

## Divided Attention Of Teachers To Their Students In Learning

Syaifuddin<sup>1</sup>, Purwanto<sup>2</sup>, Sudirman<sup>3</sup>, Makbul Muksar<sup>4</sup>

<sup>1</sup> Lecturer, FITK, State Islamic University of Malang (UIN Maulana Malik Ibrahim Malang), Indonesia

<sup>2</sup> Lecturer of Mathematics, State University of Malang Indonesia

<sup>3</sup> Lecturer of Mathematics Educations, State University of Malang Indonesia

<sup>4</sup> Lecturer of Mathematics, University of Malang Indonesia

---

**Abstract:** This article aims to describe the teacher's attention during the learning done in class to their students. This research was conducted in several of Vocational School of Malang. Data obtained from observations, interviews, and documents. Subjects of research selected using snowball system that the samples was taken and than samples based on the first sample. Results from this research show that the teacher's attention was divided into three, the teacher's attention towards thinking mathematical students, teacher's attention to the matter of mathematics, teacher's attention to the mathematical knowledge of students.

**Keywords:** Teacher's Attention , Learning, Thinking Mathematically Students

---

### I. Introduction

Importance key of math and science education more education is the teacher (Sherin and Van es, 2002). Everything is studied students so that students are competent depending teachers who teach in the classroom (NCTM, 2000). Teachers are required able to be creative in giving attention to what's happening in the classroom so that learning will be effective (Sherin and Van es, 2002). Teacher's attention has an important role in learning activities. From the study of theory study revealed that information processing in the absence of attention is not possible to learn. Social learning theory states that people can learn through observation and experience directly. According to Sternberg (2006) state attention or conscious attention is processing a small amount of information from a large amount of information available. According to the *American Heritage Dictionary* states information can be regarded as the knowledge gained from learning, experience, or instruction. Information obtained from the sensing, memory and the process of cognitive other. The process of attention helps the efficiency of resource use mental limited which will then help the speed of reaction to stimuli particular. Human mental resource is limited to process an excitatory needs help to speed up reflexes. Directing on specific information will expedite process a mental stimuli.

Sherin and Van es (2002) designed software called VAST. VAST is designed for teachers to learn to give an attention in the classroom. Teachers' attention in viewing VAST divided into 3 parts. First, attention to the role of the teacher. Second teachers' attention to the dialogue between teachers and students. Third, teachers' attention to student thinking. In that study, teachers are asked to write what had been considered in the impressions of VAST. Sherin and Han (2004) designed a video club. Video club is designed for teachers to learn to give an attention in the classroom. The teacher's attention in the video clubs that students' conceptions, pedagogical teacher, math materials, and discourse. Sherin and Van es (2005) using the VAST for teachers and prospective teachers in learning to pay attention. Attention in the VAST No 3 is the role of the teacher, thinking of students, and dialogue of teachers and students. Sherin and Van es (2006) designed a second video for teachers to learn to give an attention. Attention in the first video focuses on students' mathematical thinking and the second video focuses on the events contained in the video. Star and Strickland (2008) designed a video for prospective teachers in learning to observe events in the classroom. Van es and Sherin (2008) designed a video for teachers to learn to give an attention. Attention in the video is focused on students' mathematical thinking. Van es and Sherin (2009) designed a video for teachers to learn to identify and interpret mathematical ideas of students. Jacob, Lamb, and Philip (2010) designed a video that shows some of the results of the students work. Teachers are asked to identify, interpret, and respond to students' mathematical thinking. And then write what the teacher notice in the video.

In this study, researchers will research teachers' attention in the real classroom. Researchers will observe some of the teachers in the classroom when learning takes place. Attention teachers to situations that occur in the classroom that will be observed by researchers. One that will be observed by researchers is the teacher's attention to the students' mathematical thinking. According to Mason, Burton and Stacey (2010) think mathematically is important to solve mathematical problems, learn mathematics and teaching mathematics. Think mathematically is a framework used by PISA to support a person's mathematical literacy so

that the economic prosperity of a country will increase (PISA 2006). Therefore, it is clear that the ability to think mathematically is very important to equip students in using mathematics at school and outside of school.

## **II. Theoretical Study**

Sternberg (2006) state attention or conscious attention is processing a small amount of information from a large amount of information available. According to the *American Heritage Dictionary* states information can be regarded as the knowledge gained from learning, experience, or instruction. Information obtained from the sensing, memory and the process of cognitive other. The process of attention helps the efficiency of resource use mental limited which will then help the speed of reaction to stimuli particular. Human mental resource is limited to process an excitatory needs help to speed up reflexes. Directing on specific information will expedite process a mental stimuli.

Attention is an activity to keep something in mind that requires mental work and concentration. There are five attentions

### **1. Selective Attention**

Selective attention on situations where there is someone to monitor multiple sources of information at once. Recipients of information shall choose one of the most important sources of information and ignore others. Factors affecting selective attention are the expectation, stimulus, and values. Recipients of information are expecting a particular source to provide information and give more attention to the source, select the stimulus most effect or visible than others, and choose the source of the most importantof information.

### **2. Focused Attention**

Focused Attention refers to situations where a person is given some input, but should focus on the inputs only during a certain time interval. Recipients of information focusing on the source / input and not be distracted by other disorders. Factors that influence the focus of attention is the distance and direction, as well as interference from the surrounding environment. Recipients of information will be more easily receive information from sources that are directly in front of him.

### **3. Divided Attention**

Divided Attention occurs when the recipient of the information required receiving information from various sources and doing some kind of work at once.

### **4. Sustained Attention**

Sustained Attentiondid recipient of information that should see the signal or the source of a particular time period long enough. In this situation it is very important for the recipient of the information to prevent signal loss.

### **5. Lack of Attention**

Lack of Attention is the situation in which the recipient of the information does not concentrate on his work. This situation is caused by boredom / saturation and fatigue. The characteristics of the work that may pose less of a concern is the job situation with short cycles, requiring little movement of the body, a warm environment, lack of interaction with other workers, low motivation, and workplace has bad lighting.

## **III. The Method Of Study**

The study was conducted in secondary education Malang. The study was conducted starting on May 4, 2016 to September 30, 2016. Subjects selected by using the system snowball. According to Creswell (2012) snowball system that samples were taken of the samples again based on the first sample to find subjects in learning mathematical thinking student attention. Data obtained from observations, interviews, and documents. Researchers studied the learning undertaken by the subject. Researchers studied the notice of teachers during the learning takes place. Then after learning finished researchers conducted interviews to the subject and find documents that support and search other references to match the data obtained during the observation, interviews, and field notes. Observations on the subject carried out continuously in order to obtain the focus of attention of the teacher in the learning

## **IV. The Result Of Study And Discussion**

In this study, researchers obtained the findings that the teacher's attention is the divided attention. Teachers' attention when learning takes place is divided into 3. First, teachers' attention to the students' mathematical thinking. Second, teachers' attentionto the matter of mathematics. Third, teachers' attentionto students' mathematical knowledge. Teachers try to explore students' mathematical thinking in solving mathematical

problems. At the time of discover thinking of students, teachers provide math intervention by giving material ever studied by students so that students can understand what is given by the teacher. Master also provides a question that will arouse students' knowledge in solving problems during the discussion with the students so that students can understand with his own thinking and solving mathematical problems given by the teacher.

According to Sternberg (2006) state that attention or conscious attention is processing a small amount of information from a large amount of information available. According to *the American Heritage Dictionary* states information can be regarded as the knowledge gained from learning, experience, or instruction. Information obtained from the sensing, memory and the other process of cognitive. Attentional processes help efficient use of resources limited mental which then will help speed the reaction to certain stimuli. Limited human mental resources to process an excitatory needs help to speed up reflexes. Directing on a specific information will expedite processing a mental stimuli.

Limited human mental resources to process an excitatory need help to accelerate the reaction time. Directing on specific information will expedite processing mental stimuli. For instance in driving, the driver's attention is directed to the situation of the highway will speed up the reaction of the brake treadle when faced with dangerous situations. Attention was also affected by differences in age, especially in childhood

Groover said that the factors that affect perception and memory are attention. Attention is activity keep something in mind that require mental work and concentration.

## V. Conclusion

In a study conducted by several secondary math teachers in Malang city is concluded that teachers in learning tried to explore mathematical thinking of students in solving mathematical problems with the teacher asks each step in doing math problems. At the time of discover thinking of students, teachers provide math intervention by giving material ever studied by students so that students can understand what is given by the teacher. Master also provides a question that will arouse students' knowledge in solving problems during the discussion with the students so that students can understand with his own thinking and solving mathematical problems given by the teacher. Therefore, we can conclude that the teacher's attention during the learning takes place including notice divided. The teacher's attention is divided into three, the teachers' attention to the mathematical thinking of teachers, teachers' attention to the matter of mathematics and teacher attention to knowledge of students.

In this study, teachers gave their attention to 3 thus including divided attention. Divided attention occurs when the recipient of the information required to receive information from various sources and did some kind of work at once. From this research can be followed by tracing the thought process of teachers in giving attention to their students.

## References

- [1]. Sternberg, R.J. (2006) *Cognitive Psychology* Belmont, CA: Thomson Wadsworth
- [2]. Jacobs, Lamb, and Philipp. (2010). Professional Noticing of Children's Mathematical Thinking. *Journal for Research in Mathematics Education*, 41(2), 169–202
- [3]. National Council of Teachers of Mathematics. 2000. *Principles and Standards for School Mathematics*. Reston, VA: NCTM.
- [4]. Van Es, E. A., & Sherin, M. G. 2002. Learning to notice: Scaffolding new teachers' interpretations of classroom interactions. *Journal of Technology and Teacher Education*, 10, 571–596
- [5]. Mason, J. Burton, L. And Stacey, K. (2010) *Thinking Mathematically*, Second Edition. London: Pearson.
- [6]. Creswell, John. W. 2012. *Educational research : planning, conducting, and evaluating quantitative and qualitative research*, Fourth Edition. Pearson Education, Inc.
- [7]. Sherin, Miriam G. Han, Sandra Y. 2004. Teacher Learning in the Context of Video Club. *Teaching and Teacher Education*, 20, 163-183.
- [8]. Sherin, Miriam G. Van es, Elizabeth A. 2005. Using Video to Support Teachers Ability to Notice Classroom Interaction. *Journal Technology and Teacher Education*, 13(3), 475-491.
- [9]. Van es, Elizabeth A. Sherin, Miriam G. 2006. How Different Video Club Designs Support Teachers in Learning to Notice. *Journal of Computing in Teacher Education*, 22(4), 125-135
- [10]. Star, Jon R. Srickland, Sharon K. 2008. Learning to Observe : Using Video to Improve Preservice Mathematics Teachers Ability to Notice. *Journal Math Teacher Educ*, 11, 107-125.
- [11]. Van Es, Elizabeth A. Sherin, Miriam G. 2008. Mathematics Teachers Learning to Notice in the Context of a Video Club. *Teaching and Teacher Education*, 24, 244-276
- [12]. Sherin, Miriam G. Van es Elizabeth A. 2009. Effects of Video Club Participation on Teachers Professional Vision. *Journal of Teacher Education*, 60(1), 20-37.