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The Effect of Applying the Whole Brain Teaching (WBT) Learning Model on Student Learning Outcomes in Social Science Subjects (IPS) Class IV MIN Lubuk Buaya Padang

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Abstract: This study aims to determine whether the Whole Brain Teaching model influences the social science learning outcomes of fourth grade students at MIN Lubuk Buaya Padang. This research is in the form of quantitative research using a quasy experiment approach. The research population of grade IV students at MIN Lubuk Buaya totaled 78 people and the sampling technique was purposive sampling. Data collection techniques used tests, and test sheet data collection tools. The type of data is in the form of student learning outcomes. The data was processed using a difference test (t-test) and the results obtained were that the average value of the experimental group was higher than the average value of the control class.

Keywords: Whole Brain Teaching Model, Learning Outcomes, Learning Social Sciences.

INTRODUCTION

Social Sciences (IPS) is one of the subjects taught in Elementary Schools that examines a set of events, facts, concepts and generalizations related to social issues (National Education Standards Agency , (2006: 159) . Through social studies students are expected to have knowledge , insight, about the basic concepts of Social Sciences, and have good skills and attitudes in solving problems and problems of life in a complex and full of challenges social society that occurs in the environment. IPS is a field of study that studies, examines, analyzes social symptoms and problems in society by reviewing various aspects of life or a combination (in http://perpustakaan.upi.edu)

Hasan (2005: 3) states that the purpose and essence of IPS lessons is to be able to prepare, foster, and form the ability of students to master the knowledge, attitudes, values, and basic skills needed for social life. According to Wahab (2005: 2), to support the achievement of social studies learning objectives, it must be supported by a conducive learning climate because the learning climate has a great influence on the success and

enthusiasm of learning. Likewise the quality and success of learning is strongly influenced by the ability and skills of teachers in choosing and using learning models.

To convey social studies material in the learning process, an effective and fun learning model is needed so you don't get bored. Apart from that, teachers also need activeness in using various learning methods so that students do not feel bored and can support success in implementing learning. Teachers must apply learning with various combinations of methods that can be done to provoke student activity. Teachers must use appropriate learning methods in social studies learning in order to increase student enthusiasm. Teachers are required to be good at creating a fun learning atmosphere for students so that students' boredom disappears.

The learning model applied by most teachers is a conventional learning model such as explaining abstractly, lectures with one-way communication, and learning is still dominated by the teacher. Based on the author's initial observations on Wednesday, April 3 2013 in class IV.B MIN Lubuk Buaya, Padang, learning generally takes place using the lecture method and giving assignments. The learning atmosphere tends to be passive because of several things: 1) the teacher does not control the class, 2) does not give children the opportunity to ask questions, 3) the teacher's emotions tend to be less controlled so that the teacher tends to be authoritarian, and 4) students are only told to memorize and answer questions that is in the textbook.

Based on the above, it certainly has an impact on class IV.B MIN Lubuk Buaya, Padang where it can be seen: 1) students are less able to express opinions, 2) only a few smart students are active, 3) students are less independent, 4) students often ask permission from during learning, and 5) students are lazy to do homework. This will have an impact on social studies learning outcomes with an average score of social studies in the semester I exam for class IV.B MIN Lubuk Buaya is 73.5. KKM is 75. It can be seen that the KKM has not been achieved, it is suspected that the cause is the inaccuracy of the learning model used so that it requires a suitable learning model. Teachers should choose a fun learning model and arouse student activity.

initial symptoms above and in order to overcome conventional learning and to achieve maximum learning goals, the authors try to apply one of the learning models, the *Whole Brain Teaching model* . *Whole Brain Teaching* is a learning model that recognizes students' learning principles, namely *Visual, Verbal* , and *Body/Kinestetic* . The core strategy of *Whole Brain Teaching* is how to attract students' attention so that they are more focused on the material provided by the teacher. This model requires high student interaction. The learning model will be able to create a collaborative and fun teaching and learning process (Selvia Agustin, et al.)

Therefore, if it is related to the phenomena in the field, this model has a big role to increase the enthusiasm and motivation of students to learn and increase student activity in better and more enjoyable learning so as to improve learning outcomes. Based on the findings above, the authors are interested in researching the Effect of Applying the *Whole Brain Teaching* (WBT) Learning Model on Student Learning Outcomes in Social Science Subjects (IPS) Class IV MIN Lubuk Buaya, Padang.

LITERATURE REVIEWS

Learning outcomes

Learning outcomes are benchmarks to determine the level of success of students in mastering a subject. Learning outcomes are an important part of the learning process. Purwanto (2009:54) says that learning outcomes are changes in behavior that occur after participating in the teaching and learning process in accordance with educational goals.

Nana Sudjana (200 9:22) says that learning outcomes are abilities that students have after they receive their learning experience .

From this description it can be explained that learning outcomes are individual circumstances or changes in behavior towards a better one that is owned by the individual after carrying out the learning process. Changes obtained from learning outcomes are changes that are entirely in the individual. The learning outcomes referred to in this study are the final scores obtained by students after participating in the teaching and learning process applying the *Whole Brain Teaching Model.*

Whole Brain Teaching **Learning Model**

The theory that underlies *Whole Brain Teaching learning* is constructivist learning theory, especially Virgotsky constructivism. Basically the constructivist theory approach to learning is an approach in which students must individually find and transform complex information, check information with existing rules and revise it if necessary (Rusman, 2012: 201; Soejadi in Teti Sobari, 2006: 15) .

Cooperative learning emphasizes active and positive student interaction in the group. Students can exchange ideas with their friends and can check the correctness of ideas in an atmosphere that is not threatened. Thus, the learning process is expected to awaken student potential, foster student activity and creativity. The role of the teacher is not only to provide knowledge, but also to build knowledge in the minds of students.

Virgotsky's constructivist theory is that there is a social nature in the learning process. Students study in groups with diverse members. Learning activities put more emphasis on social interaction and students construct their knowledge in their social environment. In study groups students can convey something they think to their friends and friends will see the discrepancy of opinion between them and try to help them towards something clearer.

Social Sciences (IPS)

The term Social Sciences (IPS), which has been officially used in Indonesia since 1975, is the Indonesian term for the notion of *social studies*, the pressures studied by IPS, regarding the symptoms and problems of people's lives, not scientific theory, but social life. It must be admitted that the idea of IPS comes from the literature. United States education. The original name in the United States is " *Social Studies"*. The term was first used as the name of a committee, namely the " *Committee of Social Studies"* which was founded in 1913. The purpose of the institution's establishment was as a forum for a collection of experts interested in the Social Sciences curriculum at the school level and science experts. -Social Sciences with the same interests (repository.upi.edu).

Social science is a subject that studies social life based on studies of geography, economics, sociology, anthropology, state administration, and history. This was emphasized by Rusyan (1993) in (repository.upi.edu) that IPS is the result of a combination or result of diffusion or a combination of a number of subjects such as geography, economics, history, sociology, anthropology, and politics. IPS education for students plays the role of: (a) Socialization, helping students to become useful and effective family members; (b) decision makers, helping students develop thinking skills (intellectual) and academic skills; (c) attitudes and values, helping students mark, investigate, formulate, and evaluate themselves in relation to the surrounding community; (d) citizenship, helping students to become good citizens; (e) knowledgeable, responsive and sensitive to advances in knowledge and technology and can benefit from them. Ischalk, SU,(1997:35) in (repository.upi.edu)

Social Sciences education subjects are arranged in a systematic, comprehensive, and integrated manner in the learning process towards maturity and success in life in society. Therefore social studies subjects are designed to develop knowledge, understanding, and analytical skills of the social conditions of society in entering a dynamic social life.

METHODS

quantitative research in the form of a quasy experimental approach. Quasy experiments according to Mohammad Nazir (1988: 86) are research that is close to real experiments where it is impossible to strictly control or manipulate all relevant variables. There must be a compromise to determine the internal and external validity in accordance with the existing limitations. This research was conducted at MIN Lubuk Buaya Padang in grade IV even semester of 2013/2014 academic year. The research population was all fourth grade students at MIN Lubuk Buaya Padang. While the sample of this study was class IV.B as an experiment with 26 students and class IV.C as a control class with 26 students.

Data collection techniques used in this study were tests and data collection tools using question sheets in the form of objectives and fields. The data analysis technique used in this study is the normality test, homogeneity test, and t test. The normality test aims to determine whether the data obtained comes from normally distributed data or not . Analysis of normality in the experimental class and control class was analyzed using the *Liliefor test.* Homogeneity testing using the Barlet t test using the Chi Square formula (χ^2). This test aims to determine whether the data comes from homogeneous groups, between experimental classes and control class. The next step is the t test. Testing the t-test to find out whether there is a significant effect on the scores of the two groups. If $t_{count} < t_{table}$, it means that there is no significant effect between the two groups .

RESULTS AND DISCUSSION

Whole Brain Teaching (WBT) learning model (Experimental Class, IV.B) obtain a higher average than students who take part in learning using conventional learning models (Control Class, IV.C) in the subject of Social Sciences at MIN Lubuk Buaya Padang.

In addition, the application of the *Whole Brain Teaching* (WBT) learning model (Experimental Class, IV.B) has a significant difference in student learning outcomes compared to the application of conventional learning models (Control Class, IV.C) in Social Science subjects at MIN Lubuk Crocodile Padang. Thus it can be seen that the application of learning models can have a significant effect on improving student learning outcomes.

Student learning success is supported by many factors. One of them is the factors that are within the students themselves and also factors from the environment. Factors from students, for example, in the form of a strong will to continue learning, while environmental factors in the form of influence from the teacher in the classroom. The influence of the teacher can be in the form of how the teacher conveys lessons to students. This can be in the form of the use of techniques, methods, strategies, or learning models that are applied by the teacher in the classroom.

One learning model that can be applied to solve this problem is the *Whole Brain Teaching model.* This model is a learning model that activates all the working functions of the brain. This model requires students to learn visually, audio, and kinesthetically. Students are expected to have only knowledge or cognitive as well as other abilities such as affective and psychomotor.

Whole Brain Teaching model in learning must be carried out by the teacher with several steps of activity, namely providing short questions as a medium that can help make it easier for students to follow learning as individual learning. In addition, the teacher also provides group worksheets as student group work assignments and also to foster students' social relationships with other students. The use of short questions made by the teacher takes several forms. The first is a question in the form of a true-false statement, where the teacher makes a statement which is then asked to the students whether the statement is true or false. The second form is the " *quick test* " form. In this case the teacher gives questions that must be answered quickly by students. And the third is the form of group work, students are divided into small groups to answer questions together.

Whole Brain Teaching model during learning activities can improve student learning outcomes. This is because first, learning activities begin after the condition of students is really ready to face the lesson. In this case the teacher actually starts the lesson after students prepare all their learning equipment. Everything that interferes with the learning process is not justified near students. Furthermore, the teacher reminds students of class rules that have been mutually agreed upon, such as if they want to talk, want to move places and so on. It aims to make the classroom atmosphere to be safe. Comfort in the classroom is one of the factors for student success in learning.

The second factor is the teacher asks several questions to repeat the previous material. This can be felt by students, where students are reminded of the previous material. This will also help students understand the subject matter presented and students will remember it more easily because it is often repeated. Continuous repetition of lessons includes factors that can determine student success in learning.

The third factor is the teacher starts with new material by proving. The teacher gives students a question. Which then must be answered by students. For example, on the topic of cooperatives, the teacher asks students, " Are there cooperatives near where you live?", and so on. After being answered by students, the teacher will explain further about the subject of cooperatives over a period of 15-45 minutes. Teachers should not make presentations too long because it will be boring for students.

The fourth factor is the use of techniques contained in the *Whole Brain Teaching* (WBT) model. The use of the technique in this study was deliberately modified to be simpler due to certain considerations. Among them are the considerations of researchers modifying this model due to time constraints and also the knowledge of researchers in understanding the technique. The techniques used are as follows:

1. Using the word " *Class-Yes* ",
2. Develop class rules
3. Using the word " *Teach-OK"*
4. As a motivator by using a number board / score

While the techniques that are not used are:

1. Includes an exchange of places
2. Unifying class with " *Mirror* "
3. Focusing students using " *Hand and Eyes* "
    a. First, use the word " *Class-Yes* ". Before starting the lesson the teacher attracts the attention of students by using the word. Chris Biffle (2010: 29) states that when the teacher says the word " *Class"*, then students will answer it with the word " *Yes"*. This is done many times with different expressions and voices such as high, low, serious, very fast, very slow, and so on.
    b. The second technique of the WBT model is the preparation of class rules. This rule is made so that students comply with the rules and it is easier for the teacher to manage the class.
    c. The third technique of the WBT model is to activate students by using the word " *Teach-OK"*. This technique is the foundation of a learning strategy that aims to activate students. Chris Biffle (2010:45-41), that students who learn well are students who are actively involved in the process. The use of this technique will develop students' listening skills in English. The difficulty of using this technique is that it requires the teacher to speak clearly, coherently, and logically. Teachers should not speak for too long because it will be difficult for students to remember. The implementation is the teacher gives information to students, then ends it by using the word " *Teach* " and students answer it with " *OK* ".
    d. The fourth technique of the WBT model is to motivate students with scoreboards. Chris Biffle (2010:62-75) states that this technique aims to keep students engaged in

learning. Where there is a sign in the form of a smile to do according to the rules and a frown when what students do is not in accordance with the rules. The use of the scoreboard to assess student behavior should not be excessive because this can result in the class not being focused on learning activities. So use this scoreboard in a variety of ways, within the time that has been set, so that the positive behavior of the students you are working on can be achieved properly.

The fifth factor that can increase student success is the existence of small tests in learning. These tests are called " *true false test* " and " *quick test* ". The *true false* test is a test in the form of a statement, which will be answered by students whether the statement is true or false. While *the quick test* is a test where the teacher gives questions to students that must be answered quickly by students. The test can be carried out orally or in writing. The oral test saves more time than the written test. The teacher gives some questions that will be answered by students. After all the questions have been given, the teacher will carry out a temporary evaluation. If students answer questions correctly above 90% then the teacher continues to the next step. If less than 90 % then return to step three. This will help students to recall the material presented.

The sixth factor is the teacher conducting a " *critical thinking* " test. The test is in the form of comparing concepts or filling in some blank spots in sentences. Here students are required to think critically in answering questions. This develops students' critical abilities in answering questions.

The next factor is the presence of group work. This will help develop students' social skills. Students can study with their friends. Students who are usually a bit timid can ask their friends. This activity can help students in learning which can ultimately improve student learning outcomes. Students build their knowledge from social relations. They study together to conclude the material being studied. From this collaboration , it will train students to understand other people and not only care about their own ego. Cooperation here, of course, cooperation in learning, not when carrying out exams .

Whole Brain Teaching Model is based on constructivist theory and social learning theory. *Whole Brain* Model *Teaching* is a learning model that combines cooperative learning and direct learning. Biffle (2013: 178) states that " *Whole Brain Teaching combines attributes of Direct Instruction and Cooperative Learning into one system of strategies designed to be a centered around student learning."*

The learning process uses the *Whole Brain Teaching model* which combines direct learning with cooperative learning. Direct learning, where the teacher directly conveys material to students, while cooperative learning requires students to work together to maximize their learning and also other group members. Rusman (2012:204; in Nurulhayati, 2002:25-28) suggests that there are five elements of cooperative learning namely (1) positive dependence, (2) individual accountability, (3) social skills, and (4) face-to-face, and (5) evaluation of group processes. This will be able to improve student achievement as well as improve social relations, tolerance and respect for the opinions of others.

Learning according to the teacher's constructivist view does not only provide knowledge to students, but also must build knowledge in their minds (Ruman, 2012: 202). While the use of social learning theory can be seen from the work of students in groups, which requires cooperation and mutual respect for one another. Study groups will provide opportunities for students to be active and have the opportunity to convey their thoughts to their friends. This will help students understand the material being studied and improve learning outcomes.

More specifically, this model uses the constructivist theory of Virgotsky. As stated by Biffle (2013: 178), " *a theoretical background is provided from a constructivist point of view as a rationale for using Whole Brain Teaching in relation to Vyrgotsky's Social Learning Theory and Wenger's (2006) framework Community of Practice".* Learning activities

emphasize social interaction and students construct knowledge from the social environment. Students are given the opportunity to express what they think to their friends. Students can learn from each other with their friends. Learning with friends will be more effective than learning by the teacher (Rusman, 2012: 204).

Based on the theoretical basis of learning, it seems clear that learning using the *Whole Brain Teaching model* requires good cooperation between students and students as well as students and teachers . Students must be able to learn on their own and also want to be able to learn in a group. Self-study, students are expected to be able to understand the material provided by the teacher. Meanwhile, in groups students are expected to be able to learn together, respect and respect the opinions of other friends. Students understand the lessons given by the teacher in their social environment. Students study together and conclude the subject matter together. Students who study with friends will feel more comfortable and will not feel afraid. Many of the students were afraid to ask the teacher directly, even though the teacher gave them the opportunity to ask. This causes students to be less able to understand the lesson quickly. If students study with their friends, students feel they will be more free to ask questions and will not be afraid because they are closer emotionally. This is what makes students better understand the material studied by students at school.

While in the control class, students learn by applying conventional models. Students look passive and learning activities are dominated by the teacher. The teacher gives material in front of the class and students pay attention to the teacher behind. Learning activities look monotonous and students become less active in learning. Students are asked to memorize and answer questions in the textbook. This will make students feel bored and bored because their way of learning is just like that. This can be seen in students who are often excused from leaving the classroom. If this happens frequently, the teacher will not be successful in conveying the subject matter to students and students will not fully understand the material provided by the teacher. Students get scores that are less than the maximum so that student learning outcomes are low.

The above can be seen from the average acquisition in the final test conducted. The experimental class that uses the *Whole Brain Teaching model* has a higher average than the control class that uses the conventional model in social studies subjects at MIN Lubuk Buaya Padang. This proves that the application of the *Whole Brain Teaching model* has an influence on student learning outcomes.

By looking at the comparison of learning outcomes obtained by students from each class, it can be seen that students' understanding of the subject matter and students' activeness in learning activities in classes that apply the *Whole Brain Teaching model* make a good contribution to learning outcomes, compared to learning outcomes by applying conventional learning models .

Based on the results of the research conducted, the teacher should apply the *Whole Brain Teaching model* in learning activities, especially in conceptual material. With the participation and active participation of students in learning activities, so as to create a learning atmosphere that is active, effective, and fun, and meaningful for students, compared to learning by applying conventional learning models, where learning is still centered on the teacher. Teachers dominate learning activities and less actively involve students in learning activities.

The description of the discussion above has explained that there is a significant influence on the learning outcomes of students who apply the *Whole Brain Teaching strategy* with learning outcomes that apply conventional learning models in Social Sciences class IV MIN Lubuk Buaya Padang.

CONCLUSION

Based on the description of the results of the analysis of the data obtained during the research and the discussion that has been put forward in the previous chapter, it can be concluded as follows **(** 1 **)** The results of the study show that the average value of the learning outcomes of students who learn to apply the *Whole Brain Teaching* model is 80.8 , while the average value of students who learn to apply conventional learning models is 7 3.9 . This shows that the average value of the learning outcomes of students who study using the *Whole Brain Teaching model* higher than learning using conventional learning models , and (2) The results of the hypothesis test found that $t_{count} > t_{table}$, namely 3.0144 > 2.0 00 at a significant level of α 0.05 which means there is a significant influence on learning outcomes in classes that apply the *Whole Brain Teaching* model and conventional learning models .

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