

Developing Blended Learning Model MARTAPURA to Improve Soft and Social Skills

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ABSTRACT

The purpose of this research is to know about (1) the characteristics and implementation of the blended learning model MARTAPURA; (2) The appropriateness of implementation blended learning model; (3) the effectiveness of implementation blended learning model to improve soft and social skills pass COVID-19 pandemic. The method of this research uses Research and Development (R&D) with the Four-D model. The sample of this research is 50 person elementary school students on Banjarmasin. Collecting data use observation, documentation, interview, test, and questionnaire. Data analysis uses the Interactive Model. The result shows that (1) the implementation blended learning model consist of Mapping problem, Administer information, Resolution, Technology, Analysis, Project invention, Unity on games, Role playing, and Art; (2) blended learning model is appropriate to be used according to the results of the validation from 2 experts with validation percentage of learning steps 92% and skills improvement 87,19%. (3) blended learning model MARTAPURA is effective to be used to improve soft and social skills. The skills improved after implementation blended learning model, critical thinking 85,6%, creativity 75,6%, problem-solving 84,2%, independence 80,6%, communication 81,4%, collaboration 77,6% and negotiation 77,2%. Blended learning model can improve soft and social skills in elementary school.

Keywords: *Blended learning, MARTAPURA, Soft skills, Social skills.*

1. INTRODUCTION

The priority skills to be developed in the current learning process are critical thinking skills, creative thinking skills, problem-solving, independence, group work, and communication [23], [27], [49]. Skills development that is demanded by society in the future must be carried out in various conditions and situations. This view is very important amid conditions in this country which must carry out learning from home to prevent the spread of the COVID-19 virus. Learning from home is not a big obstacle to prioritizing the development of higher-order thinking skills in elementary school-age children. This is based on the important role of higher-order thinking skills to give birth to a productive generation and ensure the progress of this country. A skill that should be developed since elementary school age is critical thinking. If students have these skills, they can think deeply and structurally and dare to present the truth and evaluate various things

in a multi-perspective way. These skills will help a person make the right and best decisions in life [47].

A skill that is no less important for future generations to have is creativity. A creative person will be able to innovate through the development of broad ideas and put forward new opinions and findings to solve problems in social life, have a high curiosity to seek the truth of an opinion, and even make students able to be open and responsive to different perspectives. Creative thinking is characterized by fluency, flexibility, originality [43], [3], [2], [1], [32].

Skills that support critical and creative thinking are problem-solving. Problem-solving activities allow students to have in-depth analysis skills of a problem that arises around their lives, then solve it through rational solutions and logically acceptable thinking [2], [1], [32]. With this skill, a person will have an adequate understanding of seeing reality and have a desire to solve problems straightforwardly and precisely. Problem-solving abilities are a series of procedures or

strategies that allow a person to increase independence in thinking [20],[21].

The development of higher-order thinking skills that are focused on critical thinking, creative thinking, and problem-solving skills we know familiarly with direct interaction by exploring problems openly. This is because data search is assumed to have a high level of validity if it is obtained through direct interaction with the object of study. However, during the Covid-19 virus pandemic, it was impossible to obtain data through direct interaction with the object of research. Amid the high spread of viruses that can endanger human lives, every level is competing to develop strategies that can train students' thinking skills even if it is done without face-to-face interaction in the classroom. One of the solutions offered is the development of blended learning with the concept of combining learning with direct interaction with internet media as a link but modified with elements of developing thinking skills since elementary school age.

Blended Learning is learning that combines direct interaction to transfer knowledge combined with media in the form of interactive CDs and electronic books that are accessed via the internet network [25]. Efforts to use blended learning for the development of learning communities in the network are implemented by various levels of education, which are not only distance education providers, but have penetrated the educational community that implements independent learning with various media. They integrate various components of online learning with conventional classrooms [45], [25], [5].

Blended learning puts students forward as an important factor who will be given a variety of independent knowledge and give rise to analytical, critical, and creative attitudes. Thus, various educational institutions today must be able to create strategies in the form of blended learning that is designed according to student characteristics and skills that will be developed according to community demands [19].

Based on this background, the researcher seeks to analyze the results of the development of a blended learning model that contains high-level thinking skills within the boundaries of critical thinking, creative thinking, and problem-solving amid social restrictions and interactions between teachers and elementary school students. The learning model developed is called the blended learning model MARTAPURA (Mapping problem, Administer information, Resolution, Technology, Analysis, Project invention, Unity on games, Role-playing, and Art).

The formulation of the problem in this research is how is the application of the MARTAPURA blended learning model (Kinesthetic, Audiovisual, Science, Technology, Performance, Resolution, and

Identification)? and Is the blended learning model MARTAPURA (Mapping problem, Administer information, Resolution, Technology, Analysis, Project invention, Unity on games, Role-playing, and Art) effective in improving soft and social skills of elementary school students?

2. METHOD

Based on the problems to be resolved, the researcher uses a research method in the form of research and development (R & D) or what is known as research and development in the field of education with the model proposed by Borg & Gall. This method is used to create innovation and validate a product from the world of education in the form of strategies, methods, goals, curriculum, evaluation tools, educational software or hardware, or the process of using them [6]. This research will produce innovative products that are different from other products, both modified and new products to support work in the world of education and learning. This product allows the teaching and learning process to be optimal to achieve the expected goals [39].

The steps in the research research and development research method (R & D) [44] are known as the 4D method (Define, Design, Develop, and Disseminate). The define stage is the stage for determining and defining the terms of learning. The define stage includes five main steps, namely front-end analysis, student analysis (learner analysis), teacher analysis, skill development analysis and formulation of learning objectives (specifying instructional objectives). The design stage aims to design a learning model.

Collecting data in this study using observation, documentation, interview, test, and questionnaire techniques [39]. Observation is used to determine the effectiveness of using the MARTAPURA blended learning model, developing soft skills in the form of critical thinking, creativity and problem solving as well as social skills in the form of Independence, communication and collaboration. Observation of the effectiveness of learning using the MARTAPURA blended learning model using observation sheets of teacher activities and student activities in each learning step that has been compiled. Researchers will assess how the quality of learning using the new learning model is compared to previous conditions. Observations will also be used to determine the improvement of each skill item based on the grid collected from the opinions of experts. Each student activity will be observed whether they have critical thinking, creativity, problem-solving, independence, communication and negotiation.

Table 1. Validation result from validator

Validator	Score	Percentage
Learning steps	4,78	92%
Skills improvement	4,15	87,19%

Documentation is used to collect documents during the implementation of the MARTAPURA blended learning model. Documents collected are notes during the learning process, input and improvements from reviewers, photos and videos during the learning process, student work and products produced during the learning process using the MARTAPURA blended learning model. The test technique is used to explore students' abilities in critical thinking, creative thinking and problem-solving. The test instruments used in the form of essays and multiple choice were prepared based on cognitive verbs related to critical thinking skills, critical thinking and problem-solving starting from C4. The test was carried out before and after using the MARTAPURA blended learning model using the same material. Researchers will compare the results obtained in the initial test (pretest) and the final test (posttest) after receiving treatment.

The data analysis in this study was carried out qualitatively and quantitatively, regarding the implementation of the learning model. Qualitative analysis is used to describe the results of preliminary research, quantitative analysis related to the implementation and influence of the developed model. Quantitative analysis used statistical analysis. Activities in data analysis include grouping data based on variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, performing calculations to answer problem formulations, and performing calculations to test hypotheses that have been proposed.

3. RESULT AND DISCUSSION

The development stage begins with the efficiency stage by collecting information to analyze the needs of SDN Karang Mekar1. Information is collected through five analysis activities, they are front-end analysis, learner analysis, teacher analysis, skill development analysis, and (specifying instructional objectives). The front-end analysis conducted by conducting virtual interviews using the Google Meet application with high-grade teachers at SDN Karang Mekar 1 Banjarmasin. The second development stage is design creation. Furthermore, researchers developed a preliminary product format (develop a preliminary form of product). Product development begins with determining the substance of the MARTAPURA blended learning model. The MARTAPURA model is a blended learning model that puts forward virtual or online learning but is accompanied by detailed activities to increase students'

soft skills and social skills. The development was continued by designing blended learning MARTAPURA steps which were detailed as follows mapping problem, Administer information, Resolution, Technology, Analysis, Project invention, Unity on games, Role playing, and Art.

The blended model step design that has been compiled is then validated by learning steps experts and skills improvement experts with construct validity. Furthermore, the results of the validation of these two experts will show the feasibility level of the MARTAPURA blended learning model which is used as a guide. The recapitulation of the results of the blended learning model validation from three experts can be seen in Table 1.

The results of the validation of the two experts obtained an average percentage of 89,59% which was stated to be very feasible and usable. Even so, the validator provides comments and suggestions for revising some parts before they are used in learning. Improvements were made by describing in more detail the syntax of the blended learning model which consists of eight syntaxes, namely Mapping problem, Administer information, Resolution, Technology, Analysis, Project invention, Unity on games, Role playing, and Art. This shows that the expert gave a positive response by answering with a minimum score of 4 in the 1-5 range on all the proposed assessment items.

Almost every component of the supporting factors received suggestions and input from the validator. These suggestions, among others, need to reconsider between activities and the allocation of learning time. According to experts, learning activities with learning objectives are carried out too much, so that it requires more time allocation. Revisions are made by improving the learning objectives at each meeting so that learning activities do not exceed the specified time allocation. This is in line with the results of research conducted by [26] which states that in determining learning objectives, one must pay attention to available time management so that all learning objectives can be achieved optimally.

The next stage is a small scale trial. Small-scale trials were carried out at SDN Pasar Lama 1 totaling 15 students. The data obtained from this small-scale trial was in the form of student responses regarding the MARTAPURA blended learning model which consists of eight aspects with 24 statement numbers. Based on students' responses to the use of the MARTAPURA Blended learning model, it shows that the average score of 15 students is 84.5%. These results indicate that the learning model developed is very good for learning. Furthermore, a large-scale trial was carried out using the experimental method. The experimental class and control class chosen were class 5A and 5 B. The experimental class consisted of 45 people and the

control class had the number of greetings, namely 44 people. Just like a small-scale trial, in the form of student responses to the MARTAPURA blended learning model which consists of eight aspects with 24 statement numbers. Based on student responses to the use of the MARTAPURA blended learning model, it shows that the average score of 15 students is 89.4%.

Research in the large-scale trial phase also explores learning outcome data before and after using the MARTAPURA blended learning model. In addition to learning outcomes, all skills were also analyzed for improvement using the N-gain analysis to obtain an increase with an average of 0.59 in the "medium" category [30]. The results of N gain analysis on large-scale trials can be seen in Table 2.

Table 2. N Gain of big scale trial on 3 meetings experiment class

Result	Kategori N Gain (%)								
	Meeting 1			Meeting 2			Meeting 3		
	Low	Middle	High	Low	Middle	High	Low	Middle	High
Critical Thinking	61,2	29,4	9,4	21,2	52,1	26,7	0,0	4,4	85,6
Creativity	67,4	25,9	6,7	16,3	45,3	38,4	3,2	21,2	75,6
Problem-solving	58,6	32,6	8,8	19,4	31,4	49,2	3,4	12,4	84,2
Independence	69,2	24,3	6,5	19,8	30	50,2	4,4	15,0	80,6
Communication	68,1	24,7	7,2	21,2	30,1	48,7	2,2	16,4	81,4
Collaboration	67,4	23,3	9,3	22,1	32,6	45,3	2,3	20,1	77,6
Negotiation	52,1	39,1	8,8	15,6	38	46,4	3,0	19,8	77,2

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 gathering activities. The activity was continued by finding alternative solutions to problems with colleagues in the group. This activity is also designed to be as attractive as possible even though it is only carried out online via the Zoom Meeting page, Google Meet or WhatsApp. The critical thinking aspect in this research has also improved significantly. This is because learning is packaged with directions following the indicators of critical thinking skills.

An aspect that is no less important in this research is problem-solving which has also increased significantly. This is because all indicators of problem-solving skills are discussed one by one and developed for all students through the guidance of teachers and researchers. All students feel challenged to explore the problems that occur and look for alternative solutions to problems with friends in the group. Teachers and researchers give appreciation and reinforcement to students' ability to explore and solve problems, even though the results obtained are not yet perfect. This appreciation and reinforcement from the teacher also provokes student motivation to always try and try without fear of

mistakes. Learning is also directed to grow Independence.

A significant increase also occurred in the collaboration aspect, almost all students obtained very good criteria. This is because the learning prioritizes group learning and fosters a collaborative spirit in students. All students are guided not only to share assignments in groups, but to cultivate collaboration values in each student. Students are encouraged intensively to care for each other and have responsibility for group assignments. Students are also given the opportunity to interact and communicate with each other so that the problem-solving carried out in the group runs optimally. This activity also fosters negotiation skills. All students are trained to prioritize common interests and prioritize group interests. Coupled with the development of communication skills both individually and in groups. A learning process like this fosters collaboration, negotiation and communication skills.

A significant increase also occurred in the collaboration aspect, almost all students obtained very good criteria. This is because the learning process prioritizes group learning and fosters a collaborative spirit in students. All students are guided not only to share assignments in groups, but to cultivate collaboration values in each student. Students are encouraged intensively to care for each other and have responsibility for group assignments. Students are also given the opportunity to interact and communicate with each other so that the problem-solving carried out in the

group runs optimally. This activity also fosters negotiation skills. All students are trained to prioritize common interests and prioritize group interests. Coupled with the development of communication skills both individually and in groups, a learning process like this fosters collaboration, negotiation and communication skills.

The development of the blended learning MARTAPURA is also based on the demand to produce elementary school graduates who are able to think critically. Critical thinking skills have an impact on students' ability to think deeply and consider various solutions to problems to produce fast, precise and accurate solutions [7], [46]. Shiva who is accustomed to being trained in critical thinking will have speed and accuracy in solving problems and getting used to arguing or communicating with various points of view according to the context of the problem [9].

Besides, this blended learning model can improve students' creative thinking. The active, orderly, and meaningful process means that we understand the world. Creative thinking is thinking to systematically investigate the thought process itself, which means not only thinking on purpose, but also examining how we and others use evidence and logic [12], [14], [33], [37]. Creative thinking is the most important part in the learning process because Creative thinking will create a younger generation who are able to interpret, analyze, conclude, evaluate, explain and self-regulate both in education and in the general field [1], [2], [3], [32].

Apart from focusing on improving critical and creative thinking skills, the development of the MARTAPURA blended learning model also problem-solving. Studies in a period of nearly 10 years report that students who have high problem-solving show a tendency to learn better under their own supervision than in program supervision, are able to monitor, evaluate, and organize their learning effectively, save time in completing assignments and organize learning and time efficiently [48], [10], [36], [18], [31].

Problem-solving is one of the skills developed in the 2013 curriculum. The 2013 curriculum not only encourages the development of learning outcomes in the cognitive component, but affective aspects should be developed in students simultaneously and proportionally, one of which is independence in learning. Problem-solving does not mean learning alone without the help of others. Some experts define self-regulated learning (abbreviated as SRL) in different ways [31]. However, this different definition contains three main steps in SRL, namely: a) designing its own learning according to its objectives, b) choosing a strategy and implementing its learning plan, and c) monitoring its own learning progress, evaluating its learning outcomes and comparing it with certain standards [31].

Another skills that is improved by this blended learning is social skills such as collaboration, communication, learning independence, negotiation and decision making. The development of social skills is intended so that students have the ability to monitor their own behavior to compare their own positions with certain standards and be able to respond themselves to both positive and negative responses. Students who have collaboration, communication and independence in learning will have intrinsic learning initiative and motivation, have the habit of diagnosing learning needs, are able to set learning goals or targets, monitor, organize, and control learning, view difficulties as challenges, utilize and find relevant sources, choose, apply learning strategies, evaluating learning processes and outcomes [42], [34], [16], [41].

Thus, the MARTAPURA blended learning model contains various learning steps in which it negotiation and decision making in learning. Each step of the MARTAPURA blended learning model is designed to develop soft and social skills that are interrelated in each learning step. Mapping Problem and Administer Information as first and second learning step, in this step students will listen to the teacher's explanation using audio, the teacher will also build students' initial knowledge using video which aims to provide more concrete knowledge to students.

This activity will train students to be able to think critically. Activities are designed to develop creative thinking indicators which consist of focusing questions, analyzing arguments, asking and answering questions about an explanation or challenge, concluding an idea or solution, interpreting facts or conclusions or logical statements based on the information provided, evaluating, differentiating between strong and relevant arguments and arguments that are weak or irrelevant [7], [12].

This activity step is in line with previous research which states that decision making and problem-solving can be developed by asking questions or giving students the opportunity to make questions from observations [33], giving students the opportunity to explore the problems that are happening from the observations, opening students' insights using concrete and various objects, involving students providing arguments to answer questions [37].

In addition, the development of MARTAPURA's blended learning is one of the strategies to train problem-solving and communication using mobile learning technology. This is in line with the research results which show that using mobile learning can develop students' critical thinking [9], [14], this blended learning model also trains students. to be able to interpret, analyze, conclude, evaluate, explain and self-regulation (self-efficacy) in both the education and general fields [35], [1], [32].

MARTAPURA's blended learning step is continued with Resolution and Technology, students will negotiate with friends in the group to get the resolution. Making resolution started with the teacher distributing number cards with different problems, the cards were given in the Whats App application group in the form of pictures, this step using technology as the media. Students will negotiate in groups to formulate in detail what problems are happening, what will happen if the problems are left alone.

The activity was continued with the Analysis activity. In this activity, the teacher provides learning content that is more specific to exploring environmental issues associated with the South Kalimantan area. Students will be asked to analyze what will happen if the problem is left alone. Then students and groups will discuss the best solution to the problem being discussed. Analysis activities will formulate the results of reasoning that will be carried out in physical activity. In the same activity, students will be trained to have creative problem-solving skills, because the problems given in detail and contextually can train students to provide creative and logical solutions to solve problems. Students will carry out activities to organize data and select relevant information in problem-solving that will train logical, creative, systematic and analytical thinking skills [40], [14], [38], [24], choosing appropriate problem-solving approaches and methods, developing problem-solving strategies that allow students to provide creative and different ideas from other groups [8]. This activity combines direct data mining in their environment and web based learning. Web-based learning activities often involve information searching tasks since the learning environment is connected with information sites worldwide and video [22], these activities will also improve students' reading skills [28].

Carried out by providing and receiving information, conveying opinions or arguments within the group in solving problems that will hone students' communication skills with innovations carried out using virtual technology [15], responding to statements from friends in the group during the discussion [4], explaining what will and has been done in the group, received information provided by a group of friends well and responded positively even though there were differences of opinion [13]. This activity will also train students' independence in learning to grow self-confidence, active in learning, discipline and responsibility [11]. Analysis activities will also train students' collaboration skills starting from working collaboratively, contributing to groups, conveying information clearly [3].

Project invention and Art activities will also hone students' communication skills through giving and receiving information, conveying opinions or arguments within the group [3], [11], responding to statements

from friends in the group during discussions, explaining what will and has been done in the group, receives information provided by group friends well and gives a positive response despite differences of opinion [15].

Activities continued with Role Playing activities. This activity is filled with illustrating events related to subject matter that involve students as the main actors in it. The delivery of illustrations is done in the form of a story as well as provoke enthusiasm for students in practical activities through movements and words. The main objective of this activity is to train students' communication skills. This activity also fosters students' concern for the environment, because role play content will focus on skills to act on environmental issues and respond to environmental damage that occurs to feel how environmental conditions are from two sides [1], [50]. Role play activities can also train student cooperation, because role play activities involve working collaboratively, contributing to groups, convey information clearly, communicate with each other, care for all group members, respond to group needs and participate fully in various steps of group activities.

4. CONCLUSION

The characteristic and implementation of the blended learning model MARTAPURA consist of Mapping problem, Administer information, Resolution, Technology, Analysis, Project invention, Unity on games, Role playing, and Art; blended learning model MARTAPURA is appropriate to be used according to the results of the validation from 3 experts with validation percentage of learning steps get high criteria, skills improvement get high criteria and teaching materials also get high criteria; blended learning model MARTAPURA is effective to be used in learning based on the results of evaluations using instruments of soft and social skills and the improvement after implementation blended learning model, the students who are getting high criteria on critical thinking, creative thinking, problem-solving, independence, collaboration, negotiation and communication from low criteria increase to high criteria more than 75%.

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