INCREASING SOCIETY 5.0 SKILLS ELEMENTARY SCHOOL STUDENTS BY GAWI MANUNTUNG LEARNING MODEL

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Abstract

Skills in society 5.0 must be developed in the young generation. The unskilled young generation will be unable to compete and have the potential to become an unskilled society. According to the 2019 Program for International Student Assessment (PISA), Indonesia ranked 68 out of 74 countries with an average score of 396 in science ability and 379 in mathematic ability. According to observation and interviews with 425 elementary school teachers in South Borneo Indonesia, less than 20% of teachers design learning skills based on society 5.0. Like critical thinking, creative thinking and innovation, logical thinking, analytical thinking, problem-solving, collaboration, and social skills. Innovative, interesting, and effective learning models are required to overcome this problem and promote students to have society 5.0 skills. The innovative learning model is given the acronym GAWI MANUNTUNG, which stands for Group, Analysis and observation, Wondering observation result, Intensive data collection, Making experiment on outdoor, Analysis the result, Negotiation of solution, Using Technology, Necessity intelligences development, Task Product Creation, Unity on presentation and role play, Network Tournament and Games. This is an innovative learning model inspired by a combination of learning models problem-based learning (Barrows and Tamblyn), project-based learning (John Dewey), outdoor learning (Neill), role-playing (Gary Gaygax), and teams games tournament (Slavin). The GAWI MANUNTUNG model was designed based on the motto of the local wisdom of the people of South Borneo Indonesia. GAWI MANUNTUNG means working hard until you get quality results. This study described the improvement of society 5.0 skills using the GAWI MANUNTUNG learning method for fifth-grade students of public elementary school.

This is Research and Development (R&D) mixed with the classroom action research method. The R&D uses the type 4D (define, design, develop and disseminate) and the classroom action research used to know the increase of students society 5.0 skills with 5 cycles that involve planning learning activities, implementing learning models, observing, and reflecting learning. The subjects include 50 students of fifth grade Karang Mekar 1 Banjarmasin elementary school South Kalimantan Indonesia. Importantly, the research variables include critical thinking, creative thinking and innovation, logical thinking, analytical thinking, problem-solving, collaboration, and social skills. The tests and non-test techniques were used to collect data on students' society 5.0 skills which were analyzed qualitatively and quantitatively.

The results showed that quality evaluation of the learning model by 5 experts was at a very good level (X= 4.67) (SD = 0.13), which means that the learning model GAWI MANUNTUNG is valid, reliable, and feasible to be implemented. There was an increase in society 5.0 skills from the pre-cycle stage to cycle 5. The average score of critical thinking in the pre-cycle stage was 45 and increased to 88 in cycle 5, creative thinking and innovation increased from 26 to 87,5, logical thinking increased from 35 to 89, analytical thinking increased from 30 to 84, problem-solving increased from 25 to 87, collaboration increased from 50 to 90,5, and social skills increased from 50 to 95. This study concludes that the society 5.0 skills of students can be improved through the GAWI MANUNTUNG model

Keywords: learning model, GAWI MANUNTUNG, society 5.0 skills, elementary school.

1 INTRODUCTION

The era of society 5.0 must be used as a reference in carrying out the learning process at every level of education, including basic education. The learning process must lead to the development of various student skills to face the era of society 5.0. The skills that must be developed in each individual elementary school student are a combination of higher order thinking skills and social skills. Higher-order thinking skills that must be presented in the learning process start from critical thinking, high-level creativity, problem solving, logical thinking and analytical thinking [1]–[4].

The higher-order thinking skills that students must have in the era of society 5.0 are even more perfect when combined with the character of the people of South Kalimantan. Skills in the era of society 5.0 should be developed for elementary school students through integration into the learning process. The learning process that leads to the development of higher-order thinking skills, and the character of the face to the head, is realized in the form of a learning model that leads to the development of the expected skills and character. The learning model, which each step is designed to refer to indicators of the achievement of higher order thinking skills, can direct the way students learn to achieve the expected skills [3]–[7].

The need for developing learning models to facilitate learning processes that hone skills in the era of society 5.0, supported by data according to the 2019 Programme for International Student Assessment (PISA), Indonesia ranked 68 out of 74 countries with an average score of 396 in science ability and 379 in mathematic ability supported by previous research conducted by Agusta and Noorhapizah (2020) that out of 200 respondents, only 25% of respondents have adequate knowledge of higher order thinking skills. While the other 75% do not know in depth how the concepts and achievements of higher order thinking skills in the form of critical thinking skills, creative, logical and problem solving. Furthermore, the same research also revealed that the learning process carried out in the classroom, namely 82.35% of public elementary school teachers in Banjarmasin City had never packaged learning by integrating critical, creative, logical and problem-solving thinking skills. The cause of the facts that occurred was that one of the teachers was never provided with in-depth knowledge of higher-order thinking skills and there were no teaching materials that lead to higher-order thinking skills that make it easier for teachers to carry out the learning process expected in the era of the society 5.0 [8].

The results of field observations from 05 to 29 December 2021 found that 344 of 425 teachers in South Kalimantan were still using a simple lesson plan that was prepared without regard to the achievement of higher-order thinking skills in the era of society 5.0 in the design of learning and evaluation activities. 375 of the 425 teachers surveyed have never done learning with a variety of learning models. Specifically, researchers conducted interviews about the implementation of innovative learning models in the learning process, 402 people stated that they did not know in detail and had never developed higher order thinking skills in the learning process using learning models that lead to the development of each student's skills.

Other problems also come from learning conditions in the midst of the Covid-19 pandemic situation which requires reducing the intensity of interaction between humans, even though the development of skills that are demanded by society in the future must be carried out in various conditions and situations. This view is very important amid the conditions in this country which must carry out learning from home to prevent the spread of the COVID-19 virus. Learning from home should not be a big obstacle to continuing to prioritize the development of higher order thinking skills in elementary school age children. This is motivated by the important role of higher-order thinking skills to give birth to a productive generation and ensure the progress of this country. However, amid the high spread of viruses that can endanger human lives, every level of education cannot maximize learning that leads to skill development in the era of society 5.0.

Reflecting on these problems, it is necessary to innovate learning models to develop critical, creative, logical, analytical and problem solving skills and develop students' character. The innovation is contained in the GAWI MANUNTUNG Learning Model which stands for learning steps consist of: “Group, Analysis and observation, Wondering observation result, Intensive data collection, Making experiment on outdoor, Analysis the result, Negotiation of solution, Using technology, Necessity character development, Task Product Creation, Unity on presentation and role play, Network Tournament and Games”.

The GAWI MANUNTUNG model was designed based on the motto of the local wisdom of the people of South Borneo Indonesia. GAWI MANUNTUNG means working hard until you get quality results. This study described the improvement of society 5.0 skills using the GAWI MANUNTUNG learning method for fifth-grade students of public elementary school. The objectives of this study were (1) to determine the validity of the GAWI MANUNTUNG learning model based on local wisdom so that it is feasible to use; (2) determine the effectiveness of the GAWI MANUNTUNG learning model based on local wisdom to improve society 5.0 skills of elementary school students

2 METHODOLOGY

Based on the problem to be solved, the research uses study methods in the form of study and development (R & D) or what is known as study and development in the field of education with the 4-D model, consist of define, design, develop and disseminate. and the classroom action research used to know the increase of students society 5.0 skills with 5 cycles that involve planning learning activities, implementing learning models, observing, and reflecting learning. The subjects include 50 students of fifth grade Karang Mekar 1 Banjarmasin elementary school South Kalimantan Indonesia. Importantly, the research variables include critical thinking, creative thinking and innovation, logical thinking, analytical thinking, problem-solving, collaboration, and social skills. The tests and non-test techniques were used to collect data on students' society 5.0 skills which were analyzed qualitatively and quantitatively. The method on this study is described as follows:

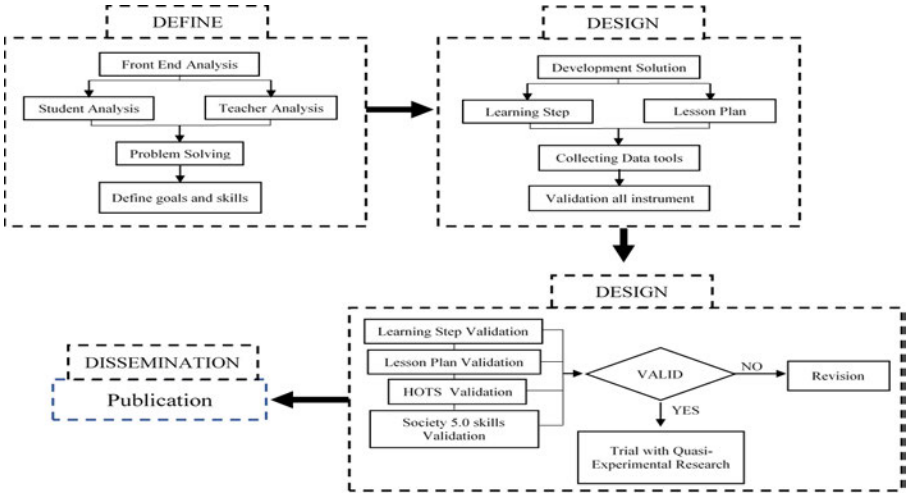

Figure. 1. Method of the study

The **define** stage was carried out to find out the learning model used in several schools in Banjarmasin during the Covid-19 pandemic with the following stages: front end analysis, digging information on the learning model used in several elementary schools in South Kalimantan, skills developed in the learning model that has been used and the need for the development of learning models to meet the needs of today's society. Student analysis (learner analysis) explores information on student activities in the learning process and learning activities expected by students. Teacher analysis, teacher's role in controlling learning, development of students' higher order thinking skills, teacher's difficulties in developing student skills, obstacles when using learning. Analysis of developed skills, skills developed in the learning model that has been used, evaluation procedures in the learning process whether it contains ecological awareness skills and higher order thinking skills.

The **design** stage begins with the preparation of the skills to be developed. The preparation of this skill is based on the analysis that has been done previously. After knowing the priority skills to be developed in elementary schools, the researchers made the preparation of learning steps for the GAWI MANUNTUNG learning model. Each step of the model is analyzed in depth the substance and skills that can be developed after carrying out these steps.

The next stage is **develop**. The researcher is studying the basic information about the learning process during the covid-19 pandemic on elementary school, principles, concepts, literature, and related research to create the step of learning model. In this phase, the researcher develops the learning processes and activities including the creation of research tools and assessment forms for learning activities and students society 5.0 skills. The instruments are:

a) Learning step consist of Group, Analysis and observation, Wondering observation result, Intensive data collection, Making experiment on outdoor, Analysis the result, Negotiation of solution, Using Technology, Necessity intelligences development, Task Product Creation, Unity on presentation and role play, Network Tournament and Games. Communicate between learners and teachers to do activities according to the learning management plan and deliver learning activities in each step.

b) Lesson plan by combining classroom face to face and online learning, design and organize learning activity that improves society 5.0 skills.

c) Besides that, the researcher develops the collecting data tools are:

- Learning outcome assessment form to be used to evaluate the student work result and rubric score assessment.
- Learning record and assessment form after the students do all activities to reflect learning result, self-assessment, and student opinion sheet about learning activities, which is divided into: (1) issues related to learners, (2) instructors and media, (3) the appropriateness of activities and the duration of learning activities, (4) summary and evaluation of learning.
- Society 5.0 skills assessment form consists of critical thinking, creative thinking and innovation, logical thinking, analytical thinking, problem-solving, collaboration, and social skills was assessed during learning management by using rubric score assessment. The indicator that we use on this study as follows:
  - Critical thinking : Questioning, argument analysis, answer and challenge, conclude the argument and solution, interpretation fact, evaluate, distinguish the relevance of the argument [9], [10].
  - Creative Thinking : Novelty, Fluency, Flexibility, Originality, Elaboration, Abstractness [3], [11].
  - Problem Solving : ability to show the knowledge with problem, organization and eliminate the relevant information to solve the problem, Ability to choose approaches and problem solving methods, solve the problem with variation of point of view [12]–[14].
  - Logical Thinking : make conclusion, prove the truth of a conclusion, give the reason, can prove the results of thinking rationally [15]–[17].
  - Analytical Thinking : ability to detail problems, problem identification, determine cause and effect, illustrate the problem [7], [18]–[20]

Every assessment and evaluation tool were analyzed validity by four experts consist of learning step evaluation expert, lesson plan evaluation expert, society 5.0 skills assessment on learning step. They will evaluate the assessment tools to find the index of consistency (IOC) by selecting questions and questionnaire items that have validity between 0.05-1.00 considered the valid questions that can be used in the research. Society 5.0 skills assessment to find the score of student's skills before and after learning with learning GAWI MANUNTUNG is a multiple-choice question of 50 items, with the Conbach's alpha score 0.86 [3], [6], [21], [22]

The prototype of the learning model has investigated the quality and the validity of four experts using a questionnaire and suggestion sheet. The criteria for investigation of the quality and validity of the learning model created in each step must have a result that is not lower than the good criteria, with an average score from 3.00 up. Besides that, the researcher uses the suggestions from four experts to improve every step of the learning model, lesson plan and assessment to be more quality. Then, the researcher using the developed learning model to pilot a classroom action research with 50 students in elementary school, which is non-sample groups of Karang Mekar 1 elementary school on February until April. The researcher also prepares the teaching observation sheet to guarantee the implementation of all steps of the learning model GAWI MANUNTUNG, questionnaire for teachers, to analyze the feasibility of practice and the learning process, according to the users of the learning model.

After all of the instrument is stated valid by the expert, researcher do the trial with Quasi-Experimental Research to Find the Effectiveness of Learning Model:

1 In this study, the sampling method used by the researcher was using a non-probability technique. While the type used is purposive sampling. This was done because the researchers chose schools that applied the 2013 Curriculum, in learning activities and the sample of students selected to be studied were students in class 5A as the object of classroom action research, was treated using the learning model GAWI MANUNTUNG.

2 Research tool, used the developed tool and improved the quality from the phase 1 of the experiment

3 The research scenario to be a quasi-experimental research, One group pretest-posttest design was conducted as the following steps:

- Preparation before teaching and learning process with orientation about learning strategy, mapping students group, register and practice using the Zoom Meeting, Google Meet,

application of learning media (Baramian App). After that, the researcher allows the students to do measurement of society 5.0 skills before study.

- Conduct teaching according to the developed learning GAWI MANUNTUNG, which is a combination of face to face and online learning using activities for students as the planned.
- Measurement of society 5.0 skills after completing the experiment, according to the learning plan. The test technique is used to explore students' skills in critical thinking, creative thinking, problem solving, analytical thinking and logical thinking. The test instrument used essays and multiple choice are arranged based on cognitive domain verbs related to critical thinking skills, creative thinking and problem solving start from fourth level.

4 Data collection from learning process use various instrument, includes various events that occurred during teaching and learning by recording and assessment forms after the discussion and commenting with group members, work pieces stored in the Google Classroom and Google Drive, and presentation of learning outcome in the classroom.

5 Data analysis, the researcher analyzes all of the data collection as follows:

- Learning outcome, the researcher uses the students work result, find the average and standard deviation, and translate the mean value into learning level.
- Society 5.0 skills assessment as critical thinking, creative thinking and innovation, logical thinking, analytical thinking, problem-solving, collaboration, and social skills by finding the mean and standard deviation and translating the mean to each skill level

6 Conclusion of learning outcomes base on the developed learning model. Evaluation of effectiveness of learning model GAWI MANUNTUNG that use on the learning activities to develop students society 5.0 skills, the characteristics as follows students have an average score from the higher order thinking skills test after study higher than before study at .01 level of significant.

3 RESULTS

3.1 The Design of Learning Model GAWI MANUNTUNG

The design of the learning GAWI MANUNTUNG are: Group, Analysis and observation, Wondering observation result, Intensive data collection, Making experiment on outdoor, Analysis the result, Negotiation of solution, Using Technology, Necessity intelligences development, Task Product Creation, Unity on presentation and role play, Network Tournament and Games.

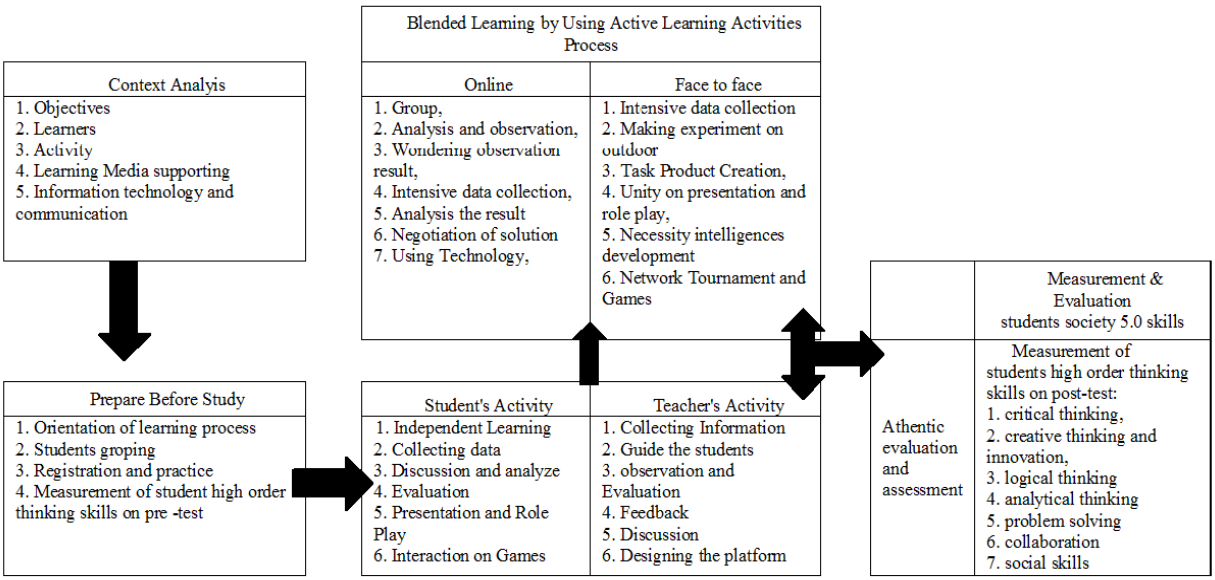

Figure. 2. The leaning model GAWI MANUNTUNG to improve society 5.0 skills

3.2 The Efficiency of Learning Model GAWI MANUNTUNG

The efficiency of the model step design that has been compiled is then validated by lesson plan evaluation expert, learning step evaluation expert, learning outcome assessment evaluation expert, and society 5.0 skills assessment evaluation expert with construct validity was at a very good level (X= 4.53) (SD = 0.13) and can be used to achieve the objectives of the learning model (see Table 1).

Table 1. The Efficiency Investigated of Learning GAWI MANUNTUNG by Experts

Evaluation Aspect	*Result*		
	$\overline{X}$	*S.D.*	*Efficiency Level*
The concept of Learning Model	4.60	.548	Very Good
The objective of Learning Model	4.70	.548	Very Good
Context Analysis	4.70	.548	Very Good
Preparation before study	4.60	.548	Very Good
Active learning activities process	4.70	.548	Very Good
a. Group,	4.50	.548	Very Good
b. Analysis and observation,	4.50	.548	Very Good
c. Wondering observation result,	4.50	.548	Very Good
d. Intensive data collection,	4.60	.548	Very Good
e. Making experiment on outdoor	4.40	.548	Good
f. Analysis the result	4.70	.548	Very Good
g. Negotiation of solution	4.50	.548	Very Good
h. Using Technology,	4.50	.548	Very Good
i. Necessity intelligences development	4.20	.447	Good
j. Task Product Creation,	4.40	.548	Good
k. Unity on presentation and role play,	4.50	.548	Very Good
l. Network Tournament and Games	4.50	.548	Very Good
Average	**4.53**	**.120**	**Very Good**

From the introduction of the developed learning model to pilot experiment with 40 students with non-sample groups of Karang Mekar 1 elementary school. Teachers' activity by six activities. The results of the improvement of society 5.0 skills found that, in general most students understand with the learning activity as well as learning model and satisfied with the teaching and learning process. Using media, equipment and learning resources that support learning management both in classroom and online learning. In addition, most students are able to show their role appropriately, allowing them to continue to learn, according to the learning model that has been developed continuously.

Almost every component of the supporting factor gets suggestions and input from the validator. These suggestions include the need to reconsider between activities and the allocation of learning time. According to experts, there are too many learning activities with learning objectives, so it requires more time allocation. Revisions are made by improving the learning objectives at each meeting so that learning activities do not exceed the allotted time.

3.3 Students' Skills After Learning with Learning Model GAWI MANUNTUNG

The researcher implements the learning model obtained from the research in phase 1 to experiment in order to find the effectiveness of the learning model on the improve of student society 5.0 skills. Including, studying the opinions of students towards the learning model developed by the researcher. The sample of classroom action research group of 40 students in Karang mekar 1 Elementary School. Information and Communication Technology for Teachers, spent 6 weeks in the classroom action research, of completing the learning activity. The researcher evaluated learning outcome of society 5.0skills and the competency reach.

Students society 5.0 skills by using the test of critical thinking, creative thinking, problem solving, logical thinking and analytical thinking after study which is the same version that the students have done before teaching and learning. The results of analysis of higher order thinking skills, students reach the higher order thinking skills competency after learning, according to the overall was at very good level. And when considered in each skill was found that learners with the highest level of thinking skills in attributing

and checking skills and from post-test scores, found that learners had higher level of society 5.0 skills after learning, developed in all skills at .01 level of significant (see Table 2). Based on the evaluation of the society 5.0 skills scores after the study, shows that learning through learning GAWI MANUNTUNG can help improve students society 5.0 skills.

Table 2. Student's Society 5.0 Skills After Study

society 5.0 Skills	Result		
	$\overline{X}$	S.D.	Competency Level
Critical Thinking	3,68	.48	Very Good
Creative Thinking and Innovation	3,69	.49	Very Good
Logical Thinking	3,71	.54	Very Good
Analytical Thinking	3,66	.46	Very Good
Problem Solving	3,78	.59	Very Good
Average	3,71	.52	Very Good

Other data obtained from large-scale trials are the assessment of the implementation of learning and student learning outcomes. The implementation of teacher and student activities in the learning process is presented in Figure 2:

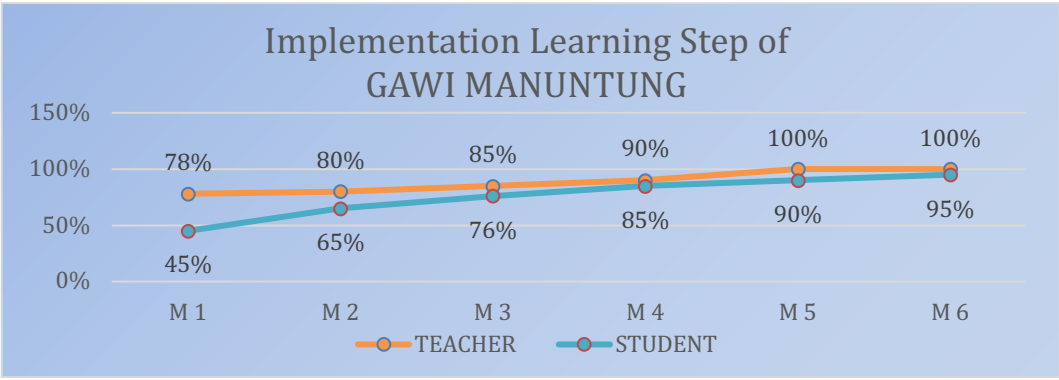

Figure 3. Implementation Learning Step of GAWI MANUNTUNG from Teacher and Students

Table 3. N Gain Analysis the operational test on six meetings

society 5.0 Skills	Items	N = 40)				t	p*
		Pre-test		Post-test			
		$\overline{X1}$	SD.1	$\overline{X2}$	SD.2		
Critical Thinking	8	3,57	.999	6,78	.891	-15.434	.000
Creative Thinking and Innovation	9	3,64	.532	6,34	.752	-15.832	.000
Logical Thinking	8	3,65	.679	6,78	.712	14.102	.000
Analytical Thinking	8	3,55	.465	6,45	.794	-17.954	.000
Problem Solving	9	3,57	.588	5,45	.712	-14.699	.000
collaboration	8	3,65	.679	6,78	.712	14.102	.000
social skills	9	3,57	.588	5,45	.712	-14.699	.000
Average Score	**59**	**3,6**		**6,29**		**-958**	**.000**

The increase in the value of knowledge is dominated by the "high" category because the learning presented provides very high motivation to students. The learning process is also not dominated by the transfer of knowledge in the form of theory, but students are brought to participate in learning with a variety of collaborative and independent information mining activities. Students are also led to exploring various problems that occur around them so that they are not required to memorize theories that make learning less meaningful.

Aspects of critical thinking in this study also increased significantly. This is because learning is packaged with directions following indicators of critical thinking skills. Students are also guided to carry out the critical thinking process intensively. Learning is also directed to foster creative thinking. This can be seen from the percentage gain with the high category very dominating. An aspect that is important in this study, that is problem solving has also increased significantly. This is because all indicators of problem-solving skills are peeled off one by one and developed for all students through the guidance of teachers and students. Another aspect that also continues to increase is logical and critical thinking. A significant increase occurred in a short time because it was carried out with intensive guidance from teachers and students.

3.4 Discussion

Critical thinking is the most important part of the learning process because critical thinking will create young people who can interpret, analyze, conclude, evaluate, explain and self-regulate (self-efficacy) both in education and general fields [23]–[25]. The importance of critical thinking skills has become the basis for re-searchers to develop the GAWI MANUNTUNG learning model, several learning steps that include activities for developing critical thinking skills, namely Analysis and Observation activities, Wondering observation results, Intensive data collection, and Negotiation of Solutions [23], [25].

The activity steps of Analysis and Observation, wondering observation result, Analysis of the result, and Making experiments outdoor can also develop problem-solving skills. This is in line with previous research which states that problem-solving skills can be developed by asking questions or allowing students to make questions from observations [26], [27], opens students' horizons using concrete and diverse objects [6], [27], uses the surrounding environment as an object of observation [3], [6], [7].

The development of GAWI MANUNTUNG learning model is one of the strategies to practice problem-solving skills using mobile learning technology. This condition is in line with the results of research showing that using mobile learning can develop students' critical thinking [4], [6], [7], [28], [29], this learning model also trains students to be able to interpret, analyze, conclude, evaluate, explain and self-regulate (self-efficacy) both in education and general fields [4], [6], [7], [25], [28]–[30].

In addition to focusing on improving critical thinking skills, the development of the GAWI MANUNTUNG learning model also has the advantage of improving students' creative thinking and problem-solving skills. Creativity is seen as one of the important skills that must be possessed by the younger generation in the future, the skills need to be developed in the future are critical thinking, creativity, cooperation, and communication [4], [6], [7], [27].

Beside that, the Task Product Creation activity, the Making experiment on outdoor activity will also hone creative thinking skills. The consideration of presenting a learning process that contains creativity is the reason for researchers in presenting activities that contain the formation of experiences through moving activities or extracting information to solve problems by utilizing the environment as a learning resource. This activity is in line with the results of re-search which states that learning activities by utilizing an outdoor learning environment can contribute to developing creativity, group work skills, and mutual respect for one another [3], [4], [6], [7], [27], [31]–[33].

Other skills developed in this research are logical thinking and analytical thinking skills. One of the learning steps that can develop these two skills is Analysis and observation. In this activity, the teacher will provide learning content that is more specific to exploring environ-mental issues related to the South Kalimantan area. Students will be asked to analyze what will happen if the problem is left unchecked, thus students are trained to reason about the possibilities that will occur so that analytical thinking skills begin [3], [4], [6], [7], [25], [27], [28]. Then students and groups will discuss the best solution for the problem being discussed. Furthermore, students will be directed to analyze what will happen if the solution is applied, This activity will train logical thinking skills [3], [4], [6], [7], [17], [27], [34], [35].

4 CONCLUSIONS

Based on the results of the study and discussion, it can be concluded that: (1) the GAWI MANUNTUNG learning model based on local wisdom is feasible to use in the learning process; (2) GAWI MANUNTUNG's learning model can improve critical thinking skills, creative thinking, problem-solving, logical thinking and analytical thinking.

ACKNOWLEDGMENTS

Thank you to the Rector and the Institute for Research and Community Service at Lambung Mangkurat University who have provided research funds for the program “dosen wajib meneliti” in the main cluster, for the main purposes of all research activities. Thank you also to University College Fairview Malaysia which has provided research grants for the research grant program for the benefit of this research.

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