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## THE EFFECT OF LEARNING MOTIVATION AND SELF EFFICACY ON PROBLEM SOLVING ABILITY ON STUDENTS FACULTY OF ECONOMICS AND BUSINESS UNESA

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ARTICLE INFO	ABSTRACT
Article history:	This study aims to analyze and examine the effect of learning motivation and self-
Received: April, 02 2022	efficacy on problem-solving abilities in students of the Faculty of Economics and
Revised: May, 10 2022	Business, Unesa. The respondents of this study were 100 active students of the
Accepted: May, 30 2022	Faculty of Economics and Business Unesa class 2018-2021. The data collection technique was through a questionnaire, then the data analysis technique used was multiple regression. The results of this study showed that learning motivation had a partial effect on problem-solving abilities, self-efficacy partially affected problem-solving abilities and learning motivation and self-efficacy together had an effect on
Keywords:	problem-solving abilities. Based on the results of this study, researchers provide
Learning Motivation;	suggestions for students to be able to increase intrinsic and extrinsic motivation.
Problem Solving Ability; Self Efficacy.	For lecturers, it is hoped that they can help their students to increase learning motivation and self-efficacy. For further researchers, it is recommended to be able to develop variations of other variables that can affect problem solving abilities during online learning.
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### 1. Introduction

On March 11 2020, WHO declared the COVID-19 outbreak a global pandemic (Ruan, 2020). More than 100 countries have implemented social distancing to reduce the transmission rate, which is commonly referred to as 'lockdown' (Dunford et al., 2020). Lockdown due to COVID-19 has serious implications for mental health, causing psychological problems including frustration, stress, depression, and quality of education (Begum et al., 2021). Thus forcing colleges, universities around the world to close their campuses indefinitely and move their educational activities to online platforms (Chakraborty et al., 2020).

The transfer of learning from face-to-face to online learning was stipulated through a circular letter from the Ministry of Education and Culture (Mendikbud) Number 36962/MPK.A/HK/2020 with the aim of cutting off and minimizing the spread of COVID-19. The transfer of learning is carried out evenly at all levels of education, both formal and non-formal. Thus, all educational institutions must be ready, alert and able to adapt to the conditions of online learning (Matsani & Rafsanjani, 2021).

However, not all changes that come suddenly and must be applied to various fields will be easily accepted and adapted by everyone. Including students also experience and feel changes in daily life which also change the learning process. The learning process which was initially carried out directly, since the arrival of the virus and the establishment of provisions for online learning. Habits have to change and follow existing provisions. Learning that was initially carried out together, since the virus had to be done independently at home or in each other's place of residence. Which has an impact on changing the schedule of activities in general, for students from overseas areas. The majority had to return to their respective areas of origin and study at home. As a result, not one or two students feel disturbed if their home is not conducive



or other things are not supportive during online learning. Meanwhile, the duties and responsibilities remain the same between face-to-face meetings and online learning.

In addressing these problems, students must have clear goals, appropriate techniques and also structured evaluations when learning online. In order to achieve this, it is very important for students to have strong motivation to be consistent in the process. Every individual has internal conditions, where these internal conditions play a role in their daily activities. One of these internal conditions is "motivation". Motivation is defined as the basic impulse that moves someone to behave (Uno, 2016). This urge resides in someone who moves him to do something in accordance with his inner urge. Therefore, a person's actions based on certain motivations contain themes according to the underlying motivation.

In addition to motivation, students also need a high level of consistency. With obstacles or problems that come unexpectedly in line with this, Bandura (1994) suggests that self-efficacy is defined as people's beliefs about their ability to produce a determined level of performance that exerts influence over events that affect their lives. Self-efficacy determines how people feel, think, motivate themselves and behave.

From the obstacles and problems encountered during online learning, students must be able to manage problem solving skills. Problem solving is defined as an activity to identify the differentiation between the current problem solving condition and the target conditions to be achieved and to overcome the obstacles that lead to differentiation (Lee et al., 2003). Therefore, problem solving skills are very useful for students. His special ability to solve problems is also illustrated by the quote by Branca (Hutajulu et al., 2019) which states that problem solving is one of the serious targets in the teaching and learning process of mathematics, especially mathematical problem solving is the core of mathematics.

Based on the description, there are many factors that can affect students' problem solving abilities, but in this study the researchers only limited them to factors whose relevance was very close to the phenomenon during online learning. one of the factors that have relevance to online learning include self-efficacy factors and learning motivation factors.

Based on preliminary studies during online learning, students tend to have difficulty in managing their abilities during learning, in addition to the limited time and communication in learning, students feel anxiety and stress in doing assignments and do not believe in themselves, this unwittingly affects students' problem solving abilities. during less than optimal online learning. The results of Wahyu & Simanullang's research (2020), showed that 48.9% of students experienced mild stress, 42.6% experienced moderate stress and 4% experienced severe stress during online learning. In addition, students with learning difficulties with high levels of stress tend to react passively and mysteriously. Not only stress felt by students when learning online, anxiety also arises due to this learning (Ha in K. Kim & Hong, 2015). The results of research by Walean et al. (2021) also showed that the level of student anxiety during online learning was that 53% of students were not anxious, 28.9% of students were mildly anxious, 10.7% of students were moderately anxious, 6.6% of students were seriously anxious, 0.8% of students were very anxious.

So that the purpose of this study can be formulated to determine the effect of 1) learning motivation on problem solving abilities, 2) self efficacy on problem solving abilities, and 3) learning motivation and self efficacy together on learning abilities.

### 1.1. Literature Review and Submission of Hypotheses

## **1.1.1H1:** The learning motivation factor affects the problem-solving ability of the students of the Faculty of Economics and Business UNESA.

Umboh et al., (2017) suggest that learning motivation is an impulse that exists in students to function as an effort to achieve their goals or achievements. Learning motivation is believed to be the overall driving force that exists among students so that the desire to learn arises. The indicators of learning motivation proposed by Kim (in Kim & Byun, 2019) are level 1) motivation, 2) belief, 3) attention, 4) interest, 5) curiosity, and 6) the satisfaction that students have for independent learning. In Y. H. Kim & Lee's research (2012) learning motivation is correlated with the problem solving process and in Sim & Oh's (2012) study, learning motivation is identified as a factor that affects problem solving ability, so learning motivation needs to be considered. Kim (2014) in his research which revealed that the evaluation method of nursing practice education is related to learning motivation, academic self-efficacy, and problem solving processes of nursing students. The nature of learning motivation is internal and external encouragement to students who are learning to make changes in behavior, generally with several indicators or supporting elements. The 600

indicators of learning motivation proposed by Sadirman (Wulandari et al., 2018) are 1) diligent in facing tasks, 2) tenacious in facing learning difficulties, 3) showing interest in various problems, 4) preferring to work independently, 5) being able to defend his opinion. , 6) likes to find and solve problems.

According to Uno (2016) indicators of learning motivation can be classified as follows: (a) desire and desire to succeed; (b) encouragement and need for learning; (c) future hopes and aspirations; (d) appreciation in learning; (e) interesting activities in learning; and (f) a conducive learning environment, enabling students to study well. When students' learning motivation is high, teaching and learning activities tend to increase in the sense that learning will be active and students who are learning will actually follow the teaching and learning process so that the expected learning objectives can be achieved. problem. This is thought by the researchers because of the intersection of characteristics (indicators) between learning motivation and problem solving characteristics. Increased motivation in solving problems can be through increased motivation to learn and increased motivation will produce accuracy in problem solving. Through several exposure indicators from experts, the researcher decided to use the Uno (2016) learning motivation indicator as an indicator of this research.

# **1.1.2 H2:** The self-efficacy factor affects the problem-solving ability of the students of the Faculty of Economics and Business, UNESA.

Changes in the economic management system, such as technological developments in the economic field, and market characteristics for various lines require economics students to follow developments in the world of economics that are effective and at the forefront, as well as integrated problem solving skills (Pak, 2019). Students with high self-efficacy can change their behavior with optimistic beliefs and unremitting efforts, and can be effective and constructive in complex problems that arise in the response process. Sun (2015) stated that people with high academic self-efficacy choose tasks that have the driving force to learn new knowledge and skills in new situations, and persist in the task even when difficult situations arise. The academic selfefficacy indicators proposed by Ko (in Han, 2013) namely 1) academic task performance, 2) self-regulation efficacy, 3) self-confidence, and 4) task difficulty preference. In research conducted by Sim & Oh (2012) confirmed that there is a significant influence between independent learning attitudes, learning motivation, and academic self-efficacy on problem-solving abilities. Albert Bandura (2006) suggests Self-efficacy determines the amount of effort or tenacity undertaken by someone in the face of a task or activity. If a person has a belief that he will not be able to face a certain task or activity, then he will quickly switch to another task or activity and will not try harder to complete the task or activity. Self-efficacy as a personal factor that becomes an intermediary or mediator in the interaction between behavioral factors and environmental factors. The academic self-efficacy indicators proposed by Kim and Park (in Yeonha & Yeongah, 2016) consist of 1) self-confidence, 2) self-help efficacy, and 3) preference for task difficulty. ) confirms that there is a significant effect between academic self-efficacy and critical thinking disposition on problem-solving abilities.

Meanwhile, Bandura (1994) suggests that self-efficacy indicators are classified as follows: (a) cognitive processes; (b) the motivational process; (c) affective processes; and (d) the selection process, enabling students to solve problems optimistically and consistently. Through several indicators from experts, the researcher decided to use Bandura's (1994) self-efficacy indicator as an indicator of this research.

## **1.1.3 H3 : Learning motivation and self-efficacy factors affect problem-solving abilities in students of the Faculty of Economics and Business UNESA.**

Problem solving ability is defined as an activity that recognizes the difference between the current state of problem solving and the state of the goals to be achieved and resolves the obstacles that cause these differences (Lee et al., 2003). Therefore, it is very necessary to create a learning environment that can foster creative ability to solve problems that occur in various fields of education. Research conducted by Hutajulu et al., (2019) confirms that there is a significant influence between mathematical disposition and learning motivation on problem solving abilities. The learning motivation of an individual student also affects the learning outcomes of learning activities in schools and immersion learning of the inner spirit (Sim & Oh, 2012). Motivation related to learning should not be ignored because it acts as an important factor that determines not only learning activities but also the efficiency and success or failure of learning. Motivated learners have a passion for learning, they are interested, they are curious, they work hard, and they perform

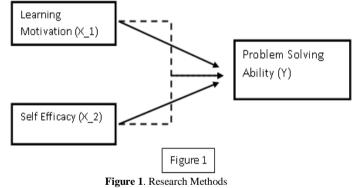
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persistent activities in overcoming obstacles and achieving certain goals (Sim & Oh, 2012). Pintrich and DeGroot (1990) found that the higher the motivation to continue learning, which is one of the main factors for learning motivation, the higher the learner's independent learning through interaction with learning facilitators in learning situations.

In addition to learning motivation, self-efficacy also affects problem-solving abilities, as evidenced by several relevant previous studies. In Pak's research (2019) confirms that there is a significant influence between self-leadership, caring ability, self-efficacy on social problem-solving abilities in nursing students. As one of the factors in problem solving, problem-solving self-efficacy (Bandura, 1994) and intrinsic motivation (Pillemer, 2018) is included. Self-efficacy refers to the sense of efficacy perceived by the learner as one of the stages in his ability to organize and carry out the necessary actions by doing (Bandura, 1994). The indicators of problem-solving ability proposed by Heppner and Petersen (in Yeonha & Yeongah, 2016) are 1) problem-solving beliefs, 2) close avoidance style, and 3) personal control. Wang et al., (in Luo et al., 2019) suggested indicators of problem solving ability as follows: 1) positive problem orientation, 2) rational problem solving, 3) negative problem orientation, 4) impulsive style, and 5) style avoidance. Meanwhile, according to Lee, Seok Jae., et al, (2003) indicators of problem solving ability can be classified as follows: 1) acceptance of the problem situation, 2) analysis of the problem situation, 3) finding the cause of the problem, 4) finding a solution 5) choosing the best solution , 6) implement the solution that has been selected, and 7) evaluate behavior. Through several exposure indicators from experts, the researcher decided to use indicators of problem solving ability Lee Seok et al., (2003) as indicators of this research.

### 2. Research Methods

This study uses a descriptive type of research with a quantitative approach. There are two research variables, namely the independent variable consisting of learning motivation and self-efficacy. The dependent variable consists of problem solving ability.



Information :

- X1 : The independent variable (independent), namely learning motivation
- X2 : The independent variable (independent), namely self efficacy
- Y : Dependent variable, namely problem solving ability

The population of this research is the active students of FEB Unesa who feel or are participating in online learning. The population taken in this study amounted to 2,323 students of the Faculty of Economics & Business, State University of Surabaya. The sampling technique in this study used a non-probability sampling method, the type of purposive sampling. This type of purposive sampling is a sampling technique with certain considerations that have been determined (Sugiyono, 2016). Determining the number of samples in this study using the Slovin formula with an error of 10% obtained a minimum sample of 96 respondents. So, adjusted to the researchers to be 100 respondents. The characteristics of the respondents are: 1) Active students of FEB Unesa in 2018-2021, 2) Have or are currently participating in online learning.

Sources of data used are primary and secondary data. Primary data was obtained from questionnaires while secondary data was obtained from several literatures, namely books and scientific journals. Data collection used an online questionnaire using а google form with the link https://bit.ly/MotivasiBelajardanSelfEfficacy.

There are two research variables, namely the independent variable consisting of learning motivation (X1) and self-efficacy (X2). And the dependent variable consists of problem solving ability (Y). The research instrument consists of 43 statements formed by the researcher from the learning motivation variable with 11 indicators, the self-efficacy variable with 8 indicators, and the problem-solving ability variable with 14 indicators. The research instrument was measured using a Likert scale with the answer choices, including: (1) Strongly Disagree (STS), (2) Disagree (TS), (3) Neutral (N), (4) Agree (S), (5) Strongly Agree (SS)(Sugiyono, 2016)

The research instrument was tested using validity and reliability tests. From the validity test, all the statement instruments of each variable were declared valid with the value of r arithmetic > r table using a significance level of 5%. Meanwhile, in the validity test of all the statement instruments, each variable is declared reliable with an alpha value > 0.361.

The data analysis technique used in this study is the classical assumption test (normality test, heteroscedasticity test, & multicollinearity test), multiple linear regression analysis and hypothesis testing using the F test (Goodness Of Fit Test), coefficient of determination, & t test using the application SPSS version 26.

The results of the classical assumption test are obtained with the following description and elaboration:

- Normality test can be seen that the retribution data is normal or vice versa. The results of the significant 1. value can be seen 0.379 > 0.05 in this case the distribution of the data runs normally.
- 2. Multicollinearity test to determine the presence or absence of intercorrelation on each dependent variable. The result is that there is no multicollinearity because the VIF value is 2.291 < 10 and the tolerance value is 0.437 > 0.13.
- Heteroscedasticity test using the scatterplots method with the result that there is no heteroscedasticity 3. seen from the distribution of random points well below the number 0 of the Y axis.

#### 3. **Results and Discussion**

### 3.1 Characteristics of Respondents

In this study, the characteristics of the respondents can be identified through several factors, including: gender, age, faculty, educational program. The details are as follows:

	TABLE 1.		
	CHARACTERISTICS OF RESPONDEN	ITS	
Number of respondents 100 people	Specification	Percentage	
	Male	18%	
Gender	Woman	82%	
	18 year	14%	
	19 year	24%	
•	20 year	11%	
Age	21 year	25%	
	22 year	24%	
	23 year	2%	
Study program	S1 Economics Education	38%	
	S1 Accounting Education	8%	
	S1 Business Education	37%	
	S1 Office Administration Education	8%	
	S1 Management	6%	
	S1 Accounting	-	
	D3 Accounting	-	
	S1 Economics	3%	
	S1 Islamic Economics	1%	

Source: processed by researchers (2022)

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In table 1.2 it is known from the number of respondents as many as 100, the dominant gender of the respondents is female, namely 82 people with a percentage of 82%. Meanwhile, the dominant age sector is at the age of 21 years as many as 25 people with a percentage of 25%.

## 3.2 The Influence of Learning Motivation on Problem-Solving Ability in Faculty of Economics and Business Unesa

From the results of the data processing, there are table 2 data from the H1 multiple regression analysis as follows:

TABLE 2.					
RESULTS OF H	RESULTS OF H1 MULTIPLE LINEAR REGRESSION ANALYSIS				
Model	Regression coefficient	Т	T table	Sig.	
Motivation to learn	0,287	2,341	1,984	0,021	

Source: processed by researchers (2022)

Table 2 shows the learning motivation variable (X1), the regression coefficient value is 0.287 which is interpreted that the increasing motivation to learn will also increase problem solving abilities in FEB Unesa students.

The results of the t-test on the learning motivation variable get a t\_count value greater than t table (2.341 > 1.984), the significance value of 0.021 is not more than 0.05. Thus, it can be concluded that the results partially show that learning motivation has a significant effect on problem solving abilities. So it can be said that the first hypothesis can be accepted.

Based on the results of respondents' answers, it is shown that many students reward themselves after completing difficult lecture assignments (eg vacations, watching movies, culinary). Still in the context of difficult lecture assignments, many students feel proud after successfully completing difficult lecture assignments during online learning. And many students tell people at home that online learning will start, so that peace is maintained. So it can be concluded that student learning motivation during online learning is balanced by intrinsic motivation and extrinsic motivation.

The results of this study agree with Wahyuddin's research (2016) confirming that there is an influence of metacognition, learning motivation, learning creativity has a significant positive effect on students' problem solving abilities. Then the research conducted by Sim & Oh (2012) also shows that between self-efficacy, learning motivation and self-directed learning on problem solving ability there is a positive and significant influence. The results of Mi Young & Eun Kyung's research (2019) concluded that primary satisfaction, academic self-efficacy, critical thinking disposition, and learning motivation were identified as factors that influence problem-solving abilities.

Learning motivation plays an important role in online learning as it is today, where in online learning students are required to become independent learners so that students are expected to have high learning motivation from within themselves. Through learning motivation, students will have more of their own effort to learn and manage their abilities, thus students will find it easier to maintain problem solving abilities.

## **3.3** The Influence of Self Efficacy on Problem Solving Ability in Unesa Faculty of Economics and Business students

From the results of data processing, there are 3 tables of data from the H2 multiple regression analysis as follows:

TABLE 3					
R	RESULTS OF H2 MULTIPLE LINEAR REGRESSION ANALYSIS				
Model Regression T T table Sig.					Sig.
		coefficient			
	Self	1,118	9,019	1,984	0,000
	Efficacy				
-	Source: processed by researchers (2022)				

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Table 3 shows that the self-efficacy variable (X2) has a regression coefficient of 1.118 which is interpreted that every increase in self-efficacy will be followed by an increase in the results of problem-solving abilities.

The results of the t-test on the self-efficacy variable get a t-count value greater than t-table (9.019 > 1.984) with a significant value of 0.000 not more than 0.05. Thus, it can be concluded that the results partially show that self-efficacy has a significant effect on problem-solving abilities. So it can be said that the second hypothesis can be accepted.

Based on the results of respondents' answers, it shows that many students can find several solutions to online learning problems (eg: time problems during online discussions, signal problems, limited references, etc.). Even though they are online, many students can understand differences of opinion with their friends during online learning discussions. And many students believe they can stay calm when faced with difficulties when learning online. So it can be concluded that student self-efficacy during online learning is a driving force to learn new knowledge and skills in new situations, and persist in assignments even when difficult situations arise. Self-efficacy also forms student consistency in discussions so that in online learning, distance is not an obstacle for students to continue to discuss as in face-to-face learning.

The results of this study agree with the research of Yang & Sim (2016) which shows that between the tendencies of critical thinking, creativity, self-efficacy and problem-solving abilities of nursing students there is a positive and significant influence. In Yeonha & Yeongah's research (2016) it also shows that there is a positive and significant influence between academic self-efficacy, critical thinking disposition, and problem-solving abilities. Then Ahn (2020) concluded that there was a positive and significant influence between academic self-efficacy, and problem-solving abilities in COVID-19 distance learning.

This research is reinforced by the self-efficacy theory Bandura (2006) suggests that self-efficacy determines the amount of effort or tenacity that is carried out by a person in dealing with a task or activity. If someone has the belief that humans will not be able to deal with certain tasks or activities, then humans will quickly switch to other tasks or activities and do not want to try harder to complete the task or activity. Thus it is important for students to be able to increase self-efficacy. It can be concluded that students who have high self-efficacy tend to be consistent and tenacious with what they are doing and the difficulties faced in the end it will become a student habit to maintain their problem-solving abilities.

## 3.4 The Influence of Learning Motivation and Self Efficacy on Problem Solving Ability in Economics and Business Faculty students Unesa

Table 4				
Results of the Coefficient of Determination				
R	R Square	Adjusted R Square		
0,858	0,737	0,731		
Source: processed by researchers (2022)				

Based on the results of the analysis, the coefficient of determination (Adjusted R Square) of 0.731 means that the variation that can be explained by learning motivation (X1) and self-efficacy (X2) on the variable problem solving ability (Y) in FEB Unesa students is 73.1% and the remaining 26,9% is influenced by other variables that are not explained and discussed in this study. Therefore, it can be concluded that the variables of learning motivation and self-efficacy have an influence of 73.1% on the variable problem solving ability of FEB Unesa students. Problem solving ability is still influenced in a balanced way by learning motivation and self efficacy.

TABLE 5 F TEST RESULTS				
Model	Fcount	Ftablel	Sig.	
Regression	135,740	3,09	0,000	
Source: processed by researchers (2022)				

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From table 5 it can be seen the value of F\_count is 135.740 more than the value of F\_table 3.09 with a significant value of 0.000 less than 0.05, therefore learning motivation variables (X1) and self-efficacy (X2) simultaneously affect problem-solving abilities (Y) and it can be concluded that the third hypothesis is acceptable.

It can be concluded that learning motivation and self-efficacy are two important things for students of the Faculty of Economics and Business Unesa in maintaining and improving problem solving abilities.

In this study the results of multiple linear regression using a systematic multiple linear regression test with the formula:

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e \tag{1}$$

$$y = 8,636 + 0,287X1 + 1,118X2 + e$$
(2)

From these results, the constant value of 8.636 can be described. The X1 variable has a significant value with 0.021 < 0.05, which has a coefficient value of 0.287. In the X2 variable, the value is significant with 0.000 < 0.05, the coefficient value is 1.118. Therefore, the variable of Learning Motivation X1 and the variable of Self Efficacy X2 have an effect on Problem Solving Ability (Y)

Based on the results of respondents' answers, it shows that many students know the difference between expectations and reality that occur during online learning and many students ensure that the steps to overcome online learning problems have been carried out correctly. So it can be concluded that students during online learning are able to accept problem situations to evaluate behavior after problems are solved.

The results of this study agree with the research of Sim & Oh (2012) which states that there is a positive and significant relationship either partially or simultaneously self-efficacy and learning motivation to problem-solving abilities. Mi Young & Eun Kyung (2019) also stated that there is a positive and significant relationship either partially or simultaneously self-efficacy and learning motivation to problem-solving abilities.

Learning motivation in this case is very influential on students' problem solving abilities, where students with high learning motivation tend to maximize their ability to fulfill their personal responsibilities as learners. With motivation, someone will be moved to make a change, as well as learning motivation which plays an important role for students where with learning motivation students will be encouraged to continue learning until their abilities increase. The importance of self-efficacy is no less important when online learning is like today, where in online learning students are required to become independent learners without having to depend on other parties. Students with high learning motivation and self-efficacy will have high problem-solving abilities as well. This problem-solving ability can be seen through the consistency, tenacity and strategies of students in dealing with problems in online learning.

### 4. Conclusion

Based on the explanation that has been explained previously, it can be concluded: (1) Learning Motivation Variable partially has a significant positive effect on the Problem Solving Ability variable in FEB Unesa students. (2) The Self Efficacy variable has a positive effect on the Problem Solving Ability variable in FEB Unesa students. (3) Learning Motivation Variables and Self Efficacy Variables simultaneously affect the Problem Solving Ability variable in FEB Unesa students. Based on the results of this study, researchers provide suggestions for students to be able to increase intrinsic and extrinsic motivation by trying hard and having initiative. For lecturers, it is hoped that they can help their students to increase learning motivation and self-efficacy through optimizing contextual learning by emphasizing learning on the relevance of real life. For further researchers, it is recommended to be able to develop variations of other variables that can affect problem solving abilities during online learning and also develop research subjects to be wider.

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