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Research article

Examination of Self-directed Learning Readiness Level of Students During the COVID-19 Pandemic

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Abstract.
The changes in learning patterns during the COVID-19 pandemic demanded students to take initiative, persevere, and learn independently. Thus, this study examines the level of students' self-directed learning readiness. The research design used was quantitative with a descriptive method. A total of 285 participants – 46 male and 239 female – were included in the study sample. The measuring instrument used was a self-directed learning readiness scale. Data analysis was done using an independent sample *t*-test and the assumptions were tested first, obtaining an average value of 56.16 and a standard deviation of 5.71. The results indicated that H0 was accepted, which implies that there is no significant difference in the average self-directed learning readiness between male and female students with a t value $< t$ Table ($\alpha = 0.05$) which is $0.720 < 1.650$ with a value sig. $0.472 > 0.05$. However, students' self-directed learning readiness can improve students' learning processes.

Keywords: learning, pandemic, self-directed learning readiness

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1. Introduction

The Covid-19 pandemic has affected several issues in human life. The results of research on the Indonesian people, as many as 50% of Indonesians began to reduce their activities outside the home, then there were 30% who had a more inclination to use online shopping facilities [1]. The results of the research show that how Covid-19 affects individual movements, both in the movement of interactions with other people and in an online lifestyle. Besides, Covid-19 has also affected the existing education system. The education system that is usually carried out face-to-face between students and teachers has altered to an online system. This is in accordance with research that explains that the impact of Covid-19 is changes in distance education, understanding of absorption of material and problems related to internet availability in supporting distance learning [2].

These changes also occur in the world of universities in which students and lecturers are merely met through online media.

Changes in the learning system require a lot of new readiness and adaptations for each individual. Both from the student side and from the lecturer side. Lecturers experience rapid adaptation in terms of using technology due to Work from Home (WFH). In addition, the creativity of lecturers is also required to be able to provide lectures that are not boring with various kinds of creativity in delivering material. The delivery of materials or lectures has been greatly facilitated by the existence of a Learning Management System (LMS), both of which have been developed by each university or an LMS that has been provided by the government, namely the Indonesian Online Learning System (SPADA). Lecturers can manage the online lecture system synchronously or asynchronously.

Seeing from the student's perspective, this change in the learning system demands that students are ready to learn. Individual learning readiness, especially students, has become the interest of these students individually as a form of their independence. Readiness to learn is an initial condition that directs individuals to be ready to interact and respond to the goals of learning, so that individuals will attempt to prepare themselves as well as possible starting from physical conditions, psychological conditions and other learning equipment that will support them [3]. Self-directed learning readiness arises from 4 stages, the first is the stage where the individual thinks independently, the second is the individual learns to regulate himself, the third the student learns to plan something related to himself and the fourth is the individual is able to decide what to learn and what way to learn it [4].

When individuals are ready to do something in this case, a new online learning method, it will be a provision for individuals in undergoing learning. This is in accordance with the opinion that explains that the readiness factor influences in determining learning outcomes and readiness to facilitate individuals in achieving success [5]. The factors that affect the ability to learn independently of each individual are different. These factors can be sourced from internal and external individuals. Internal factors, namely gender, age, self-management etc. As for external factors, it can be from the place of individual learning, time to study and motivation to learn. From the description above, self-directed learning readiness is the value of attitudes, abilities, personality characteristics possessed by individuals in managing personal academic understanding which is measured through initiative, persistence, and independence by using a self-directed learning readiness scale. Dealing with the description above, the researcher

is interested in seeing the condition of self-directed learning readiness of the Faculty of Pedagogy and Psychology, Universitas PGRI Adi Buana Surabaya.

2. Research Method

This study used a quantitative research design with a descriptive method. Quantitative research is a careful measurement of variables to answer the research hypothesis [6]. Further, the descriptive method is an approach to describe or review the description of the object under study that has been collected without analyzing it and making general conclusions [7]. This is undertaken by showing the average value, standard deviation [6] on self-directed learning readiness. The sample used in this study consisted of 285 participants, which were divided into 239 female participants and 46 male participants. This study used a self-directed learning readiness scale in which it measured through initiative, persistence, independence in data collection. In the data analysis used independent sample t-test. However, in the initial stage, it was necessary to test the assumptions as a condition for the different analysis test. This data analysis is to answer the research hypothesis that there is no significant difference in the average self-directed learning readiness between male and female students (Ho) or there is a significant difference in the average self-directed learning readiness between male and female students female (Ha).

3. Results and Discussion

Regarding to the assumption test of this study, the normality and homogeneity of the data are described as follows;

TABLE 1: Normality Data used Skewness and Kurtosis.

Gender		Statistics	Std. Error
Male	Mean	55.61	.858
	Skewness	.874	.350
	Kurtosis	.439	.688
Female	Mean	56.27	.369
	Skewness	1.100	.157
	Kurtosis	.595	.314

In table 1, the use of the data normality test by looking at the value of skewness and kurtosis is due to the large sample in this study, which is more than 200 (n = 285). If a large sample is (200 or more) so then it is important to see the statistical value

Table 2: Data Homogeneity.

Levene's Test for Equality of Variances	
F	**Sig.**
.117	.733

of skewness and kurtosis [8]. Furthermore, it was indicated that the tolerance limit for skewness and kurtosis is -1.96 to 1.96 which is still considered normal [8]. Thus, based on the data above, the skewness and kurtosis values for male students are 0.874 and 0.439, respectively, which are still within the tolerance limits of normality. Meanwhile, female students are 1.100 and 0.595 which are still within the tolerance limits of normality. Thus , it can be concluded that the data has normal distribution.

Then, the homogeneity test of the data that has been described in table 2. From the table the value of sig. 0.733 > 0.05. This indicates that the homogeneity analysis with Levene's Test for Equality of Variances asserts that the data is homogeneous.

Based on the results of the quantitative descriptive method, the following research results were obtained;

Table 3: Report Total Items Self-directed Learning Readiness.

Gender	N	Mean	Std. Dev.	Std. Error of Mean	Min	Max	Var
M	46	55.61	5.818	.858	46	72	33.843
F	239	56.27	5.704	.369	44	72	32.535
Total	285	56.16	5.717	.339	44	72	32.687

This table shows that the average self-directed learning readiness of male students is 55.61 with a standard deviation of 5.81. Meanwhile, female students are 56.27 with a standard deviation of 5.70. This indicates that based on the average value of self-directed learning readiness female students are higher than male students. The overall average self-directed learning readiness of students is 56.16 with a standard deviation of 5.71.

Furthermore, data analysis using independent sample t-test has showed the following results;

It found that the result of the t-test was 0.720 with a value of df = 283 and a significance of 0.472. The results of the t-test of 0.720 < t-table (α = 0.05) of 1.650 with a sig. value of 0.472 > 0.05. Thus, it can be asserted that H0 is accepted and Ha is rejected, which implies that there is no significant difference in the average self-directed learning readiness between male and female students.

Table 4: Independent Sample T-Test.

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
Equal variances assumed	.117	.733	-.720	283	.472
Equal variances not assumed			-.710	62.787	.480

Table 5

	Levene's Test for Equality of Variances		t-test for Equality of Means	
	F	Sig.	Mean Difference	Std. Error Difference
Equal variances assumed	.117	.733	-.663	.921
Equal variances not assumed			-.663	.934

The explanation of the results of the data analysis above has shown that the importance of self-directed learning readiness for students without the influence of gender. This is because self-directed learning readiness is a student's process of taking responsibility for achieving the student's learning goals [9]. The self-directed learning readiness process has important competencies to prepare life (adults) in adapting to complex and social contextual changes [10-11].

The adaptation process in self-directed learning readiness is related to awareness, openness, optimism, and effort. It is in line with this, the characteristics of participants tend to have a strong influence on self-directed learning readiness [12-13] The results of related studies, it is asserted that there is a strong relationship between male and female personality attitudes (such as awareness, openness, optimism, and encouragement) with student self-directed learning readiness [14-15]. The readiness of the student's personality is part of the realization of self-directed learning readiness.

Self-directed learning readiness exists due to the changing knowledge transfer process. Starting from face-to-face, it alters to virtual (online). This is a new challenge and demand for students. Learning new things provides encouragement for students who are part of knowledge management [16]. Knowledge management of information is supported by the advantages of learning technology [17-18]. The embodiment of learning technology for students with the learning management system (LMS). Thus, the

self-directed learning readiness of students (both male and female) increases according to their knowledge management [16].

There is a positive relationship between learning management systems and self-directed learning readiness, which implies that students self-directed learning readiness increases when using learning management systems [19-21]. This implies that the smooth running of the self-directed learning readiness process by providing a learning management system as part of knowledge management. The increased knowledge management in student self-directed learning readiness regardless of gender is significantly influenced by student social interactions, learning design, learning motivation from offline to online [22-24]. Thus, students can plan self-directed learning readiness with social interactions in online learning, attractive online learning designs, and online learning interests and motivations.

Self-directed learning readiness has a student-centered concept that is currently a habit in online learning [25]. This leads to students' self-directed learning readiness to play an active role in the online learning process. Responding to the issue, the success of students in online learning depends on each other's self-directed learning readiness [23]. However, this could happen related to student self-directed learning readiness that has not been fully developed [22]. Thus, it is highly expected that the current learning concept will prioritize self-directed learning readiness. As a form of success from lifelong education in any situation.

4. Conclusion

Dealing with the findings, it was asserted that there was no difference in the average self-directed learning readiness between male and female students. For this reason, the self-directed learning readiness process for all students was the same through initiative, persistence, and independence. One of the initiative formations in self-directed learning readiness was the existence of social interaction and learning design. Persistence in the process of self-directed learning readiness was formed in students' attitudes through motivation, awareness, and openness. Meanwhile, independence in the process of self-directed learning readiness was shown through an attitude of optimism and business encouragement.

Students who had self-directed learning readiness, they would tend to be very independent and increase their spirit to adapt in learning in any situation. Thus, students can achieve academic success because they have planned and are responsible for efficient self-directed learning readiness for themselves. Dealing with the issue, the

process of self-directed learning readiness can affect academic success and increase motivation in students. This research has been limited to study students' self-directed learning readiness. Thus, further studies are needed to discover the factors causing the formation of student self-directed learning readiness. It is intended to develop student success in learning in any situation.

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