The Influence of Learning Readiness on Learning Outcome of Technical Cadets with Online Learning during COVID-19 Pandemic

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Abstract

The purpose of this study was to analyze the influence of learning readiness on learning outcome of technical cadets with online learning during COVID-19 Pandemic. This study used a survey and literature review method. This study was conducted in the Engineering Study Program of Akademi Maritim Nusantara Cilacap. Sampling was carried out in the Applied Mechanics course. This study was carried out in April-August 2020 with the number of population was 47 Technical Cadets and the number of samples was 38 Technical Cadets in Applied Mechanics course. Based on the results, it can be concluded that learning readiness (X) had a significant influence on learning outcome. There was an influence of learning readiness on learning outcome of technical cadets with online learning during COVID-19 Pandemic. Learning readiness had 78.6% percentage or was in good category, where cadets prepare learning equipment properly so that they will get a good learning outcome.

Keywords
Learning outcome, Learning readiness, COVID-19 Pandemic, Online learning

Introduction

During COVID-19 Pandemic, several fields are affected, one of which is education. Higher education institutions must adapt to the pandemic in learning activities that were previously carried out offline and then online. Various media are used in online learning. Teachers and students must adapt and be familiar with the use of information technology in various online learning media. This aims to ensure the quality of learning outcomes. COVID-19 does not only impact the elementary school, junior high school, and senior high school levels, but also the higher education institutions. Overall, the levels of education starting from elementary school to higher education, both under the Ministry of Education and Culture and the Ministry of Religious Affairs are affected, where students are "forced" to learn from home because face-to-face learning is eliminated in order to prevent the spread of COVID-19. In fact, not all students are used to studying online. Likewise, teachers and lecturers are still not good at teaching using the internet or social media (Purwanto, 2020).

Lack of learning readiness makes students less active when learning. Researchers found many obstacles during the learning process, for example, students did not pay attention to the explanation of teachers; students are reluctant to ask questions; students do not complete the assignments given by teachers; students are less enthusiastic when learning (Pangestu & Rohinah, 2018). Learning success depends on learning readiness. Connectionism learning theory states that "readiness" is one of the laws of learning. The law of learning shows that each individual will respond quickly to any stimulus with readiness; on the contrary, it is unlikely that each individual will respond to every stimulus that arises without readiness. (Pangestu & Rohinah, 2018).

Indicators of learning activities can be in the form of students who ask questions, dare to express opinions, refute opinions, express ideas or opinions, pay attention to explanations of teachers, answer questions, express opinions, complete individual assignments, complete group assignments, participate in games, are enthusiastic, and have enthusiasm (Pangestu & Rohinah, 2018). The higher the learning readiness, the higher the student activity, on the contrary, the lower the learning readiness, the lower the student activity (Pangestu & Rohinah, 2018). According to Pangestu and Rohinah, there are students with high learning readiness but are not active in the learning process. This is due to environmental factors, for example, superior students cause other students to have low self-esteem so they are not active in learning. On the other hand, students with low learning readiness are active in the learning process because if there are active

students, these students feel motivated and do not want to lose in the competition so that even though they have low learning readiness, these students are active in the learning process. In addition, other factors that affect the activeness of students in the learning process are high curiosity, the self-confidence of each student with their abilities, creativity, teaching materials, and teacher delivery during the learning process. The learning readiness indicator that mostly influences the activeness of students in the learning process is the physical condition because if the physical condition of the students is not good, the students do not focus on learning (Pangestu & Rohinah, 2018).

In general, everyone expects good results in every learning process. However, most were unable to understand the causes of the low learning outcome. (Nur Rohmatin, 2016). The assumption that mathematics is difficult can have an influence on learning outcomes. Good learning achievement will be difficult to obtain if students are not ready to understand the learning material (Nur Rohmatin, 2016). Based on a study by Nur Rohmatin entitled "The Relationship between Learning Readiness and Mathematics Learning Achievement on Mild Mentally Disabled Children" showed a significant relationship between learning readiness and mathematics learning achievement in mild mentally disabled children at SLB Siti Hajar Sidoarjo (Nur Rohmatin, 2016).

In the learning process, self-preparation is needed. Learning is a way to find out what cannot be done. A person can only learn when there is "readiness" (readiness). In fact, each individual has a different developmental background. This results in a different readiness formation pattern within each individual. Readiness in learning is very influential in development to increase willingness to learn so that someone will be easy and ready to understand something that will be learned. (Sinta, 2017). The learning process is a psychological activity with regard to learning materials. Learning activities are a process of learning something because learning is the main activity, learning is the key to building student competencies because new students can learn when everything related to the learning process is ready. At this time, students are required to be more active and independent in the learning process, not passive, and only expect or rely on teachers and other people as material presenters. For example, in a school, a teacher cannot be present in class to provide subject matter so students must take the initiative to find learning resources by using the school library, looking for appropriate textbooks and self-study to understand the material that has not been or has been given by the teacher (Sinta, 2017).

Based on a study by Vovi B Sinta entitled, "The Influence of Learning Readiness on Learning Outcome of 10th grade Economics at SMA Bina Jaya Palembang" showed significant influence between learning readiness on learning outcome. Some suggestions from the researchers: students are expected to pay more attention to learning readiness; teachers are expected to pay attention to learning readiness of students on learning process; schools are expected to provide adequate facilities to support learning readiness of students (Sinta, 2017). Psychic factors and homework have the greatest influence. This shows that a good psychological state will make students have good learning readiness. Homework also has an influence on the learning readiness of students. Many homework makes students do not have time to do other activities such as taking extracurricular activities at school, outside school organizational activities, or in their neighborhood. (Andriyani, Wiwi, 2017).

Good use of mass media will affect learning readiness, especially to find additional information about the material being studied. The unwise use of mass media makes students not prioritize finding additional information on learning material but only as entertainment. Good school discipline will affect learning readiness because the number of students who violate the rules is low, no students skip class during teaching and learning hours, and the low level of late students when entering school (Andriyani, Wiwi, 2017). Students with high discipline will affect learning readiness in schools. Students who are not late for school will not be in a rush to prepare learning tools and learning materials, students who do not skip will understand the material. Students with low levels of discipline tend to have low learning readiness. Students will be in a hurry to prepare learning tools and learning materials due to being late or will be left with a lot of material due to frequent skipping. So, students must have high discipline in order to get a good learning outcome (Andriyani, Wiwi, 2017).

Empathy shows the ability of students to understand the environment around the place of study. Empathy is related to helping peers who have learning difficulties, helping to lend lesson notebooks to friends who do not attend school, lending writing tools to other students. Empathy has an effect on learning readiness because empathy makes students more active in studying so that if friends have difficulties, students can help. Students feel happier when they can help friends who are experiencing difficulties so that students will

be better prepared for everything. If friends need help, students will be able to help immediately. Empathy can be seen from helping out in learning difficulties, students lend lesson notes to friends who are not present, students lend stationery to friends in need in class (Andriyani, Wiwi, 2017).

Impaired senses of students affect the learning process, especially in terms of learning readiness. Students without sensory disorders or mild sensory disorders will find it easier to learn. This shows that there are no things that prevent students from learning well. Health has a big influence on learning. Students with poor health, such as headaches, fever, anemia, or other disorders within students will make students not ready to learn. This is because students have to endure the pain suffered while students also have to concentrate on studying. If health is not good, learning readiness will not be optimal. Students will pay more attention to the pain they suffer than the learning process. Good learning readiness requires students with good health (Andriyani, Wiwi, 2017).

A sense of security is a need of students regarding the situation around the place of study. This sense of security includes the availability of complete and safe learning tools, the same facilities for learning from the school, having the same rights and obligations as students. This sense of security affects learning readiness because students will be more motivated to continue learning and prepare for the necessary needs. Students are not afraid to do new things in learning because of the different rights given to them by the school (Andriyani, Wiwi, 2017).

Based on a study by Wiwi and Nanik entitled "Factors Affecting Learning Readiness of 10th Grade Office Administration Students at SMK Negeri 1 Slawi in 2015/2016 Academic Year", it can be concluded that the new factors formed are 1) Psychic Factors and Homework, 2) Social Skills and Mass Media Factors, 3) School Environmental Factors, 4) Community Empathy and Environmental Factors, 5) Physical Factors, and 6) Needs Factors (Andriyani, Wiwi, 2017).

Based on a study by Dwi Wahyuni entitled "The Influence of Learning Readiness, Learning Motivation, and Learning Material Repetition on Learning Outcome of Economics on 2nd Grade MA Al Asror Gunung Pati Students in 2004/2005 Academic Year" showed significant influence between learning readiness, learning motivation, and learning material repetition on the 2nd Grade MA Al Asror Gunung Pati Students in 2004/2005 Academic Year both simultaneously and partially (Wahyuni, 2005).

The success of students in learning is determined by many factors, one of which is learning readiness which consists of attention, motivation, and readiness development. A good learning outcome can be guaranteed if students pay attention to the material being studied. Readiness is an individual condition that makes it possible to learn. There are various levels of learning readiness for a specific task. Students who are not ready to carry out a task in learning will experience difficulties or despair. This readiness is in the form of physical maturity and growth, intelligence, background experience, standard learning achievement, motivation, perception, and other factors that allow learning (Effendi, 2017).

Based on a study by Effendi entitled "The Relationship Between Learning Readiness and Learning Outcome of Physics Subject of 10th Grade SMK Muhammadiyah 03 Sukaraja Students" showed a significant relationship between learning readiness on learning outcome of physics subject, where according to hypothesis testing, tcalculated was 6.62 and t table was 0.81. Readiness of SMK Muhammadiyah Sukaraja students was in high category. 96% of students had high readiness in the learning process while 4% in the medium category, and 0% in low category with an average score of 76.024 and a standard deviation of 185.34. The learning outcome of physics subject at SMK Muhammadiyah Sukaraja was in the medium category. 60% of students had high learning outcome of physics subject while 16% in medium category, 24% in low category with an average score of 64.24 and standard deviation of 2.7 (Effendi, 2017).

Learning readiness and intelligence play a role as predictors of student achievement, but intelligence without learning readiness has been able to predict learning achievement. This may be due in addition to the influence of genetic factors, intelligence shows developmental maturity, and along with accepted parenting practices. The learning readiness factor, partially, does not function as a predictor of learning achievement. It is possible because learning readiness requires cognitive prerequisites, attitudes, behaviors, and skills, to carry out the learning process optimally where there are at least three interrelated factors that can influence the readiness of children to learn at school, namely: internal factors, school environment, and family environment (Izzaty et al., 2017).

Based on a study by Dessy Mulyani entitled "The Relationship Between Learning Readiness and Learning Achievement", it can be concluded that: (1) Learning readiness was in a fairly good category, where most students already have learning readiness. (2) Learning achievement was in a fairly good category, where most of the students already had achievements in learning. (3) There was a significant relationship between learning readiness and learning achievement (Mulyani, 2013). Based on some of these literature studies, researchers had an interest in analyzing the influence of learning readiness on learning outcomes of technical cadets with online learning during the COVID-19 Pandemic.

Theoretical Basis

Learning achievement is the result obtained after learning. The results obtained are generally in the form of an assessment (Nur Rohmatin, 2016). Learning readiness enables students to become the next generation and able to compete in life independently, be able to face challenges, and have good quality and character. Several aspects cause students to be unprepared in learning: 1) Physical, mental and emotional conditions; 2) Needs, motives and goals; and 3) Skills, knowledge and other understanding that has been learned. Healthy physical condition, good mental condition, supporting learning needs, the learning process and learning objectives can run well where readiness affects the learning outcome, if the learning outcome is not achieved properly, the learning objectives cannot be achieved well either. Learning readiness is an effort to complement its abilities in taking action or responding to what is being or is being faced while studying (Sinta, 2017).

Students without learning readiness tend to show low learning achievement, on the other hand, students with learning readiness tend to show high learning achievement. So, the level of learning achievement is determined by learning readiness in the learning process (Mulyani, 2013). The presentation and selection of material needs for students are made in the form of a needs questionnaire, containing statements of material needs accompanied by a choice of answers at each point of the statement (Julika & Setiyawati, 2016). Online learning media is understood as a media equipped with a controller that can be operated by the user so that the user can control and access the things the user needs. (Arnesti & Hamid, 2015).

Methods

This study used a survey and literature review method. This study was conducted in the Engineering Study Program of Akademi Maritim Nusantara Cilacap. Sampling was carried out in the Applied Mechanics course. This study was carried out in April-August 2020 with the number of population was 47 Technical Cadets and the number of samples was 38 Technical Cadets in Applied Mechanics course. This study used the data of learning outcomes in the cognitive domain. This study used a questionnaire to obtain learning readiness data, while the learning outcome data were obtained from the final assessment consisting of attendance, mid-exam, task, and final exam. The data collection procedure was carried out at the beginning of the lecture to find out about online learning readiness during the COVID-19 Pandemic and at the end of lectures when going to the New Normal. The quantitative data were analyzed using SPSS 16.0. This study used a simple linear regression analysis. Simple linear regression analysis is used to predict or test one independent variable or independent variable on the dependent variable or dependent variable.

Results and Discussion

In general, learning readiness had a relationship with learning outcomes. In detail, the quantitative data of learning readiness and learning outcomes were analyzed using SPSS 16.00 software. This study used a simple linear regression analysis. Simple linear regression analysis is used to predict or test one independent variable or independent variable on the dependent variable or dependent variable.
In this study, the following hypothesis can be formulated:
  Ho   : there is no significant influence of learning readiness (X) on
            learning outcome
  Ha   : there is significant influence of learning readiness (X) on
            learning outcome

The data were analyzed by using 2 forms of analysis:

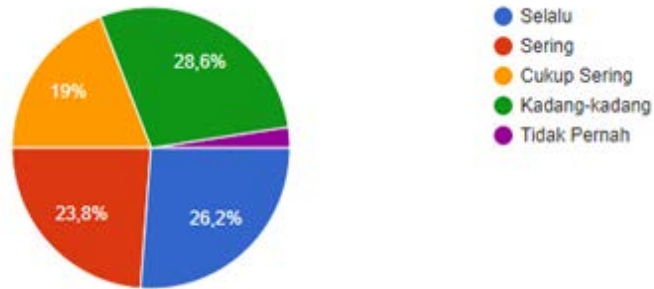1.   **Questionnaire Data in Graph Form**

Figure 1. Cadets study previous notes related to the course to be studied
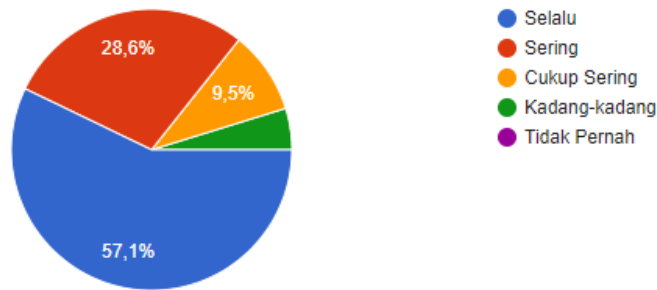

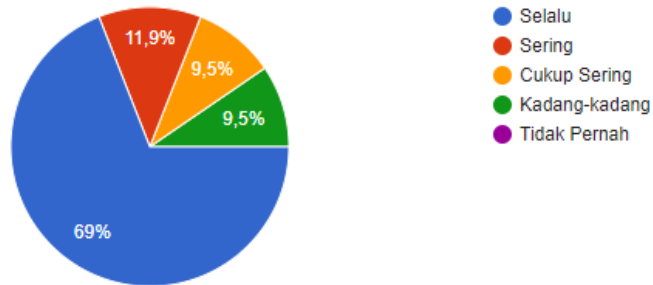Figure 2. Cadets complete assignments and exercises correctly and on time

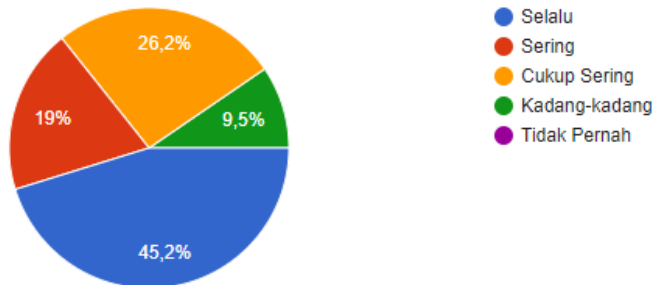Figure 3. Cadets maintain physical health and fitness

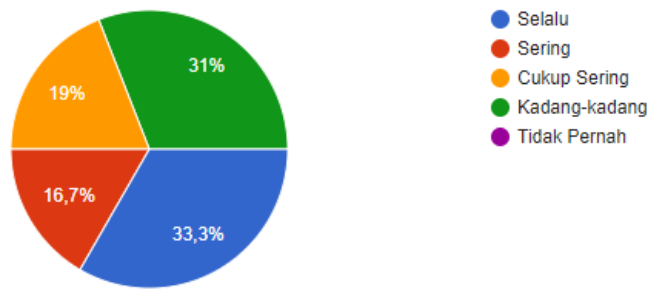Figure 4. Cadets read the material to be studied

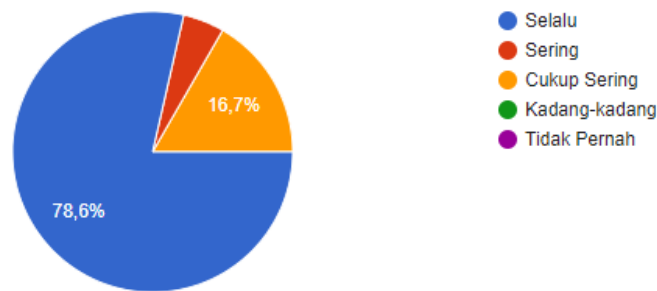Figure 5. Cadets make questions related to the material to be studied

Figure 6. Cadets prepare study equipment

2. The Influence of Learning Readiness on Learning Outcome

In the analysis of the questionnaire results, data were obtained in the form of graphs from 6 questions, namely: (1) Cadets study previous notes related to the course to be studied; (2) Cadets complete assignments and exercises correctly and on time; (3) Cadets maintain physical health and fitness; (4) Cadets read the material to be studied; (5) Cadets make questions related to the material to be studied; (6) Cadets prepare study equipment. The data were converted into a Likert scale so that the following equation is obtained: Very Good = Always; Good = Often; Fairly Good = Often Enough; Bad = Seldom; Very Bad = Never. Based on the chart, the highest learning readiness was in question number 6 with 78.6%; then question number 2 with 69%; question number 2 with 57.1%; question number 4 with 45.2%; question number 5 with 33.3%; and question number 6 with 26.2%. The results showed that the highest learning readiness was found that the cadets prepare study equipment. This is related to several learning tools that cadets must prepare when participating in learning through the online system during the COVID-19 Pandemic. Cadets prepare several tools, including laptop/computer/ mobile phone; stable internet network. These learning tools need to be prepared to support online learning in order to get the maximum learning outcome.

Regression

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Kesiapan[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Hasil

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.378[a]	.143	.119	8.16926

a. Predictors: (Constant), Kesiapan

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.378[a]	.143	.119	8.16926

a. Predictors: (Constant), Kesiapan

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	61.673	6.962		8.859	.000
	Kesiapan	4.612	1.882	.378	2.450	.019

a. Dependent Variable: Hasil

The quantitative data were analyzed by using simple linear regression which showed that sig 0.019 was lower than 0.05, so Ho was rejected, so the influence of learning readiness on learning outcome was positive. The results showed a significant influence of learning readiness (X) on learning outcome or there was an influence of learning readiness on learning outcome of technical cadets with online learning during COVID-19 Pandemic. This is in line with a statement by Dwi Wahyuni that there was significant influence between learning readiness, learning motivation, and learning material repetition on the 2nd Grade MA Al Asror Gunung Pati Students in 2004/2005 Academic Year both simultaneously and partially. (Wahyuni, 2005).

Conclusion

Based on the results, it can be concluded that learning readiness (X) had a significant influence on learning outcome. There was an influence of learning readiness on learning outcome of technical cadets with online learning during COVID-19 Pandemic. Learning readiness had 78.6% percentage or was in good category, where cadets prepare learning equipment properly so that they will get a good learning outcome.

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Biography

Lusiani, the author who was born in Cilacap, Central Java, is a lecturer in Engineering Program Study at Akademi Maritim Nusantara since 2015 until now. He likes to play with numbers completed his formal education as a Bachelor of Physics Education at Universitas Negeri Yogyakarta in 2011 and a Masters in Science Education with a concentration in Physics at Universitas Negeri Yogyakarta in 2013.