	2.707	.000	.766	22.564	.000[b]
	Readiness	.206	.000			

Based on the Anova test results in Table 3, it can be seen that student readiness in online learning affects learning outcomes with a significance value of 0.000 (<0.05). This means that there is a significant effect of online learning readiness on student academic achievement. Furthermore, to find out how big this influence is, a linear regression test is performed. By observing the correlation coefficient, it can be seen the percentage contribution of the independent variable to the dependent variable. As with the results of the regression test in table 3, a mathematical relationship can be made between online learning readiness and academic achievement as follows:

GPA = 2.707 + 0.206 Readiness in online learning

This equation provides information that students who are better prepared to learn online will have an increase in academic achievement of 20.6% compared to students who are not ready to carry out online learning. Online learning readiness is of course viewed from five factors, namely: self-efficacy on computers / the internet, independent learning, learner control, learning motivation, self-efficacy in online communication, and the average online learning readiness. Thus, these results also indicate that the instrument used was successful in revealing student learning readiness. This is also supported by Cronbach's alpha analysis of the five components of students' online learning readiness where the α value is found to be 0.766. Cronbach's alpha value indicates that the questions on each dimension have a high enough level of internal consistency so that it is believed to be able to reveal online learning readiness and can be tested for further research.

▪ CONCLUSION

Based on the data analysis of the research results that have been done, several conclusions can be drawn, namely: students have a good perception of their readiness to take online learning. Among the five dimensions of student readiness, the dimension of learning motivation has the highest average score of 4.3850 (87.7%), while the lowest score is shown by the student control dimension (73.84%). The average student readiness was 3.9620 (79%) with the lowest score 3.19 (64%) and the highest score 4.87 (97%).

Furthermore, from the results of the Pearson product moment correlation analysis, it can be concluded that all items correlate significantly with each other based on the sig < 0.05. ANOVA test results and linear regression analysis provide information that there is an effect of online learning readiness around 20.6% on student academic achievement. Finally, the instrument used was declared valid and reliable with a Cronbach alpha value of 0.766.

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