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The Influence Of *Contextual Teaching and Learning* (CTL) Model Implementation with *Think Pair Share* Structural Approach Towards The Problem Solving and Self-Regulated Learning of Mathematics Students

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Abstrak

This research aims to reveal the influence of PBI with *Contextual Teaching and Learning* (CTL) model with *Think Pair Share* Structural Approach of the junior high school mathematics students towards problem solving ability and self-regulated learning of the students.

The research was quasi experiment. The design of this research was Randomized Control-Group Design Only post test. The instrument used in the research was mathematics ability tests and questionnaires. The population in the study were all students eight class academic year 2011/2012. Number of samples was 84 students divided into two classes. Both data was analyzed quantitatively. Quantitative analysis was used to see the differences between the two groups of samples using t-test.

Based on the analysis of post test data, it was obtained a finding of problem-solving ability and self-regulated learning of the students who were taught to learn *Contextual Teaching and Learning* (CTL) model with *Think Pair Share* Structural Approach was higher than conventional classes. While based on the analysis of qualitative data, it was obtained an information that the students learned how to demonstrate self-regulated learning Mathematics using *Contextual Teaching and Learning* (CTL) model with *Think Pair Share* Structural Approach.

Keywords: *Contextual Teaching and Learning* (CTL) model, *Think Pair Share* Structural Approach, The Problem Solving, Self-Regulated Learning.

A. Introduction

In line with the importance of mathematics in the life, therefore learning mathematics should be improved so that the usefulness of mathematic is really felt by learners. In mathematics learning we need a strategy so that the purpose of learning can be achieved.

Based on the research interviews with the teacher (Nova Liza, S.Pd, 3 February 2012), many students couldn't solve mathematics problems and the students cheat her friends, and the students wait the explanation of teacher solution from the question given, and the students was lazy to think to find solution from problem mathematics.

Therefore, the teacher must can design learning strategy to improve the problem solving and the self-regulated learning. The researches offered Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach.

The contextual teaching and learning is a learning concept to help the teacher taught mathematics with relate real word and encourage students to make connection between knowledge with aplication in everyday life. Characteristic of CTL is done throught cooperation, mutual sport, fun, not boring, learn wit passion, integrated learning, using a variety of sources, active students, sharing with friends, critical students and creative teacher.

Thinks pair share structural Approach is a cooperative learning model that allows the students to works together with each other people. Thought, it have similarity with other approach., but this approach give suppression on the use of certain structure that are designed to influence student's interaction patterns. This structure is intended as an alternative to the traditional classroom structure, such as recitation, where the teacher ask the question to the all students in the class and the student answer the question after raised her hand. (Isjoni, 2010: 78). This means, the think pair share structural approach provide

equal opportunity to students to engage actively in the learning process. One advantage of this technique is to optimize the participation of students speech and enhance student's knowledge. Therefore, the combination two learning strategies can improve the problem solving and the self-regulated learning.

The Problem Formulation

1. Is there any influence of Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach towards The problem Solving in Mathematics?
2. Is there any influence of Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach towards The self-regulated learning?

The Research Purposes

Based the formulation, the purpose of this research is to examine and analyze:

1. The Problem Solving In Mathematic students that is taught Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach with conventional approach.
2. The self-regulated learning students that is taught with Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach and conventional approach.

B. Research Method

1. Research Type

This research was quasi-experiment and the design research was *Posttest-only Design with Nonequivalent Group*. This design has one experiment class and it is given posttest, without pretest. And a control class without treatment and without pretest.

2. Population and Sample

The population in this research is all eight class students of MTs Nurul Hidayah Sungai Salak academic year 2011/2012 into six class. The technique of sample is

random sampling after the researches do barlet test bartlett, that is random class. The sample of this research is VIII.5 with 42 students class as experiment class and VIII.6 with 42 students class as control class.

3. Procedure

a. Planning

Researcher prepare lesson plan and the data collection instrument.

b. Implementation

- 1) The teacher give appreciation and motivation.
- 2) The teachers explain indicator and learning system using contextual teaching and learning model with Think Pair Share Structural Approach.
- 3) The teacher give each student assignment sheets.
- 4) The teacher give a contextual problem in the student assignment sheets.
- 5) The students do a contextual problem independently.
- 6) The teacher guide students work contextual problem.
- 7) The teacher coordinate the students in the study group.
- 8) In the study group, the students discuss about contextual problem.
- 9) The teacher asks the students to present contextual problem.
- 10) The other students give response , express opinion and ask group presentation.
- 11) The teacher give positive feedback to students and reinforcement in the form oral, written, gesture, or gift to student.
- 12) The students and the teacher make conclusion about material.

c. Evaluation

The teacher give a test about learning material by the problem solving and self-regulated test.

4. Instrument

a. The Instruments In Conducting the Research

- 1) lesson plans (RPP)
- 2) the student assignment sheets (LKS)

b. Gather the data

- 1) The problem solving test
- 2) The self-regulated test
- 3) Observation
- 4) Documentation

5. The Data Analyze

The quantitative analysis was used "t" test.

C. Research Finding and Discussion

1. The Problem Solving

The result of "t" test can be seen in table 1:

**TABEL 1
UJI TES "t"**

Class	Difference	T _{count}	Df	t _{table} (5% and 1%)	Ho
Experiment Control	77,74 > 67,62	4,75	82	1,99 and 2,64	Rejecte d

Table 1 show that $t_t = 4,75$, If t_t is compared with t_0 in the significant level 5% and 1% is $1,99 < 4,75 > 2,64$. Therefore, the result of calculation can be concluded that H_a is accepted and H_0 is rejected. So, the mathematic problem solving using Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach had more positive influence than the mathematic problem solving using conventional approach because the mathematic problem solving in the compare means experiment class is higher than the mathematic problem solving in the control class.

2. The Self-Regulated Learning of Mathematics

The result of “t” test can be seen in table 2:

Class	Difference	T _{count}	Df	t _{table} (5% and 1%)	Ho
Experiment Control	122.36 > 114.52	4.45	82	1,99 and 2,64	Accepted

Table 2 show that $t_t = 4,45$, If t_t is compared with t_0 in the significant level 5% and 1% is $1,99 < 7, 6419 > 2, 64$. Therefore, the result of calculation can be concluded that H_a is accepted and H_0 is rejected. So, the sel-regulated learning is used contextual teaching and learning model with think pair share structural approach had more positive influence than the self-regulated learning using conventional approach because the self-regulated learning at the experiment class was higher than the mathematic self regulated learning in the control class.

Discussion

Sugiyono said that the treatment group is better than control group, so treatment was given to treatment group have positive influence (Sugiyono: 2012, 159). With there are positive influence from the implementation Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach towards the problem solving and self-regulated learning students.

Thinks pair share structural Approach is a cooperative learning model that allows the students to works together with each other people. Thought, it have similarity with other approach., but this approach give suppression on the use of certain structure that are designed to influence student’s interaction patterns. This structure is intended as an alternative to the traditional classroom structure, such as recitation, where the teacher ask the question to the all students in the class and the student answer the question after raised her hand. (Isjoni, 2010: 78). This means, the think pair share structural approach

provide equal opportunity to students to engage actively in the learning process. One advantage of this technique is to optimize the participation of students speech and enhance studen's knowledge.

Elaine B. Johnson said that CTL is a learning model that stimulates the brain development patterns that embody meanings. CTL is a learning system in accordance with the structure of the brain to work and to procedure meaningful learning with link learning to life real students. Goldin said "Mathematics is invited and built by human, so in the learning mathematics should be constructed by the student rather than the techers teach. Learning math is more effective if teacher help students find and solve problem by applying meaningful learning. Therefore, CTL is learning model that connects meaningful learning concepts with the real words and students can help students find and help students to solve problems in mathematics learning.

D. Conclusion

1. There are an influence in the implementation of Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach towards The problem Solving Mathematics.
2. There are an influence in the implementation of Contextual Teaching and Learning (CTL) model with Think Pair Share Structural Approach towards the Self-Regulaed Learning Mathematics.

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