

Conference Paper

Teaching and Learning of Indonesian by Constructivism Model with Inquiry Approach

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Abstract

The aim of this study was to examine (1) students' misconceptions about object and complement, (2) the effectiveness of a conception modification strategy, (3) students' mastery of concepts of object and complement, and (4) students' comments about a constructivism model with an inquiry approach in learning concepts of object and complement. The study subjects consisted of teachers and students from class VII at Junior High School (SMPN) 3 Singaraja. The data were analyzed descriptively and via a t-test. The results demonstrated that the students who were taught using a constructivism model with an inquiry approach learned the concepts of object and complement better than those who were taught using a conventional model.

Keywords: constructivism, inquiry, object

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1. Introduction

The purpose of learning Indonesian at middle school is to equip students with a set of knowledge or understanding of concepts, skills, and abilities to use Indonesian, intellectual ability or thinking skills, emotional maturity, and social maturity to understand the surrounding environment and as a provision for continuing education at a higher level [1]. What happened on the ground showed that learning Indonesian, particularly at the secondary school level, is still faced with the problem of low quality and learning achievement reached by learners.

The low learning achievements of learners in the learning of Indonesian are considered by many to be due to the learning model applied by teachers. Teachers only think of how to spend the material that has been declared by the curriculum within the time limit provided. This is confirmed again by the frequent use by teachers of the lecture method in learning so that learners more positioned as an object lesson.

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It is time to leave the learning method as described above behind, particularly in learning Indonesian, as it always involves aspects of values and skills that are pedagogically impossible to teach effectively through the lecture method as it has been developed by teachers [2]. In addition, in teaching Indonesian, teachers should be able to optimize the growth and development of learners holistically [3]. The essence of learning and teaching is very different: We can teach well, but on the other hand, learners do not learn [4, 5]. Thus, teaching developed by teachers should be able to facilitate optimally the development of students' potentials, so that they become a meaningful learning acquisition [6].

Based on the above, it seems that we have to change the model of learning, from conventional learning to innovative learning, i.e. a constructivist learning model in which learning efforts are based on self-reconstruction so that knowledge is constructed in the minds of the students and by the students themselves facilitated by the teachers. The constructivist view is that knowledge is basically built by learners based on cognitive structures that already exist and they possess before the learning itself is done [5, 7]. Meanwhile, teachers act more as mediators and facilitators of creativity during the learning [8].

The problems in this research are as follows: (1) misconceptions are contained in the concept of students with respect to objects and complementary; (2) how the effectiveness of the strategy of changing the conception of the form of cognitive conflict in changing the misconceptions of students in learning objects and complementary; (3) the extent of students' mastery level of the concepts of object and complementary; and (4) whether the constructivism model with an inquiry approach accepted students as a convenience to learn the concepts of object and complementary.

The constructivist view is that learning is defined as an attempt by individuals to construct knowledge by giving meaning to sensory data relating to pre-existing knowledge [5, 9]. Learning is a process that involves learners constructing meaning [7, 10, 11]. Furthermore, it is stated that according to the constructivist view, learning is more focused on the meaning of the formation of self-learners on what they have learned based on their prior knowledge and understanding. In this process, there is more emphasis on the establishment of relationships of meaning between existing knowledge and new knowledge to facilitate the creativity of teachers as mediators of learning. Thus, seen from the dimensions of learning, the constructivist model of learning regards it as a process of modification of ideas and knowledge that have been owned by the students towards the establishment of new knowledge. In addition, the application of the constructivist model in Indonesian language learning allows students to

master the subject matter more comprehensively and meaningfully, given that they are actively involved in the learning.

Sund and Trowbridge, Eltinge, and Putrayasa state that the inquiry approach, in essence, is learning that take into-prepare the situation for children to experiment on their own; in a broader sense to see what happens, want to do something, want to use symbols and find answers to their own questions, link one with the discovery of the other, comparing what is found with what others have found [2, 12, 13]. Teaching based on inquiry learning is a teaching strategy that involves teachers and students in learning events or symptoms of a scientific approach and in the spirit of scientists [14]. Wilson states that an inquiry approach is an approach in the teaching process that is based on the theory of learning and behavior [12]. The inquiry is a way to teach students how to learn to use the skills, attitudes, and knowledge of rational thinking [15]. In line with the opinion of Bruce and Bruce, Cleaf states that inquiry is one of the strategies used in the classroom-orientated process [16]. Inquiry is a teaching strategy that centers learning, which encourages students to investigate the problem and find information. Inquiry learning refers to a learning approach that is roughly modeled on the scientific process [17]. The process is the same as the procedures used by social scientists who investigate problems and find information. The model of constructivism within approach is used as one model of learning to uncover misconceptions that occur in students.

Misconceptions or wrong concepts refer to concepts that are incompatible with the scientific sense or understanding received by the experts in that field [18]. Such misconceptions are also found in the understanding of the elements that form sentences.

A sentence is a unit of language that is relatively self-contained, has intonation patterns and consists of clauses, which are marked by subjects and verbs [19, 20]. In addition to the subject and predicate as a core element of the sentence, there are also other elements as additional elements of the sentence, i.e. the object element, complement, and adverbial phrase. Objects and complements have similarities because of the position and shape of the noun. These two things often lead to misconceptions in students. Therefore, this study focuses on these two things.

2. Methods

This research uses an experimental research design with a pretest-posttest control group design. In this study, treatment variables are involved, namely, the constructivist

learning model with an inquiry approach (X1), which is used in the experimental class, and conventional learning models (X2) imposed on the control class.

This research was conducted in class VII at SMPN 3 Singaraja. The study subjects consisted of teachers and students from class VII at SMPN 3, which consists of six classes. From the sixth grade, two classes were selected as a test site determined at random. Furthermore, from the two classes, one was taken as an experimental class and the other as a control group. Selected grading was done by using random sampling.

Data on students' opinions against constructivist learning models with an inquiry approach obtained through questionnaires were analyzed with descriptive statistics and implied based on the average score and standard deviation. The hypothesis that "Mastery of the concept of the object and complement by students taught by a constructivism learning model with an inquiry approach is better than that of students taught by conventional learning models" was tested through two different test average with t-test party.

3. Results

3.1. The misconceptions of students with respect to the concepts of objects and complements

A. The initial knowledge and misconceptions about objects and complements of students in the experimental class

A pretest and clinical interview based on objects and complements were performed in the experimental class, and the following results were obtained: Most students (90%) believed that the object was just a matter of life and all students (75%) felt that the object was only occupied by a person (who is subjected to a job). Judging from the class of words that make it up, the students (60%) have a concept that the object was only occupied by a class of nouns, while others said the classes could not be formed or object occupying. Meanwhile, judging from this position, 75% of students thought that the object only occupied the final position in the sentence.

Judging from the types of objects that make it up, 80% of students believed that complements were formed by living things, and 30% of students said that complements were not shaped by people. Meanwhile, 80% believed that the complement is positioned in mid-sentence. The start and end of a sentence cannot be occupied by a complement.

B. The initial knowledge and misconceptions about objects and complements of students in the control class

A pretest and clinical interview based on objects and complements were performed on the control class, and the following results were obtained: 40% of students had no concept that they were in the form of inanimate objects and 45% of students believed that the object was occupied by inanimate objects and living things. Judging from humanity is formed, 60% of students believed that the object was only occupied by people. Meanwhile, judging from this position, 35% of students believed that the object occupied a position in mid-sentence, and 40% of students said that the object was located at the end of the sentence, while 55% believed that the complement was shaped by people, and 20% of students said the complement was not shaped by people. 30% of students said that complement shaped by not people. Meanwhile, 45% of students believed that only complements occupied a position in the middle of a sentence. The start and end of a sentence can't be occupied by a complement.

3.2. Effectiveness of the conversion strategy conception in the form of cognitive conflict in changing misconceptions of students on learning objects and complements

Based on the identification and clarification of the students' initial knowledge and misconceptions, a strategy was implemented to change the misconceptions by changing the conceptions of students towards scientific conceptions.

Overall, the strategy of changing the conception of the object and complement can reduce misconceptions by 33.30 from 77.70 to 44.40. This also means that there has been increased understanding of scientific concepts about the object and complement of 33.30. This happened in the experimental class. Meanwhile, the control group decreased by 20.98 from 65.45 to 44.47. This also means also that there has been increased understanding of scientific concepts about the object and complement of 20.98.

3.3. The level of student mastery of the concepts of object and complement

The mastery level of class VII at SMPN 3 of the concept of the object and complement achieved an average score of 76.20 in the experimental class and 65.10 in the control class. Based on the average score of the above, it can be concluded that student

achievement on the concept of the object and complement with the use of a constructivism learning model with an inquiry approach is better than that of students that used a conventional model.

3.4. Comments of students on the use of a constructivist model with an inquiry approach to learning the concepts of object and complement

The data analysis student comments on the constructivism learning model with an inquiry approach using descriptive statistics showed that 90% of students said that the constructivist model with an inquiry approach in learning the concepts of object and complement was very effective. Thus, it can be concluded that the students' comments on the constructivism learning model with an inquiry approach his positive and to provide ease in learning the concept of the object and complement.

4. Discussion

In general, students' prior knowledge about objects and complements led to misconceptions. Students have a less accurate concept of the object and complement, related to the characteristics and the differences and similarities of both. The most prominent student misconception is that the object of the sentence can only be formed by people, living things, and the class of nouns. Other types and grades of the word can't occupy the object. This is consistent with the theory put forward by Robert-Burton (1997) which says that the object is the object. This concept is deeply embedded in the minds of students so that no one else could make up an object, other than the thing itself. Similarly, complements, according to the students, can only be formed by living things.

Student misconceptions about objects and complements decrease when learning strategies are applied to the changing conception of cognitive conflict. This is consistent with the results of the study produced by Sadia, which show that the cognitive conflict in learning science concepts (energy, heat) can reduce students' misconceptions [11]. In connection with this research conducted on the cognitive conflict, students are given the concepts of object and complement with the correct concept. This cognitive conflict given the experimental class were treated by applying a conversion strategy misconceptions become the true conception of learning elements of arbitrary

sentences, especially objects and complement, which is developed based on a constructivist model with an inquiry approach. Meanwhile, the control group was treated by applying conventional learning.

By applying a cognitive conflict strategy, student misconceptions about the object and complement start to decline, which had misconceptions into scientific concepts. In other words, the level of student mastery of the concepts of object and complement improves. With this addition of the cognitive conflict, the application of a constructivism model with an inquiry approach can be effectively applied in learning Indonesian, especially the concept of the object and complement. With the effective implementation of a constructivism model with an inquiry approach in learning Indonesian, objects, and complements, in particular, students feel happy and make positive comments about the application of the model. The application of the model can facilitate their learning about the concepts of object and complement. Knowledge excavated and be construct itself with active, creative, and use logic, be durable resides in the brain or mind. Such knowledge can also be easily transferred to other people or colleagues in learning the concepts of language.

5. Conclusion

Based on the above, the following conclusions can be drawn: (1) Prior to treatment the experimental class students had misconceptions about the concept of the object and complement. However, after treatment, the student misconceptions about the concept of the object and complement decreased. (2) A conversion strategy conception with cognitive conflict lowers students' misconceptions about the concept of the object and complement quite effectively. (3) The level of student mastery of objects and complements taught by using the constructivism model with an inquiry approach was higher than that of students taught using conventional models. (4) Comments by students on the application of the constructivism model with an inquiry approach in learning about the concepts of objects and complements are positive. Based on this conclusion, it is suggested that Indonesian teachers should apply a constructivism model with an inquiry approach as an alternative to conventional methods, especially in regard to the concepts of the sentence.

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Conflict of Interest

Authors declare that there is no conflict of interest in this research.

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