Online Learning Solution: Ice Breaking Application to Increase Student Motivation

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Abstract. The purpose of this study was to find out the effectiveness of ice breaking as an effort to increase the students' learning motivation. This research was conducted in the Science Education Study Program of STKIP PGRI Nganjuk, East Java, Indonesia. The sample in this study was 25 students in the third semester who took the mechanics course. The sample used in this study was taken using purposive sampling technique. This type of comparative research is used in this study. Data collection techniques used, questionnaires, observation sheets, and documentation. This type of research is comparative which is used to examine differences in student learning motivation before and after being treated. The results of the study were based on the Paired T Test shows value probability/ p Paired T test value of 0.000. This means that there are differences in student learning motivation after being given the ice breaking learning model. This ice breaking was implemented as an effort to reduce saturation and boredom of the students during the learning process. The new thing that is obtained is that the application of games can increase learning motivation

Keywords: Game; Ice Breaking; Motivation; Learning.

INTRODUCTION

Social distancing as a result of government's efforts to reduce the rate of spread from the Covid-19 virus has resulted in educational institutions not being able to carry out face-to-face learning processes but to do it remotely. So the learning method applied is online or in a network (online). Online learning is a learning concept that utilizes internet networks with accessibility, connectivity, flexibility, and the ability to generate various kinds of learning interactions (Moore, Dickson-Deane, & Galyen, 2011). In its implementation, online learning requires supporting devices such as smartphones, laptops, computers, iPhones, or anything else that can basically be used to access information anytime and anywhere (Gikas & Grant, 2013). While the media for implementing the learning process can be in the form of Google Classroom, Edmodo, Google Meet, Schoology, Zoom Meeting, and WhatsApp, others (Enriquez, 2014; Iftakhar, 2016; H Pratama & Prastyaningrum, 2019; Hendrik Pratama & Yusro, 2016).

However, this does not mean that online activities in the past 1 year were not without obstacles. One of them, it is when viewed from student learning motivation. If in face-to-face (offline) learning the educator is able to create

an atmosphere that is conducive to maintaining motivation and can even control every student activity, but in online learning this control becomes difficult to do. The limitations of virtual space and distance are the main factors. In addition, many students besides studying online also use smartphones for social media, watching YouTube, and games. As a result, students do not focus on their learning goals and are worried about the inclusion of misleading information (Putra & Patmaningrum, 2018; Siddiqui & Singh, 2016). In addition, from the lecturer side, they often carry out the learning process according to routines with ordinary and simple concepts. For example, learning is carried out through zoom meetings, students are given material through powerpoints, and at the end of the lesson they are given questions. You can imagine if this happened continuously, students would be bored and tired of attending lectures

Through the results of a survey conducted by researchers in 2020 which was conducted online with several educators during online learning, it was stated that student learning motivation had decreased (Lin & Chen, 2017; Su & Cheng, 2015). For example, when the Zoom Meeting was held, only a few students participated and were active during the learning process. In fact, when lectures started, not a few students were late attending lectures. Attendance data during lectures in the Mechanics Course shows that of 25 students, 52% study on time and the remaining 48% are late. There are 35% active students and 65% of the students are not active during the learning process. The average learning outcome was 57 in the sufficient category. In fact, almost 40% of the students have to make a remedy every time an exam or quiz is held. This case certainly becomes the problems for the lectures who evaluate theirselves and do the measure to correct it.

Based on the problems faced, it can be concluded that the students' motivation to learn has decreased drastically. Motivation is an important aspect in supporting successful learning. Motivation to learn is an impetus that arises from within and outside the individual to make changes in behavior (Puspitorini, Prodjosantoso, Subali, & Jumadi, 2014). The motivation to learn in each student varies from one another, there are students who have high learning motivation and there are also those who have low learning motivation (Wulandari & Surjono, 2013). Basically, educators are

responsible for increasing the students' motivation. The steps that can be taken in order to increase the students' motivation are by creating active teaching and learning activities with a pleasant atmosphere (Yusrizal, Hajar, & Tanjung, 2019). So that with increased motivation, learning outcomes can be better and students are able to apply it (Maduretno, Sarwanto, & Sunarno, 2016).

The solution offered in this study is to apply a game-based learning method by utilizing the ice breaking concept as an effort to increase the student learning motivation. The Ice breaking method was chosen by referring to Fanani (2010) which states that the method consists of various activities that can be used to solve an atmosphere of boredom and boredom so that it can make the atmosphere relaxed and more conducive. Ice breaking can be done in various forms of activity, for example in the form of funny and meaningful stories from teachers, prize guesses, or games (Jarusriboonchai, Malapaschas, & Olsson, 2016). With the ice breaking method, it is hoped that students will no longer be bored after attending lectures. There are variations and innovations offered by lecturers to make the atmosphere comfortable and not tense(Pallot et al., 2017; Sicat, 2015). If the contact of this activity is applied, it is likely that students will return to a state of enthusiasm, motivation, passionate learning passion, and of course provide benefits to their learning outcomes. The new thing that is expected in this research is the application of ice breaking to increase learning motivation. The ice breaking media used is the Mentimeter application.

The purpose of this study was to determine the effectiveness of ice breaking as an effort to increase student motivation in the Science Education Study Program of STKIP PGRI Nganjuk, East Java, Indonesia. The hypothesis proposed is that there are differences in the students' learning motivation after the application of the ice breaking learning model.

METHOD

This type of comparative research is used in this study. Comparative research is research that compares the state of one or more variables in a sample at different times (Sugiyono, 2008). The phenomenon to be studied is the difference in the students' learning motivation when viewed from the application of the Ice Breaking learning strategy. The population of this study used all

students of the STKIP PGRI Nganjuk Science Education Study Program in the academic year 2020/2021. The sample in this study was the third semester students who took the mechanics course with a total of 25 students. The sample used in this study was taken using purposive sampling technique because the researcher could only use one class from the existing population. The statistical test used is the Paired T Test or Paired T Test. This test was chosen because it is to determine the average difference between two pairs of samples. This kind of test is carried out on the subject being tested for the situation before and after the process

This test is intended to determine the average difference between two pairs of samples. The first test (pretest) was carried out before the treatment (providing learning strategies using ice breaking). Then the second test (postest) was carried out after the treatment. Data collection techniques used, questionnaires, observation sheets, and documentation.

RESULTS AND DISCUSSION

Result

a. Increasing Student Motivation in the Learning Proces

Table 1. Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Mean Error
Pair 1	Pretest	80,3200	25	4.90510	.98102
	Postest	92,6400	25	6.08194	1.21639

Based on Table 1. The average postest score of 92.64 is greater than the pretest value of 80.32. This shows that the learning process by implementing ice breaking makes students more relaxed and able to understand the material providedWe can observe the magnitude of the

effect of giving ice breaking in this learning process based on the data *paired samples correlations* which shows correlation between 2 variables: The result is 0.475 means a strong and positive relationship.

Table 2. Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Mean Error	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Pretest - Postest	-1.23200E1	5,72072	1.14414	-14,68140	-9.95860	-10,768	24	.000

Score probability/ p Paired T test value: The result = 0.000. Meaning: There is a difference between before and after treatment. Because: p value> 0.05 (95% confidence). Mean: -1,232.

Negative value: This means that there is a tendency to increase learning motivation after treatment. The average increase was 1,232.
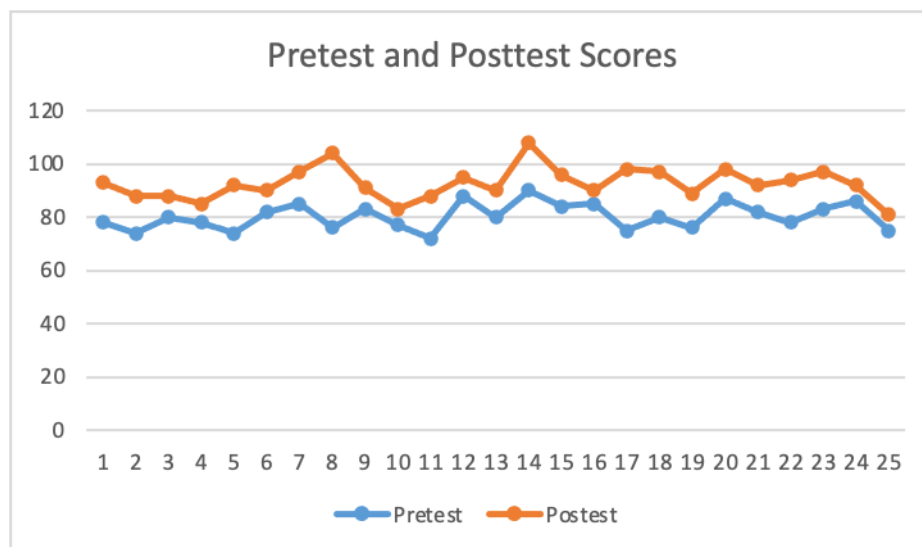
Figure 1. Results of Pretest and Postest Values

Based on Figure 1, it shows that there are differences in the students' learning motivation before and after being given treatment. Of the 25 samples, the average prestes score was 80.32, increasing with the average postest score being 90.64. . The results of the N-gain test showed an average value of 0.31 (in the medium category). This means that the application of ice breaking is effective in increasing student learning motivation.

b. Ice Breaking Design

Table 3. Ice Breaking Implementation Design

Step	Description
Preparation	• Ice breaking using the meter application is done by registering at https://www.mentimeter.com/. • There are 10 questions provided with multiple choice types.
Implementation	• The students are given questions in sequence and answers by each student. • The winner is the student who is able to answer correctly and the fastest in each question (score is calculated based on correct answers and speed) • The learning process is carried out through the Zoom Meeting application.
Evaluation	• At the end of the lesson the lecturer provides an evaluation of the questions and answers that has been given.

Based on Table 3, learning activities using ice breaking are carried out through the Zoom Meeting application. Then students are given questions through the meter application. Mentimeter is a tool for working remotely. Mentimeter is easy presentation software that can be used. Metimeter can make presentations that are fun and interactive. Mentimeter helps to make learning activities, presentations, lectures and workshops innovative and memorable. It can be used to make problems ineteractively. As a learning medium, Mentimeter offers data sets that can be downloaded and installed on a smartphone or computer. On the contrary, it can make interactive learning because it can directly explore the opinions of participants directly (Little, 2016).

At the end of the lesson, an evaluation and discussion is carried out by the lecturer. The results found several misconceptions from the answers that have given by the students. Following are the misconceptions obtained from the students' answers which are presented in Table 4.

Table 4. Results of Material Evaluation During the Learning Process

No.	Question	Student Answers	Explanation
1.	Someone ran down an inclined plane because there was a stone rolling behind him. A stone has a mass greater than the mass of a person. When the velocity of the person and the stone is the same, then how great is the momentum of the person and the rock ...	As many as 57.94% students answered that when the velocity of the person and the stone is the same, then the amount of momentum from the person is equal to the magnitude of the momentum from the stone. The students assume that a stone and a person have the same velocity so that their momentum is the same even though the masses are different. This means the students assume that momentum is influenced by the velocity of both of them which has the same value.	The momentum of an object is written as the following equation: $$\vec{p} = m\vec{v}$$ Momentum is a vector quantity where the scalar quantity (mass) is multiplied by the vector quantity (velocity). Momentum has the same direction as velocity. Meanwhile, the ratio of the magnitude of momentum in the two cases (condition) is influenced by the mass if the velocity of the two cases is fixed and is influenced by the magnitude of the velocity if the mass of the two cases is fixed. A stone has a mass greater than the mass of a person. When the velocity of the person and the stone is the same, the amount of momentum from the person and stone is different because the momentum is affected by the mass value of the two objects which is different with the velocity of the two objects being fixed.
2.	A little boy and his father throw a baseball together. The initial speed of the baseball thrown by the father is greater than the initial velocity of the baseball thrown by his son. How big is the momentum of a baseball when thrown by his son and father?	As many as 61.11% of students answered that the magnitude of momentum from the baseball ball when the child was thrown was the same as the baseball was thrown by his father. The student assumes that the two baseball balls have the same mass, so the momentum is the same even though the velocity is different. This means that students only think that momentum is only affected by the mass of both of them which have the same value.	A baseball ball that his father throws has an initial velocity greater than the initial velocity of the baseball thrown by his son. The amount of momentum from a baseball ball when thrown by the child and his father is different because the momentum is influenced by the velocity of the two objects which is different with the mass value of the two objects with a fixed value.

Discussion

Based on the problems that occur, such as low learning motivation, an uncomfortable learning condition, boredom of the situation in the middle of the Covid-19 virus pandemic, and the various pressures that exist, ice breaking is right to make students eliminate all of these problems. Ice breaker is a situation transition from boring, sleepy, saturating, and tense to relaxed, excited, not sleepy, and there is attention and there is a sense of pleasure to listen to or see other people talking in front of the class or meeting room (Beheshtian, Kaipainen, Kähkönen, & Ahtinen, 2020; Susanah & Alarifin, 2014).

Novelty from this research is ice breaking which is used in this study using an existing online tool/web browser, namely the Mentimeter application. Supporting the research of Tetep et al. (2020), that Mentimeter helps make learning innovative and memorable. The results of the presentations / surveys can be seen immediately by teachers and other students. Students are also given the opportunity to freely have their opinions and know the opinions of their friends without having to know who wrote that opinion. This can increase the closeness between students and the teacher can know the opinions of students openly.

The observations show that the ice breaking activity can provide benefits, including being able to eliminate saturation, boredom, anxiety, and fatigue because the learning process becomes more enjoyable. In addition, ice breaking is also able to (1) train the students to interact in groups and work together as a team, (2) develop and optimize brains and creativity, (3) increase self-confidence, (4) train to take decisions and actions, (5) train to determine the strategy carefully (Chlup & Collins, 2010). Ice breaking aims to (1) create a relaxed atmosphere for the students, (2) in other to makes participants entertained, happy and relaxed, (3) generate a passionate and excited learning atmosphere, (4) foster learning motivation (Nasir, Lyons, Leung, Bailie, & Whitmarsh, 2015). Based on this theory, ice breaking can increase learning motivation. In practice, ice breaking can be given at the beginning, in the middle, or at the end of the lesson. Lecturers can adjust to the conditions during the learning process.

In Mentimeter application, the lecturer designs the questions into multiple choice forms. As a form of refresher and providing the concept of ice breaking, the initial questions are in the form of general knowledge and have not yet addressed the core material. Like a quiz, the students are formed into small groups of 4 to 5 persons and compete with each other to get the highest score. The interesting thing in this activity is that students can work on questions like playing games using their respective smartphones. There is no rule for working with any technique or strategy. The winner of this activity is the group that gets the highest score based on correct answers and speed. The score will automatically be displayed on the screen of mentimeter.

The next step, the lecturer gives questions according to the core material that has been explained previously. Here the questions are also designed in multiple choice forms on the subject of Momentum. As the questions that have been given previously, students also compete to get the highest score. The difference in this session is done independently, not in groups.

The benefits obtained in this activity are being able to create competition between students to get the highest score like playing a game (Lin & Chen, 2017; Nasir et al., 2015) Students do not feel bored like usually given questions by lecturers. Without realizing it, the students have competed to get the highest score. This is certainly very good in creating conducive learning conditions and creating positive competition (U. N. Pratama & Haryanto, 2017). In addition, lecturers also provide rewards for winners at the end of the activity. The use of ice breaking as an activity to shift situations from tense, boring, sleepy to fun, excited, relaxed, and not sleepy so that the learning atmosphere can melt away and become more conducive has a significant effect (Fanani, 2010).
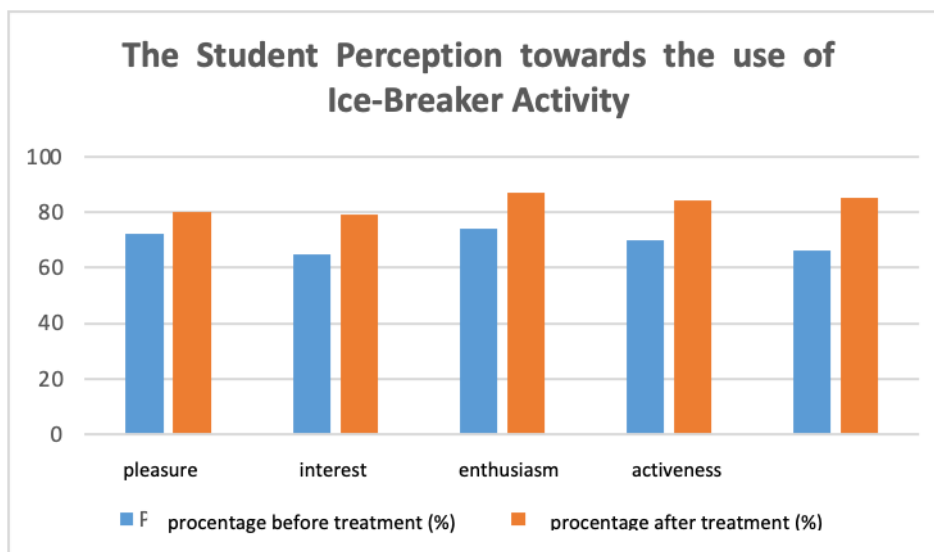
The Student Perception towards the use of Ice-Breaker Activity

Figure 2. Students' Perceptions of the Use of Ice Breaking in Learning

Based on Figure 2, the students' motivation is measured based on 5 indicators, namely pleasure, interest, enthusiasm, activeness, and anxiety. Then, this indicator is made in the form of a questionnaire. The results show that the indicators of student pleasure during the learning process increased from 72% to 80%, the interest indicator increased from 65% to 79%, the enthusiasm indicator increased from 74% to 87%, the activeness indicator increased from 70% to 84%, and the anxiety indicator increased from 66% to 85%. From these results indicate an increase in the students' motivation after being given treatment. Febrianto, Mas'udah, and Megasari (2020) motivation is important in every learning activity because without motivation students become discouraged. Motivation is an absolute requirement in learning

CONCLUSIONS AND SUGGESTIONS

The results obtained in this study indicate that there are differences in the students' learning motivation before and after being given a learning model by applying the ice breaking game. From the aspect of learning outcomes, the post-test score of 92.64 was better than the pretest score of 80.32. The learning atmosphere in the classroom becomes more fun, the students are very motivated to attend the lectures. The students' views about the boredom of the online learning model has changed. In fact, the classroom atmosphere becomes more competitive, more collaborative, and varied. Considered from the indicators of learning

motivation, the aspects of pleasure, interest, enthusiasm, activeness and anxiety show an increase after treatment. This result is also supported by the average N-Gain value is 0.31 (in the medium category). In its application, ice breaking is packaged in the form of a test competition to work on interactive multiple choice questions using the meter application.

Recommendations for further research, it is necessary to innovate the use of learning models and media to create a pleasant learning atmosphere amid the current Covid-19 pandemic. Boredom and high pressure on students need to be overcome with a relaxed learning concept but still on track. Technological developments such as mobile learning and even free applications on Playstore can be applied very rapidly for the students to support the learning process.

The weakness of this method is that the teacher must have skills and creativity, especially in choosing the right activities according to their needs. When the ice breaking is given is the key to success. For example, if you want to apply it at the beginning, in the middle, or at the end of the lesson it must be adapted to the conditions.

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