



Is There A Different Influence of Interactive-Based Methods on Student Social Interaction During E-Learning?

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ABSTRACTS

There are various kinds of interaction-based E-Learning methods that can be used by educational institutions during the Covid 19 Pandemic, including the Inter-group collaborative and competitive method. This type of research is quantitative comparative using the T test to determine differences in social interactions that occur in students before using collaborative and competitive methods-Inter-group with after using collaborative and competitive-Inter-group methods. The number of samples used in this study were 62 Widya Kartika University students divided into 2 classes, 24 students in the experimental class and 38 students in the control class. The results showed that there were differences in social interaction before and after using the inter-group and collaborative competitive methods. The recommendation of this study is that the interaction-based method can be used as a learning method to increase student social interaction during e-learning.

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1. INTRODUCTION

At this time all countries are being hit by the covid-19 virus pandemic, causing learning to be done by students online and independently. Constructivism learning theory that supports freedom in learning so that the learning process can be done anywhere and anytime as stated (Yusuf and Arfiansyah, 2021) can be realized in the use of e-learning because in using e-learning students can learn freely and independently. According to (Hoppe et al., 2003; Wang et al., 2010) the definition of e-learning is learning that is supported by electronic digital tools and media used to convey information and instructions to individuals.

E-learning unites two main fields, namely, learning and technology where learning is a cognitive process to achieve knowledge while technology is the driver of the learning process, which means that technology is used as a tool or media in educational practice (Aparicio et al., 2016). This is in line with the opinion (García-Valcárcel and Mena, 2016) which says that technology has the potential as a means to collaborate, discuss, exchange information, and knowledge between learning actors, namely by providing a set of accessible tools. Broad and quality framework for joint activities. So based on the above definition, it can be concluded that e-learning is a learning system which in its implementation uses technology as a means or media that can be used to encourage collaborative work.

2. RELATED RESEARCH RESULT

2.1. Interactive-based e-learning

According to (Slevin, 2008) E-learning is not just an alternative way of delivering information as a learning resource, but E-Learning can be used by teachers and students to create new interaction situations, all of which have their own characteristics and E-learning can be used to involve students. students who work in groups or independently, either with or without supervision So using E-Learning can cause a change in the interaction situation where the interaction situation that occurs is usually done face-to-face but at the time of E-learning interaction must be done through the media intermediaries so that they can train students to learn independently, both in groups and individually. According to (Moore et al., 2000) that there is no substantial evidence that supports the emergence of an opinion about the concern that students may become more isolated, even if e-learning is well designed it can encourage and increase social interaction through interaction with friends. peers during the learning process or through other approaches after the learning process ends. A well-designed e-learning program using Social Constructivist Pedagogy provides opportunities to build relationships by providing an active learning environment through a series of simulations that incorporate Problem Based Learning. This approach enables the learner to practice higher-order mental processes for remembering, understanding, applying, analyzing, synthesizing, and evaluating the explicit and tacit knowledge presented by the program design. There are learning methods that can be used in E-Learning to increase social interaction and there are several principles related to interaction-oriented learning design available in the literature, including "teaching as interaction" which according to (Fikri et al., 2021) says that in the teaching process as an interaction involves a complex interaction process between learning actors, giving rise to a positive dependence between them.

Collaboration and inter-group competition are interaction-based learning methods that are carried out in groups with the aim of creating good interaction and communication between them. Therefore, in carrying out this learning method, motivation and active participation are needed (Kristin and Sari, 2019) the willingness and open attitude of both

teachers and students because this is the basis for implementing interaction-based methods (Fudo'il et al., 2019).

The definition of collaborative learning according to (Humphreys et al., 1982; De Hei et al., 2015) is a set of learning strategies that encourage students to collaborate in small groups consisting of 2-5 people in order to optimize the learning of group members themselves, namely by appreciating the abilities and contributions of each individual. group members where there is a division of authority and responsibility among group members, and everything is based on a consensus that is built through collaboration, this is what is used as the basis for collaborative learning. Collaborative learning provides benefits for both teachers and students, namely it can improve learning outcomes and social aspects for students (Johnson et al., 2007; Slavin, 1996) and provide the possibility for teachers to develop beyond what they get when they learn on their own by observing or learning from teacher education programs (García-Valcárcel and Mena, 2016). In collaborative learning there are 4 assumptions according to the view (Smith and MacGregor, 1992), namely: 1) (Bruffee, 1973) A person is said to be learning if he is actively involved in the learning process of a material In the learning process depending on the context or content of the material 3) Basically every student has a background different learning styles, experiences, characteristics and different mindsets 4) Learning is an activity that is social in nature wherein the learning process requires interaction and communication to form understanding or understanding and meaning that can be accepted by all parties involved in the process. learning. So based on the definitions and assumptions above, it can be concluded that collaborative learning is a learning method that is carried out in groups whose members number about 2-5 people where collaborative learning requires the willingness and active participation of both teachers and students to want to work together, interact and communicate so that it is hoped that collaborative learning can improve learning outcomes and a social skills of students. Inter-group competitive learning methods also include interaction-based learning methods. According to (Chen and Chiu, 2016; Deutsch, 1949; Goldman et al., 1977) inter-group competition is a situation where a group of individuals work together to compete for maximum rewards achieved at the expense of other groups who will only receive minimum rewards. . The impact that arises as a result of this situation is that the form of interaction between members of one group becomes stronger because of the desire to win by putting aside all interests that can divide group members, while the interaction relationship between other groups becomes weak due to competition (Gray, 1996; Butler and Kedar, 1990; Rabbie and Wilkens, 1971). Based on the opinion (Bornstein et al., 2002) there are 4 indicators in intergroup competitive learning, namely: 1) methods that are carried out in groups and work together to achieve 1 goal 2) methods that do not have dependence between one group and another 3) there is competition between groups. group because they have a goal of wanting to be the best among the group 4) In terms of performance goals, competition has been defined as a social situation where one person's performance is superior to the performance of others, so a situation will arise where one will come out the winner. Therefore, to prevent competition that leads to destructive actions, the role of the teacher as a mediator is needed and the need for clear and fair rules for all parties involved in the competition (Dudija, 2015).

2.2. Social Interactions

According to (Bonner, 1959; Jacob and Spillman, 2005) is a dynamic social relationship involving relationships between individuals, individuals with groups, or groups with other groups where in their relationship they influence each other, change or improve the actions of other individuals or this also applies vice versa where the actions of other individuals can

affect the actions of these individuals. And according to (Fahri and Qusyairi, 2019; Suroto et al., 2017) social interaction is divided into various kinds, namely nature, form and level. There are 3 characteristics in social interaction, namely: 1) Interaction between individuals, 2) Interaction between individuals and groups, 3) Interaction between groups.

Meanwhile, based on the form, social interaction is divided into 2, namely:

- (i) Positive social interactions where the interactions that occur lead to the same work pattern.
- (ii) Negative social interactions where the interactions that occur lead to conflicting work patterns.

And when viewed in terms of levels, social interaction is divided into 2, namely:

- (i) Primary social interaction where the social interaction that occurs is face-to-face directly, not using intermediary media.
- (ii) Secondary social interaction where the social interactions that are carried out by individuals to other individuals use tools as intermediary media in interacting.

Thus, it can be concluded that social interaction is a reciprocal process relationship that exists both between individuals and between groups, where in the form, nature and level that occurs in these interactions have differences depending on the intent and purpose. In the interaction-based E-learning method, it emphasizes more on the form of cooperative social interaction and with a secondary level, namely interactions carried out using tools as media as stated by (Santosa et al., 2020) that e-learning technology is not only a tool, but also a tool. as a potential means and social space where people can have discussions, collaborate, build networks, exchange information and knowledge and develop a sense of mutual respect for different opinions and arguments.

3. LITERATUR REVIEW

The level of measurement of the difference in the achievement of students' social interaction results before and after using collaborative and competitive learning methods is a follow-up to how important it is that an SCL (Student Centered Learning)-based method is applied in E-Learning, because it will have an impact, both theoretically and practically on the nature of social interaction in practice implementing interaction-based E-Learning for the context of higher education.

Thus, the formulation of the problem contained in this study is to examine the difference in the effect of interaction-based E-Learning on social interaction in independent project-based learning so that it will raise the hypothesis in the study as follows:

H1: there is a significant difference in the effect of social interactions between students before using the inter-group competitive method and after using the inter-group competitive method.

H2: there is a significant difference in the effect between the social interactions of students before using the collaborative method and after using the collaborative method.

4. METHODS

4.1. Design and Variables

This research is a quasi-experimental quantitative research using a control class and an experimental class. And to ensure that this research uses an interaction-based E-Learning approach, groups that have equal performance are formed in both classes. The basis used in

group formation is the results of the material test measurements carried out at the beginning of the learning process. It is intended that each group will have an equal performance because each member in one group has a different ability to understand the material. And the number of each group consists of 4-5 members. The experimental class reached 5 groups, while in the control class there were 9 groups, then they would be given a pre-test on social interaction (O1 and O3) online.

The object of research is the students of the Widya Kartika University Surabaya Indonesia University with a total sample of 62 students who take part in the 5th Semester Business Management Undergraduate Study Program for the 2020/2021 Period. The details of the research sample that appear in Table 1 are as follows:

Table 1. Rincian Jumlah Sampel Penelitian

Rincian Jumlah Sampel Penelitian			
Group	Interaction-based E-Learning Model	Class	Student
Experiment	Collaborative	Enterpreneurship and Bussiness Management	24
Control	Inter Group Competitive	Business Ethics	38
Total Sample			62

There are 2 variables in this study, namely the collaborative and competitive learning method between groups as the independent variable and Social Interaction as the dependent variable.

4.2. Data Collection and Instruments

Because the distribution of the instrument is done online, the instrument is in the form of a Google Form and the questionnaire is closed so that participants only choose an answer on the google form where the answer is a reflection of their perception. The indicators used in the social social interaction instrument are cooperation, competition, and attitude. accommodative where the indicator is used to measure the quality of social interaction of students.

To ensure the validity and reliability of the instrument used by the researcher, the validity and reliability test of the instrument was conducted first. Each question item that will be used during the pre-test and post-test is tested using content validity. And to test the validity of the instrument using the Spearmen Approach at an error rate of 5% for the number of samples that are less than 30. Meanwhile, the Reality Test is carried out using the Cronbach's Alpha approach which uses an accepted value that is > 0.5 and each instrument item is tested to be reliable if it has a value below the threshold value. Cronbach's Alpha total.

5. FINDING AND DISCUSSION

5.1. Sample Test Result

In conducting the Analysis of the Paired Sample T Test, there are requirements that must be met, namely the research data must be normally distributed, so it is necessary to do the Normality Test first. The following is attached to Table 1 Normality Test Results for the inter-group competitive method and the collaborative method.

Table 2. Sample Normality Test Result

Normality Test (Shapiro-Wilk)		p
Competitive pre test	Competitive post test	0.850
social interactions – Collaborative pre test - Social interaction - Collaborative post test		0.470
Note. A low p-value suggest a violation of the assumption of normality		

Based on Table 2 shows that the Normality Test Value Score for the inter-group competitive method resulted in P Value = 0.850 greater than = 0.05 so this means that H₀ cannot be rejected or H₀ is accepted and the data comes from a normally distributed population (Fadmi, 2020) while The results of the Normality Test for the Collaborative Method, namely the resulting P-value is greater than 0.470 than = 0.05, so this means that H₀ is accepted and the data also comes from a normally distributed population (Fadmi, 2020).

5.2. T-Test Result

Statistical analysis calculations using Paired Samples T-Test were first carried out by measuring the level of changes in social interaction that occurred in the control class and experimental class before and after being given treatment.

Table 3. Test Result Paired Samples T-Test Method-based Interaction

Paired Samples T-Test				
Pretest	Post Test	statistic	df	p
Competitive inter group	Competitive inter group	-3.75	37.0	<0.001
Collaborative	Collaborative	-3.03	23.0.	0.006

Table 3 shows the results of the T-Test which shows that there are differences in social interaction before and after being given treatment. This can be seen in the P-Value scores produced in both the control class and the experimental class where for the control class given competitive Inter Group treatment, the P-value score is < 0.01 which means that there is a significant difference in Social Interaction Results before being given the Inter Group Competitive method. and after being treated with the Inter Group competitive method, the same thing happened in the experimental class where the P-value score was 0.006 < 0.05, which means that there is a significant difference in Social Interaction Results before being given the collaborative method and after being given the collaborative method treatment.

5.3. Discussion

This discussion covers 2 main points. The first topic of discussion is the effect of inter-group competitive methods on Student Social Interaction, which according to research results indicate that there are differences in the results of Student Social Interaction after being treated using the inter-group competitive method, namely an increase in the results of social interaction after using this method during the E process. Learning. The results of this study are in accordance with the theory stated by (Chen and Chiu, 2016; Gonzalez O'Brien et al., 2020; Gutiérrez-Braojos et al., 2019) that competition can encourage them to feel obliged to do an equal part in helping the group by working together and interacting. According to (Deutsch, 1949) said that inter-group competitive learning will make the interaction between

group members stronger but the differences between groups are also getting stronger. Therefore, it is necessary for the teacher's role as a facilitator and the need for clear and fair rules for all participants involved in the competition so that this competition does not lead to destructiveness.

The second point of discussion is about the effect of collaborative methods on students' social interactions, where the results of this study indicate that there is an effect of using collaborative methods on students' social interactions, namely by the differences in the results of social interactions before and after using collaborative methods. The results of this study indicate an increase in the results of students' social interactions after using collaborative methods and this is in line with the opinion (Gonzalez O'Brien et al., 2020; Gutiérrez-Braojos et al., 2019; Le et al., 2018; Respati, 2018; De Hei et al., 2015; Yadegaridehkordi et al., 2019) who say that using collaborative methods 1) can stimulate the active participation of students, 2) build a learning community.

5. CONCLUSION

5.1. Conclusion

In this study, it was revealed that there was a significant difference between the social interactions of students before using the inter-group competitive method and after using the inter-group competitive method. There was an increase in social interaction among students after using the inter-group competitive method. This is because 1) the samples used in this study are students where they have a higher understanding of concepts 2) there is a willingness of students to actively participate in E Learning 3) Lecturers are able to act as facilitators and mediators when the interaction process leads to something different. negative.

Second, there is a significant difference in influence between the Social Interaction of Students before using the collaborative method and after using the collaborative method. There was an increase in social interaction among students after using the collaborative method. And the results of the Mean of Social Interaction in the Collaborative class show that it is higher than the Mean of Social Interaction in the Inter-group Competitive class, this means that the Collaborative method is better used in the interaction-based E-Learning process than the inter-group competitive method. according to

(Whatley and Bell, 2003) Collaborative Learning method has more benefits and usually results in higher achievement and greater productivity, more caring, supportive, and committed relationships; and better psychological health, social competence and self-esteem compared to the Inter Group Competitive.

5.2. Suggestion

Some suggestions for the parties involved in this research are: 1) for students, should always be consistent and have the motivation to want to actively participate during the learning process, 2) for lecturers should have the willingness and ability to act as a good companion for students, so that thereby creating a positive dependence between the two parties, 3) for other researchers, it is necessary to conduct further research on factors other than interaction-based learning methods that can influence students' social interactions during online learning such as motivation, self-concept, and so on.

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