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Development Of Collaborative Learning Model Based On Guided Inquiry In Increasing Learning Outcomes Of Students Of Madrasah Aliyah Negeri 3, City Of Padang Panjang

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***Abstract* -- Collaborative learning Based on guided inquiry emphasizes cooperation between participants in groups. This is based on the thought that it is easier for everyone to understand a concept if they discuss the problem together. Most of them in guided inquiry-based collaborative learning will form togetherness by considering differences in academic ability, gender and characteristics. The development of this model is expected to be useful for implementation in the learning carried out and will have an impact on increasing the enthusiasm for learning, so of course it will also have an impact on increasing student learning outcomes. The data sources for this research are students at MAN 3 Padang Panjang City for the academic year 2021/2022, totaling 300 people. Data analysis in this study will be carried out by checking the validity of the data. The results of this study show that the concept of Collaborative Learning Based on Guided Inquiry can be combined into one Collaborative Learning Based on Guided Inquiry. Because these two models emphasize the process of obtaining student information and providing stimulus to students in the form of presenting an invention they have obtained.**

Keywords – ***Collaborative Learning; Guided Inquiry; Learning Outcomes***

I. INTRODUCTION

Education must be able to ensure equal distribution of educational opportunities, improve the quality and relevance and efficiency of education management. Equitable educational opportunities are realized in the 12-year compulsory education program. Improving the quality of education is directed at improving the quality of Indonesian people as a whole so that they have competitiveness in facing global challenges. Increasing the relevance of education which is intended to produce graduates who are in accordance with the demands of needs based on the potential of Indonesia's natural resources and human resources. To carry out this function, the government organizes a national education system as stated in Law No. RI. 20 of 2003 that the national education system must be able to ensure equal distribution of educational opportunities, improve quality as well as the relevance and efficiency of education management to face challenges in accordance with the demands of changes in local, national, and global life so that education reform is needed in a planned, directed, and sustainable manner.

Education in the Law on the National Education System is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and the skills they need. , society, nation and state. Education is held through three channels, namely: formal, non-formal, and informal. The three educational pathways are organized to serve all citizens based on the principle of lifelong education towards the formation of quality Indonesian people. One of the efforts that can be done in

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formal education is the implementation of learning through the development of a guided inquiry-based collaborative learning model.

The development of a guided inquiry-based collaborative learning model can empower students in increasing enthusiasm and student learning outcomes who are guided by subject teachers as well as facilitators in learning. The teacher as a facilitator whose job is to direct, facilitate, or assist students in learning. To overcome this, in the world of education, the term guided inquiry-based collaborative learning model was introduced. In this learning process, students are invited to work together to play an active and creative role in learning. Meanwhile, the facilitator must be able to make an effective learning process fun for the students, so that it does not cause boredom in learning.

An explanation of the concept of Collaborative Learning Based on Guided Inquiry is a structured and systematic model, in which small groups work together to achieve common goals and is a core part of contextual-based learning activities. The knowledge and skills acquired by students are expected not to be the result of remembering a set of facts but the result of finding out for themselves. Teachers must always design activities that refer to activities to find whatever material they teach. Learning will be meaningful if students are actively involved in finding facts seen from the environment with teacher guidance.

Cooper and Heinich explain that collaborative learning is a learning approach that involves small groups of students working together to achieve common goals and tasks, while working together to learn collaborative and social skills. Group members have responsibilities and depend on each other. While the Guided Inquiry Model is an activity that involves many students to solve learning problems that emphasizes the involvement of students in a problem solving which means that they can construct their own knowledge from the results of the solutions they find.

Collaborative learning based on guided inquiry is based on the idea that everyone works together in group learning and is at the same time responsible for the learning activities of group members, so that all group members can master the learning material from what they find themselves well. Collaborative learning Based on guided inquiry emphasizes cooperation between participants in groups. This is based on the thought that it is easier for everyone to understand a concept if they discuss the problem together. Most of them in guided inquiry-based collaborative learning will form togetherness by considering differences in academic ability, gender and characteristics. Participants' activities in guided inquiry-based collaborative learning include actively following the teacher's explanations, completing assignments in groups, giving explanations to their groupmates, encouraging group friends to participate actively, and discussing.

The problems faced in order to improve the quality of formal education are influenced by several factors; Among them are the quality factors of educators in this case related to qualifications and competencies. Common problems faced in the quality aspect are related to the existing conditions as above, of course, it will have an impact on the process and learning outcomes of students. If this condition is left without an integrated treatment, it can lead to a decrease in quality and low learning outcomes. The low quality of education is a big problem in the education program at Madrasah Aliyah.

Judging from the phenomena in the field, many teachers tend to use only conventional methods of learning, taking notes, memorizing without paying attention to the potential of students which need to be developed through cooperative learning. Therefore, to make learning more meaningful and successful, it is necessary to develop a learning model for students of Madrasah Aliyah Negeri 3 Padang Panjang which really raises high enthusiasm in learning so that the potential of students can develop optimally, and of course learning outcomes can be driven as expected.

For this reason, this condition is very decisive, so ideas are always developing on how to make students learn to achieve optimal learning outcomes. So the teacher's role is not only as a facilitator but also mastering learning materials, innovation and can create an atmosphere that inspires students to learn, so teachers must be able to develop learning models that are suitable for students' circumstances and can adapt to students' learning styles.

How big the influence of the development of learning models carried out by the teacher on learning outcomes so far, whether the influence is positive or even vice versa, of course, depends on the creativity of the teacher how to organize learning that can be conditioned in such a way that allows for good interaction and cooperation in the process and achieve good learning outcomes together. Therefore, in achieving satisfactory learning objectives, it is necessary to create a learning model that can

establish cooperation in learning, namely the relationship between students learning with the teacher as a facilitator, so that they can obtain maximum learning outcomes.

One other alternative that can be taken is through the development of learning models that match the characteristics of students continuously, which is considered strategic in an effort to accelerate the increase in motivation and learning outcomes of learning citizens, namely through a collaborative learning model based on Guided Inquiry. Where the development of this model is expected to be useful to implement in the learning that is carried out and will have an impact on increasing the spirit of learning, so of course it will also have an impact on student learning outcomes as well.

The phenomenon that has occurred so far in Madrasah Aliyah Negeri 3 Padang Panjang City in this case the ability of students to find their own material related to real life is still lacking, or learning is still teacher-centered. Learning cannot be centered on students. students are not used to solving problems in learning through collaboration with a group of friends. The teacher has not developed a varied model for students. Student Interest in Learning is still Low. Students still find it difficult to understand the concepts conveyed by the teacher so that the learning atmosphere results in passiveness. Based on the description above, the authors are interested in researching the Development of a Collaborative Learning Model Based on Guided Inquiry in Improving Student Learning Outcomes at Madrasah Aliyah Negeri 3 Padang Panjang City.

II. METHODS

This research was designed with a "Research and Development" approach, as stated by Borg & Gall (1979:624). What is meant by a development research model is: "a process used to develop and validate educational products". This understanding implies that research and development methods in the field of education are, in principle, a process for developing an educational product and further validating the product. This means that research and development methods are applied to produce products and test product effectiveness. In the context of this research, the educational product that will be developed and validated is a collaborative learning model in improving learning outcomes for learning citizens which is developed and validated in learning at MAN 3 Padang Panjang City. What is meant by educational products are not only material objects, such as textbooks, films for teaching, but also procedures and processes, such as learning models, teaching methods, or teaching organization. Its form is in the form of learning objectives (learning outcomes), models, methods, curriculum, evaluation, both hardware, software and methods or procedures. This approach is a way of researching to produce a new product, and testing the effectiveness of a particular product.

In its operation, the guided inquiry-based collaborative learning model can be identified through the components of planning, implementing, and evaluating curriculum or learning indicators, teaching materials, target groups, learning methods and media. These indicators are the main components in developing an integrated model in learning to improve student learning outcomes. These indicators are then realized in the form of competencies: cognitive, affective and psychomotor.

The factors that hinder its implementation, and the positive impact on teacher performance. The data sources were selected purposively and were snowball sampling. The sample of data sources was selected from students at MAN 3 Padang Panjang city. The data is taken with consideration and the amount reaches a saturation condition according to the researcher which is marked by the similarity of the data provided by the source. The data in this study are using data from interviews and data from observations. Interviews were conducted to obtain data regarding the causes of the low quality of students in class X, class XI and class XII. Observations were made by comparing existing documents in the field with data from interviews with resource persons. In addition, data regarding the implementation constraints of the application of the collaborative learning model are needed to answer the focus of the problem in this study. The data sources for this research are students at MAN 3 Padang Panjang City for the academic year 2021/2022, totaling 300 people. Data analysis in this study will be carried out by checking the validity of the data.

III. RESULTS AND DISCUSSION

A model is a pattern (eg, reference, variety, etc.) of something that will be made or produced (Depdikbud, 1994: 662). The model is a description of objects, procedures, situations or thoughts to design a learning program. Model means a pattern that can be used as an example or reference to be applied in the field. According to Kusnadi et.al (2005: 259) the model is a procedure

that is arranged regularly and logically as outlined in an activity plan to achieve goals. According to Trianto (2010: 51) the learning model is a pattern that is used as a guide in planning learning in class or learning in tutorials.

Model development is defined as a conceptual design process in an effort to improve the function of the existing model, through the addition of learning components that are considered to be able to improve the quality of achieving goals (Sugiarta, 2007: 11). Model development can be interpreted as an effort to expand to bring a situation or situation in stages to a more perfect or more complete or better situation. Development here means that it is directed at a program that has been or is being implemented to become a better program. This is in line with the opinion expressed by Adimihardja and Hikmat, 2001:12 (in Sugiarta A.N, 2007:24) that "development includes activities to activate resources, expand opportunities, acknowledge success, and integrate progress. The development of the new model is based on the experience of implementing the newly implemented program, the needs of individuals or groups, and adapted to the development and changes in the learning environment.

According to Sudjana (2000) in Sugiarta (2007: 62) that learning is a system that cannot be separated from various interrelated components, consisting of: raw input, instrumental input, environmental input, output, outcomes and impact. Raw input (raw input), namely students, with various characteristics they have both internally and externally. Internal characteristics include physical, psychological, and functional attributes, while external characteristics relate to the living environment of the learners concerned. Instrumental input (input facilities) includes all sources and facilities that make it possible for a person or group to carry out learning activities. Instrumental inputs include: learning programs, tutors, facilities, costs and education managers. Environmental input (environmental input) includes environmental elements in the form of: family environment, social environment (work environment, play environment), natural environment, including biological and non-biological resources, regional environment, national environment and even international environment.

The process is educational interaction between input facilities (especially educators) and raw input (students). In this process, learning occurs which prioritizes the creation of conditions by the tutor to help participants learn to actively learn. Learning activities are carried out by utilizing various sources, including library resources, human experience sources, electronic media, the socio-cultural environment and the natural environment. Output (output) is an intermediate goal, which includes the quality of graduates accompanied by the quality of changes in behavior obtained through learning activities. These behavioral changes include: the cognitive domain, the affective domain and the psychomotor domain.

Other input (other input), is another supporting capacity that allows students and graduates to use the abilities they already have for the advancement of their lives. Outcome or impact (influence), which is the ultimate goal of formal education program activities, which consists of: a) changes in the standard of living of graduates marked by job gains, increased income gain, self-appearance, b) being able to teach others about the learning outcomes that already owned by graduates, c) increased participation in social activities and community development.

In connection with the above opinion, Hamalik (1995) in Sugiarta (2007: 63), that learning management is a process of combining or combining human elements, materials, facilities and equipment, and procedures. The use of a systems approach in learning is to encourage systematic thinking by taking into account all the components involved in the problems to be solved, in order to expand alternative solutions in achieving the goals that have been set. Thinking in a system helps education managers in looking at something systematic which is oriented towards interacting components.

Another opinion expressed by Frans & Bursuck, 1994: 76 says that "collaboration is a professional style chose to use is order to accomplish a goal they share". This opinion implies that collaboration is a chosen method to be used by professionals in achieving a common goal. Therefore, the collaborating parties have the same goals, so that among them of course they carry out planning and implementation together. According to David. D Crislip & Carl E. Larson (in Sumidjo, 1999: 11) provide an understanding that there are requirements for the realization of collaboration, so that a learning program is carried out collaboratively, if it meets the characteristics of: "a mutually beneficial cooperation between two or more parties in achieve common goals, by giving each other responsibility, authority and accountability for the achievement of the organizational vision that has been set". So in an environment of Madrasah Aliyah Negeri 3 Padang Panjang City, this inquiry-based collaboration is seen as a system consisting of people who have equal roles, responsibility authority, and equal accountability in achieving common goals.

Collaborative learning Based on guided inquiry contributes to the development of cohesiveness of learning community groups, because in groups there will be more flexible interaction between learning citizens, and groups are used as a means to develop knowledge, attitudes and skills, so that it is possible for students to have responsibility for the success of their learning objectives. . Collaborative learning based on guided inquiry, there is involvement of students, together with educators as facilitators to guide students in participatory learning, starting from the planning, implementation to evaluation stages.

In addition, all parties involved in the guided inquiry-based collaboration have the same goals and a sense of ownership in achieving the goals. The learning process will begin when all collaborating parties have an understanding of goals, responsibilities, mutual respect and a sense of belonging to the learning program, so that the guided inquiry-based collaborative learning program is held in accordance with the predetermined plans.

The guided inquiry-based collaborative learning model developed can be said to be effective if the achievement of learning objectives is considered optimal within a certain period of time. In terms of the process, there was an increase in motivation and participation of the collaborative team and the mechanism of collaborative work, and in terms of learning outcomes there was a significant change in knowledge, attitudes and skills when starting and ending learning.

Based on several expert opinions, the researcher concludes that guided inquiry has steps in its application. According to Sanjaya (2014: 201) there are 6 main steps in the application of the guided inquiry model, namely:

1. The orientation step is a step to foster a responsive learning atmosphere or climate. In this step, the teacher conditions students so that students are ready to carry out the learning process. Some things the teacher needs to do, for example, explain the topics, goals, and the results that students are expected to achieve.
2. Formulate the problem.

   Formulating the problem is a step to bring students to a problem that contains a puzzle. The problems presented are problems that challenge students to think about solving the puzzle. This process of finding answers is very important in the inquiry strategy.
3. Formulate the Hypothesis

   Hypothesis is a temporary answer to a problem that is being studied. As a temporary answer, the hypothesis needs to be tested for truth. One way that educators can do to develop the ability to guess (hypothesize) in each child is by asking various questions that can encourage students to be able to formulate temporary answers or be able to formulate various estimates of possible answers to a problem being studied.
4. Collecting data

   Collecting data is an activity to collect information needed to test the proposed hypothesis. Collecting data is a mental process that is very important in intellectual development. The process of collecting data not only requires a strong motivation in learning, but also requires perseverance and the ability to use their thinking potential.
5. Testing Hypotheses

   At this stage is the process of determining the answer that is considered acceptable according to the most important thing in this step is to find the level of students' confidence in the answers given.
6. Formulate Conclusions.

   Formulating conclusions is the process of describing the findings obtained based on the results of hypothesis testing. Formulating conclusions is a very important step in this stage. A lot of data is obtained, causing the conclusions formulated do not focus on the problem to be solved. Therefore, to reach accurate conclusions, educators should be able to show students which data is relevant.

Cooperative learning can be said as a series of processes of interaction between students in achieving the same goal to achieve common goals. In cooperative learning conditions the teacher's role is more directive when compared to collaborative learning, the teacher's position is as a controller. Along with this opinion, Rocky Rockwood (1995) shared his experience that

cooperative learning is very suitable for the approach to mastering basic skills. As students become more skilled, they are ready for collaborative learning, ready for discussion and assessment. In another part of his article, he also explains the comparison between collaborative and cooperative learning by first understanding the similarities between the two, namely: 1) using groups; 2) assign specific tasks; 3) sharing among groups; and 4) compare the procedures and conclusions in the plenary group (whole class).

The very basic difference between the two notions is that cooperative learning is related to traditional knowledge, while collaborative learning is related to the social constructivist movement that focuses on knowledge. From various opinions about guided inquiry-based collaborative learning, it can be assumed that this learning is a learning philosophy that improves the old model (conventional learning) not a series of activities to delegate the duties and roles of the teacher to students, it can be realized that conventional learning is less effective in building interest and motivation to learn students. In conventional learning, students may be overburdened with material that is seen only from the cognitive aspect, while from the attitude and skill aspect they are neglected.

In conventional learning, it does not provide opportunities for students to develop their potential to the fullest, lacks enthusiasm or motivation to learn, the learning model is monotonous, one-way, and boring. As with collaborative learning, it is said to be a learning philosophy that can make it easier for students to work together, help each other, guide learning, interact positively, change together, move forward together, share responsibility, and achieve common goals. So it is clear that guided inquiry-based collaborative learning is more effective than cooperative learning. Cooperative learning is a way to achieve faster, better results, doing fewer parts, so collaborative learning Based on guided inquiry is the whole learning activity, however, the emphasis of collaborative learning and guided inquiry is learning together through teacher guidance in learning.

The point is collaborative learning, based on guided inquiry, students learn in groups (4-5 people) interact with each other, help each other, teach each other in achieving the same goal to realize common goals, mutual discover new knowledge in accordance with the teacher's direction. The guided inquiry-based collaborative method is based on assumptions about students with the following learning process (Smith & MacGregor, 1992):

1. Learning is active and constructive; To learn the subject matter, students must be actively involved with the material. Students need to integrate this new material with their previous knowledge. Students build meaning or create something new related to the subject matter.
2. Learning is context dependent; learning activities expose students to challenging tasks or problems related to contexts that are already known to students. Students are directly involved in completing the task or solving the problem.
3. The students were of various backgrounds; students differ in many ways, such as backgrounds, learning styles, experiences, and aspirations. These differences are recognized and accepted in collaborative activities, and are even needed to improve the quality of achieving joint results in the learning process.
4. Learning is social; the learning process is a process of social interaction in which students construct shared meanings.

Collaborative learning based on guided inquiry is a whole learning activity, however, the emphasis of collaborative learning and guided inquiry is learning together through teacher guidance in learning. The measurement results using SPSS (Statistical Product and Service Solutions) are as follows:

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Metode	Statistic	Df	Sig.	Statistic	Df	Sig.
Hasil	Ceramah	.136	15	.200*	.942	15	.411
	Inkuiri	.173	12	.200*	.927	12	.352

	Demo	.174	10	.200*	.956	10	.737
	Tanya	.207	17	.052	.924	17	.174

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The sig data above is greater than alpha 0.05 then the data is normally distributed

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	1.555	3	50	.212
	Based on Median	1.224	3	50	.311
	Based on Median and with adjusted df	1.224	3	41.017	.313
	Based on trimmed mean	1.487	3	50	.229

Based on the homogeneity data above, sig is 0.212 > 0.05, so it can be concluded that the four data are homogeneous.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.381	3	6.127	.263	.852
Within Groups	1164.600	50	23.292		
Total	1182.981	53			

From the ANOVA table above, the sig value is 0.852 > 0.05, so the average is the same.

IV. CONCLUSION

Researchers conclude that the two learning concepts above can be combined into one Collaborative Learning Based on Guided Inquiry. Because these two models emphasize the process of obtaining student information and providing stimulus to students in the form of presenting an invention they have obtained. Contextual problems that must be solved by exploring the knowledge and experiences of students. The guided inquiry-based Collaborative Learning Process provides opportunities for educators to have real and active learning experiences. Learners are trained how to solve learning problems while being able to make decisions and exchange ideas in collaboration with other groups. Based on the opinions expressed above, most people tend to choose to use the collaborative concept based on guided inquiry compared to using cooperatives. However, the use of these two concepts is generally difficult to avoid.

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