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The Combination of Small Group Discussion and ARCS (MODis-ARCS Strategy) to Improve Students' Verbal Communication Skill and Learning Outcomes

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Abstract

This study aimed at discovering the implementation of MODis-ARCS strategy to students' verbal communication skill and learning outcomes. This study was a quasi-experimental using non- equivalent control group design. Purposive sampling was used to collect the data. There were 65 students of information technology education (control) and physics education (experimental) who used as the samples of study. The MODis-ARCS strategy was implemented on the experimental group, while small group discussion was used in the control group. Data collection techniques used test instrument that was in the form of essay items and non-test which was in the form of observation sheets of communication skill. Validity scores, Cronbach's coefficient alpha, n-gain, independent sample t-test and paired t-test were used as the data analysis techniques. The results of study indicated that 1) n-gain of students' learning outcomes and verbal communication skill for the control group was 0.12 and 0.07, in which it was categorized as low, while for the experimental group was 0.29 and 0.48 in the moderate category. 2) Both of groups had similar initial abilities, and there was a difference on the learning outcomes, as well as the verbal communication skill between the control and experimental classes, 3) There was an improvement on the students' learning outcomes and verbal communication skill on the control and experimental groups, in which the significance value was α=5%; however, the improvement of experimental group was greater than the control group. Therefore, it can be concluded that the MODis-ARCS strategy can improve the students' verbal communication skill and learning outcomes.

Keywords: MODis-ARCS strategy, Small group discussion, Verbal communication skill, Learning outcomes

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INTRODUCTION

Development of Science and Technology (*IPTEK)* which increasingly encourages education practitioners to improve the learning process, of which process will affect the resulting competencies. Communication skills become a priority since technologies are developed in the field of communication and information. The students have to be equipped with communication skills so that the students are able to contend and compete amid the dynamics of modern society. The communication skills are needed as provisions for students so that they can be accepted in the job markets and can encourage as well as improve the quality of the institutions they work for (Pravitasari & Ismaniati, 2019). The communication skills enable for the students to participate in decision-making; moreover, the students can be involved actively in a cooperative learning (Kulgemeyer & Schecker, 2013; Oktasari et al, 2019). Those skills are one of important factors to reach a learning success. Optimal learning outcomes can be seen from the learning completeness, skilled doing the tasks, and having a

good appreciation to the learning (Arifin, 2009). By using the communication skills, the students will be easy to communicate various matters concerning on the subject matter, so that the knowledge gained will increase (Dewi et al, 2019; Bakir, 2014).

Small group discussion is considered as one of learning strategy that can train the students' communication skills. Putriawati (2019) enlightens that a small group discussion learning is a learning that emphasize on social interaction to help each other with the aim that the students achieve a common goal together. A small group discussion creates learning situations that support one another by means of cooperative learning in small groups in order to increase the students' activities and problem-solving (Saraswati & Djazari, 2018, Pravitasari & Ismaniati, 2019). The results of study conducted by Purwanti (2017) conclude that small group discussion can improve the students' activities and learning outcomes. This is reinforced by the results of review conducted by La'biran, (2017), in which it elucidates that the power of thinking can be developed through small group discussion learning. (Genç, 2015) augments that the implementation of this strategy can give an opportunity to construct knowledge, clarify a concept, and be able to make a proper decision. The students can learn through an active involvement, interact verbally, and exchange information to gather opinions, make conclusions and organize alternative solutions to problems by means of discussion (Bunga, 2016; Susantini et al., 2016). A number of other study results specified that group discussion not only has advantage to accommodate the students to understand concepts but also assist the students to develop a teamwork ability, social behavior, train the thinking skill and be active in asking (Andrew et al., 2017; Moma, 2017). From the review had been elucidated above, several experiences obtained by the students who use the small group discussion learning are improving mutual respect, self-confidence, cooperation, and communication skills. However, the implementation of small group discussion strategy has several weaknesses i.e. the students who are not playing an active role has the opportunity to escape from their responsibility (Bunga, 2016), there is a decline on the discussion activity after several minutes since it is only dominated by the groups who have a duty to present the material (Pravitasari & Ismaniati, 2019).

It is similar to the initial observation results that carried out in learning theory courses of Mandalika University of Education (Undikma). The course often implemented the small group discussion strategy on the learning. The learning theory courses cover up the nature of learning, the development of learning theory concepts, as well as the implementation of learning practices in groups. Departing from the initial observation results, it is known that by using a group discussion learning on the beginning of learning theory course, there are only several students who active in asking and answering the questions. Some of students seem to be less skilled to express their opinions, lack of response, and the students are difficult to be open during the discussion activities. The learning processes are not maximal, it is proven by the Middle Examination (*UTS)* scores obtained by the students; moreover, the students got the average score below 60. The initial observation also reveals the discussion activity carried out that not yet support the student skills in communication. This is similar to the results of study conducted. Hence, it is necessary to use learning variation that contributory to develop an interaction, excitement, interest, and students' motivation. Furthermore, the students can reach the competencies desired.

One variation that can be done is to provide initial motivation to the students. Purwanti (2017) enlightens that the lecturers need to give motivation so that the students' skills and activeness can be maximized. Without giving motivation, the students will quickly feel bored and saturated (Fahruddin et al., 2016). Similar explanation is asserted by (Asfuriyah & Husnowati, 2015), one of factors that determines the participation on learning is an attention to the learning process. This indicates that the students should be given a stimulus so that they have self-motivation and try to reach the desired learning outcomes. The lecturers' motivation is very needed to arise the students' learning enthusiasm so that they can reach maximum success rate. One of effective learning strategy that can improve the learning

motivation is ARCS, of which strategy emphasize on the aspects of: 1) *attention*, students' attention on the learning, 2) *relevance*, there is a link between learning media and students' needs, 3) *confidence*, the students' confidence in their own competence, 4) *satisfaction*, the students' decision on the learning activities that had been conducted (Molaee & Dortaj, 2014). A result of study showed that the ARCS can train the students to learn independently, be responsible, improve the students' interests and attention, construct a sense of confidence and give a sense of students' satisfaction after obtaining their learning outcomes (Alfiana et al., 2018; Keller, 2014; Molaee & Dortaj, 2014).

Basically, the implementation of ARCS strategy can be combined with other learning methods, yet the point that wants to be reached emphasizes on the exertion to arise the students' enthusiasm which is less interested on a certain course. Thus, combining the ARCS strategy in the small group discussion (MODis-ARCS) learning is a solution to improve the students' learning interest, as well as to develop the students' potency so that the can be brave to face up the problems that arise. The stages of learning using the MODis-ARCS strategy cover up: 1) motivation, 2) teamwork, 3) argumentation debate, 4) review. Through the learning of MODis-ARCS, the students are also familiarized on the situation and condition where they are able to internalize their communication skill on the learning activities. This is due to the communication skills that are important to be possessed by the students so that it can assist the students on the thinking process, assist to connect the ideas and notions (Dewi et al, 2019); moreover, it the students are able to interact in a social relation on the modern community. The characteristics of MODis-ARCS strategy are: 1) the lecturers give motivation to the students to be active and creative, 2) a teamwork is needed to solve the problems and each student has a role on the group, 3) argumentation debate to reveal the opinions that had been decided by the group, and the other groups give responses, 4) review the material that has been learned by creating a summary or resume.

The MODis-ARCS strategy can overcome the weaknesses of discussion learning i.e. to alleviate boredom happens to the students. The times needed is also relatively faster to avoid opportunities for behaviors that lead to group discipline problems, such as noise caused by the students chatting with friends. The MODis-ARCS strategy is a learning activity that engages the lecturers' activities and the students or the students with the other students in a small group, in which they are sharing ideas and opinions. The students are required to cooperate, share knowledge and experiences in order to reach a goal of MODis-ARCS strategy; moreover, it is characterized as a task structures, to improve the way of thinking and the students' activities, to train the students to learn independently, to develop the ability in gaining scientific information, as well as communicating their findings. Additionally, it is expected that the students' interest to learn a concept on the learning can be increased, in which it can affect on the improvement of understanding so that the learning outcomes can be reached more optimal.

The MODis-ARCS strategy is expected to be implemented on the students of Faculty of Science, Engineering, and Applied Science (*FSTT)*, Mandalika University of Education (Undikma), which covers up the Study Program of Physics Education and Information Technology Education; moreover, those have various scientific knowledge, levels of education, cultures, and age levels. The development of verbal communication skill and learning outcomes in a comprehensive way at class make the learning process more effective (Pravitasari & Ismaniati, 2019). The students are familiarized with the situation and condition where they can internalize verbal communication in the learning activities. This is done because the development of scientific communication competencies can become a mandate in the learning process on all subject matter (Van Roekel, 2014). By equipping the students with communication skills, the students are able to face pressing global challenges and compete with the times. Consequently, the MODis-ARCS strategy is designed specifically to improve the verbal communication and students' learning outcomes in the learning according to the demands of curriculum and 21st-century skills that refer to John Dewey's problem-solving

flows and the scientific communication hypothesis (Levy et al., 2008), and it is reinforced by the sophisticated learning theories of *constructivism* and *scaffolding* (Moreno, 2010).

According to the explanation above, the main problem of this study is to analyze the implementation of MODis-ARCS strategy to the improvement of students' verbal communication skill and learning outcomes on the learning theory course. Thus, this study aims to analyze the implementation of MODis-ARCS strategy to the improvement of students' verbal communication skill and learning outcomes of the Study Program of Physics Education and Information Technology Education on the learning theory course.

METHOD

This study carried out on September to December 2019 at Mandalika University of Education (Undikma) for 7 meetings (face to face). The type of study was quasi-experimental using *non-equivalent control group* design as shown in the Table 1. There was a group as experimental group and one group as a control group. The experimental group used the MODis-ARCS strategy, while the control group used *small group discussion* strategy. There were 65 students of UNDIKMA used as the samples of study, in which it covered up 44 students of Study Program of Information Technology Education and 21 students of Study Program of Physics Education. *Purposive sampling* was used as the sample collection technique using the criteria of the semester II students and the students programed the learning theory course.

Table 1. The Design of Non-Equivalent Study for Control Group

Group	Pretest	Treatment	Posttest
Experimental (Physics Education/PF)	O1	X	O2
Control (Information Technology Education /PTI)	O3	-	O4

Description:
O1 : Initial competence of experimental group
O2 : Final competence of experimental group
X : MODis-ARCS Strategy
O3 : Initial competence of control group
O4 : Final competence of control group

The instruments of learning outcomes were in the form of essay test sheets referred to the Bloom taxonomy (Anderson & Krathwohl, 2001), and the communication skill instrument which was in the form of observation sheets (Levy et al., 2008). The validity of MODis-ARCS strategy was determined using the assessment results of validity average scores and Cronbach's alpha. Data analysis was successively carried out as follows: The validity of MODis-ARCS strategy was determined based on the assessment results using the average scores of validity criteria, namely: 3,25 <Very Valid ≤ 4,00; 2,50 <Valid ≤ 3,25; 1,75 <Less Valid ≤ 2,50; 1,00 ≤ Invalid ≤ 1,75 (Erika et al, 2018). Those scores were obtained by calculating all of the correct answers that were given. Rubric was used to discover the communication skill scores (Levy et al., 2008), in which it was in the form of checklist with a score range of 1-3. The improvement of students' learning outcomes and communication skill used the analysis of n-gain. The calculation of n-gain average used the formula of : n-gain= (*post-test* scores-*pretest* scores) / (maximum scores- pretest scores), along with the following categories: (1) high, if the n-gain ≥ .70; (2) moderate, if .70> n-gain ≥ .30; and (3) low, if the n-gain < .30 (Hake, 1999). Then, the different scores of students' learning outcomes and communication skill between the experimental and control groups used the *t* test, where before conducting the *t* test, the prerequisite tests were conducted (homogeneity test and sample normality) assisted by the program of SPSS version 17.

RESULTS AND DISCUSSION

Three experts validated the MODis-ARCS strategy that had been developed through the focus group discussion (FGD) mechanism. Those experts in FGD consisted of 2 education experts and one language expert. The Table 2 elucidated the assessment results of the quality of MODis-ARCS strategy. The Table 2 indicated that the validity of MODis-ARCS strategy covered up: (1) development needs of MODis-ARCS strategy, (2) new knowledge (state of the art), (3) theoretical Support of MODis-ARCS Strategy, (4) planning and implementation, (5) learning Environments, and (6) evaluation, in which it had average scores of validation of 3,40, 3,00, 3,60, 4,00, 4,00, and 4,00 with very valid and valid criteria. Whereas for the reliability, each validity component was in the reliable category.

Table 2. The Validation Results of MODis-ARCS Strategy

Component	Validity and Reliability			
	Score	Validity	α	Reliability
1. Development Needs of MODis-ARCS Strategy	3.40	Very Valid	.90	Reliable
2. State of the art	3.00	Valid	.97	Reliable
3. Theoretical Support of MODis-ARCS Strategy	3.60	Valid	.97	Reliable
4. Planning and Implementation	4.00	Very Valid	1.00	Reliable
5. Learning Environments	4.00	Very Valid	1.00	Reliable
6. Evaluation	4.00	Very Valid	1.00	Reliable

Note = α (Cronbach's alpha)

The analysis results of n-gain scores of students' learning outcomes and verbal communication skill were given on the Table 3. Form the Table 3, it was known that the n-gain scores for the learning outcomes of control group were 0.12 and the verbal communication skill scores were 0.07 or both of them were in the low category. The competence of control group for the learning outcomes was increased seen from the n-gain scores which reached 0,31 and the verbal communication skill scores were 0.48, in which both of them were categorized as moderate. This indicated that both control group and experimental group had experienced an improvement on the students' learning outcomes and verbal communication skill. However, there are differences on the improvement of n-gain scores i.e. the control group was in the low category, while the experimental group was in the moderate category. In other words, the students' learning outcomes and communication skill of Physics Education Study Program as the experimental group was better than the students of Study Program of Information Technology Education as the control group.

Table 3. The N-gain Scores of Students' Verbal Communication Skill and Students' Learning Outcomes

No	Groups	N	Aspects	Averages		N-gain	Category
				Pre-test	Post-test		
1.	Control (Information Technology Education)	44	Learning Outcomes	62.86	67.68	0.12	Low
			Verbal Communication Skill	47.72	59.09	0.07	Low
2.	Experimental (Physics Education)	21	Learning Outcomes	62.76	73.71	0.31	Low
			Verbal Communication Skill	47.61	71.42	0.48	Low

Based on the results of normality and homogeneity test of the Table 4, it was known that the experimental and control groups showed the scores of normality level of $p > 0.05$, in which the significance level was 5%. Hence, it could be concluded that the samples in both groups were normally distributed. Then, it was continued by homogeneity test analysis to discover the data of both groups that were homogeneous. The homogeneity test analysis showed that the samples in both groups had homogeneous variants between the groups.

Table 4. The Normality and Homogeneity Test of Students' Learning Outcomes

Groups	Score	The number of students	Average	Normality, α = .05		Homogeneity, α = .05	
				Asymp. Sig (2-tailed)	Normally Distributed	Asymp. Sig (2-tailed)	Homogeneous
Control (PTI)	Pre-test	44	62.86	.011	Yes	.973	Yes
	Post-test	44	67.68	.073	Yes		
Experimental (PF)	Pre-test	21	62.76	.432	Yes	.097	Yes
	Post-test	21	73.71	.471	Yes		

Furthermore, the *independent sample t test* was carried out to find out whether there were differences in initial ability between the experimental group and the control group based on pre-test scores and the differences in learning outcomes between the two groups based on post-test scores. The Table 5 showed that the value of sig. 2-tailed was 0.973 > 0.05, it meant that there was no difference in the pretest scores of the experimental and control groups; thus, both of the experimental and control groups had similar initial abilities before the MODis-ARCS strategy was implemented. The analysis of post-test for the experimental and control groups indicated the value of sig. 2-tailed 0.037 < 0.05, it meant that there was a difference between the learning outcomes of the control and experimental groups.

Table 5. The Independent Samples Test of the Students' Learning Outcomes for The Control and Experimental Groups

	Levene's test for equality of variances		t-test for Equality of Means				
						95% confidence interval of the difference	
	F	Sig	T	Df	Asymp. Sig (2-tailed)	Lower	Upper
Pre-test	19.209	.000	.035	63	.973	-7.19263	7.44588
Post-test	7.119	.010	-1.684	63	.037	-13.08330	1.11793

The data analysis results of *paired sample t test* as stated on the Table 6 and Table 7 showed the value of sig. 2-tailed < 0.05, it meant that there was an improvement of average scores of pretest and posttest of students' learning outcomes and verbal communication skill especially for the control and experimental groups. However, the improvement of experimental group which had the value of M=10.90 was greater than the control group which had the value of M=-4.79 for the learning outcomes. It was also on the verbal communication skill of the experimental group which has the value of M=23.85, while the control group has the value of M=-11.09; consequently, it could be concluded that the improvement of verbal communication skill on the experimental group was higher than the control group.

Table 6. The Test of Paired Sample t-test for the Students' Learning Outcomes

Groups	Paired Differences					t	df	Asymp. Sig (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Control	-4.79545	9.68715	1.46039	-7.74062	-1.85029	-3.284	43	.002
Experimental	10.90476	6.99932	1.52738	-14.09081	-7.71871	-7.140	20	.000

Table 7. The Test of Paired Sample t-test for the Students' Verbal Communication Skill

Groups	Paired Differences					t	df	Asymp. Sig (2-tailed)
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Control	-11.909	9.435	1.422	-14.778	-9.041	-8.373	43	.000
Experimental	23.857	7.411	1.617	-27.231	-20.484	-14.751	20	.000

The results in Table 2 explained that the MODis-ARCS strategy had been declared valid and reliable by the experts. The recency of the MODis-ARCS strategy was built to

correct the weaknesses based on previous research recommendations. The MODis-ARCS strategy was supported by cognitive learning theory, social-cognitive constructivist theory, behavior learning theory, and motivation learning theory ((Arends, 2012; Moreno, 2010; Slavin, 2011). The experts said that the MODis-ARCS strategy had been developed based on the theoretical and empirical studies that could improve the students' communication skill and learning outcomes, so that the MODis-ARCS strategy had met the aspects of validity which were one of the requirements for eligible products. A valid MODis-ARCS strategy was then tested for the implementation in the Physics Education and Information Technology Education at Mandalika University of Education (Undikma).

Based on Table 3, it was known that there were differences in the acquisition of n-gain scores of learning outcomes and verbal communication skills of the experimental group students who were in the moderate category, while the control group was in the low category. The difference in the acquisition of n-gain scores due to the use of MODis-ARCS learning could help the students to understand concepts better. One of the factors that influence the learning outcomes was internal factors such as readiness of learning and the students' activeness when the MODis-ARCS took place. The observation results showed that the control group students seemed less enthusiastic about the explanation given by the lecturer. Different from the experimental group, the students seemed to pay attention to the lecturers' explanations, and they were enthusiastic to work together in groups well. This was possible because of the variety of MODis-ARCS learning stages, namely the division of roles in discussions, case studies, brief transfer of knowledge, and debate sessions. Such learning stages could foster the intrinsic motivation in students. Alfiana et al., (2018) explained the existence of intrinsic motivation as a driving force that arose because of the expectations to be achieved. In this case, the students earnestly learned certain subjects in school because they wanted to have knowledge of the material being studied. In addition, in line with the opinion of Megahati et al., (2015), heterogeneous groups provided opportunities for sharing knowledge (*peer tutoring*). Before the learning process began, the students were first given the task to look for references related to the material to be discussed in the group, in the form of case studies of the application of constructivism learning theory in learning. The students could find out maximum references about models, strategies, and methods in learning, analysis of constructivism theory and its application in the learning. Next, the students read the material in its entirety. The students understood the material better and took an active role in discussion activities when given the reading assignments (Andrew et al., 2017).

Statistical analysis on the Table 5 showed that there was no difference in the pretest results of the two experimental and control groups. Thus, the experimental and control groups had the same initial ability before the treatment of the implementation of MODis-ARCS S learning. This was probably due to the learning at the beginning of the lecture between the two groups using the same strategy, namely *small group discussion*. The teaching and learning process by implementing a *small group discussion* strategy involved the students' thinking activities. The same thing was revealed by Moma (2017) who asserted that the activity of someone's thinking who had implemented learning would increase according to the learning mechanism. Furthermore, the learning process of the experimental group applied the MODis-ARCS strategy, while the control group learning remained with the *small group discussion* strategy.

Based on the results of data analysis of the Table 6 and Table 7, it was known that there was an increase in learning outcomes and verbal communication skills in the control group and the experimental group. However, the increase in the experimental group was higher than in the control group. The result was caused by the application of the MODis-ARCS strategy in the experimental group being able to foster motivation and interaction between the students in order to cooperate with each other or help each other in discussion activities. As stated in Piaget's theory that the students were at the formal operational stage, i.e. the knowledge was not merely transferred orally, but must build its own knowledge (Arends,

2012). In line with the opinion of (Rus et al., 2017) who stated that the learning activities were processes carried out by the students actively in building up a recognition, composing concepts and giving meaning to what had been learned. The strength of the MODis-ARCS strategy was the role of the lecturer in creating a conducive and enjoyable learning situation by giving attention, relevance, beliefs, and reinforcement. The dynamics of the group that were built allowed the students to express their opinions more freely. The above description was in line with the theory of constructivism that emphasized more in learning, in which the students must find out their own concepts with *scaffolding* (Moreno, 2010). Thus, the MODis-ARCS strategy could improve the concept understanding, increase motivation, be able to communicate, foster a sense of togetherness, enthusiasm and high learning enthusiasm so that the students' learning outcomes could be achieved maximally.

The experimental group showed a higher improvement compared to the control group. This was due to the motivation given by the lecturer in each learning using the MODis-ARCS strategy learning. The MODis-ARCS strategy procedure began with the lecturer explaining the subject matter of the theory of learning and the learning objectives to be achieved. The lecturers motivated the students to be able to learn actively and creatively during the material delivery. The explanation of learning theory materials used an instructional media in the form of videos that showed school learning activities in several developed and developing countries. The use of video is intended to attract the attention of students. The activities that were accompanied by intensive attention would be more successful and their achievements would be higher (Bunga, 2016). Moreover, the learning that was associated with the students' experience required them to concentrate more when learning. Based on the relationship between learning material with the students' learning experiences could arouse the learning motivation. This occurred because the students felt that the lecture material provided was useful for their lives. If the students were faced up with cognitive conflict, given the task of finding out the answers using supporting evidence, they would be motivated to learn (Saraswati & Djazari, 2018; Ciardello 2003).

Teamwork was the next stage, where a group of students consisting of 3-4 students working in their teams to work on the student worksheets by discussing them in their groups. The use of worksheets aimed at guiding the students to work in group, each student in the group give contribution, so that all members mastered the learning material (Oktasari et al., 2019). The worksheets presented problems related to the application of learning theory in learning at schools that were problematic and had a relationship with the students' learning experiences. At this stage, each group cooperated with each other and had the responsibility to make a review that contained the group's conclusions to be further communicated to the forum. Positive cooperation in the learning was needed to improve the students' abilities (Sagoro, 2016). The students who were directly involved in the learning activities and provided direct experience made the knowledge obtained by the students could be more meaningful (Arends, 2012). During the teamwork, the lecturers provided an encouragement to the students in order to solve the problems. The students assist each other, exchange opinions, ideas and notions which could motivate them to be more eager to learn. A cooperation to achieve the targets in learning activities could create healthy competition among the teams involved (Sogoro, 2016). This could increase the students' motivation, ease the students to remember previous material and stored in long-term memory, so that when conducting an evaluation, the result would be optimal (Bunga, 2016).

The next stage was the argumentation debate, where each group provided an opinion or idea accompanied by evidence and examples. The strength of the MODis-ARCS strategy was that there was an argument debate session, where the lecturer gave motivation to the students to express their opinions and respond to the opinions of other groups. These activities were believed to be able to develop a confidence in communicating information to others. Self-confidence arose the belief in students that they were able to complete the assignments well (Utami et al., 2020). The MODis-ARCS strategy could reduce the students' anxiety and the

students would be brave to convey the ideas. Through the MODis-ARCS strategy, the students' communication would be better, since the good quality of questions or items could only be solved by the students who had an interest and readability in learning. In this case, the role of the lecturer as a learning manager was to create a scientific discussion environment and motivate the students. This was consistent with the results of the study (Dewi et al., 2019; Sogoro, 2016) which suggested that a learning involving small group discussion activity was able to develop the students' social abilities, including the communication skills in expressing their opinions both verbally and in writing.

The MODis-ARCS strategy not only emphasized on what were learned, but how the students must learn. Through the MODis-ARCS learning, there was an *equilibrium* process in the students, which was when listening to the opinions of other students as well as expressing their own opinions. These activities were able to develop the students' thinking abilities, so that in the end the students could analyze the information related to 21st -century learning issues by applying a constructivism theory. Thus, the MODis-ARCS strategy gave the students an opportunity to discover new information independently. The skill of the lecturer presented the questions well could stimulate the students to study the concepts, think, and obtain information related to the topics discussed. Giving time to the students to think and respond and help each other in their groups could improve their cognitive skills (Slavin, 2011). The teaching and learning activities in group discussions were not influenced by the lecturers' opinions. Free discussion was effective when the students were given the opportunity to dialogue, so they could gather the information, draw conclusions, and make self-evaluations (Megahati et al., 2015). The student seats were organized in a circle with the aim to produce mutual support and interaction between all group members, so that the discussion activities took place effectively.

Significantly, the MODis-ARCS strategy also could improve the students' learning outcomes. Various activities in the learning of MODis-ARCS could make the students to be able to have *attention* and motivated to learn. The higher the motivation of students, making knowledge meaningful so that the learning outcomes obtained could be increased This was one of causes of the high average *posttest* score of learning outcomes in the experimental group. It was in line with the results of study conducted by (Putri & Isnali 2015; Alfiana et al., 2018) which elucidated that the learning outcomes were influenced by the interest and motivation. A study conducted by (Dewi et al, 2019; Indriwati et al., 2018) concluded that the communication skill agave effect on the learning outcomes. This was similar to the statement of Triana et al., (2020) that a good communication skill would make the students tended to be more adaptable in a community, in which it would make the students for being a successful individual in their lives. Consequently, the students' communication skill would be better if they continued to be more developed in the learning activities using the MODis-ARCS strategy so that it could maximize the other learning outcomes.

Departing from the explanation above, the improvement of students' learning outcomes and communication skill arise on several matters, namely 1) *attention* in the learning activities that were better, 2) activeness to work independently or even in group were higher, 3) the students' interest were awakened through interaction between friends, 4) motivation to learn could be maintained by challenging the task of completing the *LKM* (Student Worksheet) that were compatible for the students' needs, 5) enthusiasm for learning arose in learning, 6) emergence of a sense of responsibility to complete the task, and 7) the interaction and group communication were more conducive.

CONCLUSION

The results of this study indicates that the use of MODis-ARCS strategy can improve the students' learning outcomes and verbal communication skill that is based on: 1) the n-gain of learning outcomes and verbal communication skill of control group is in the ow category, while for the experimental group is in the moderate category, 2) there is a

significant improvement on the students' learning outcomes and verbal communication skill (statistically) for the control and experimental groups, in which it is α=5%; 3) the improvement of experimental group is higher that the control group. The implication of study's results can be used as a guidance to choose proper strategy in the learning process to improve the students' learning outcomes and even to develop the students' verbal communication skill.

RECOMMENDATION

Based on the results of this study, it indicates that the implementation of MODis-ARCS strategy is statistically proven to provide an improvement on the students' learning outcomes and verbal communication skill, it which it is higher than the small group discussion strategy. Therefore, to reinforce the results of this study, it is necessary to be conducted further studies in various other subjects whose learning is based on student-centered.

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