



LEVEL OF APPRECIATION, SELF CONCEPT AND POSITIVE THINKING ON MATHEMATICS LEARNING ACHIEVEMENT

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ABSTRACT

This study aims to determine the influence of variable levels of appreciation received by students, positive thinking ability, and self-concept, either directly or indirectly on the learning of mathematics. The research method used was survey, with a sample of 135 people, drawn by multistage random sampling technique from junior high school in South Jakarta. Data analysis using path analysis and resulting on: there is directly and indirectly effects from levels of appreciation, positive thinking ability, and self-concept to students' mathematics learning achievement.

Keywords: appreciation, positive thinking, self-concept, students' mathematics achievement

1. INTRODUCTION

Education is a key element in building a nation. A great nation is a nation that prioritizes the development of education prior to development in other sectors. This may imply that quality education will improve the quality of other sectors. Education today is regarded as qualification if students have an advantage and competitiveness, both locally and internationally. Students must be a part of the development of technology, as Elizabeth & Zulida (2012: 47) says: "we are progressing into the era of rapid developments on the knowledge economy and of instant changes on the technological information too". The National Education Act No. 20 of Chapter II of 2003 also confirmed that the National Education functions to develop ability, not only

scientific but also the character. It stated that Indonesian should become a human who is ready for use, therefore, education should be implemented an integrated in a harmonious, and orderly process. Education must be supported by active the participation of government, various community groups, the parents and educational staff (Supardi & Leonard, 2008: 72). That is the culturalization the need of education to put the beliefs about it around the society life.

One of the important subjects and an indicator of success is student learning of mathematics. This is because mathematics is the foundation of all kinds of science. Almost the use of mathematics treats in basic of daily life.





Ironically, for some students, mathematics is a daunting challenge and a scourge. Why? Sulianto (2011: 455) says, "*belajar matematika dari sumber guru merupakan hal yang banyak dilakukan selama ini, guru masih mendominasi pola interaksi edukatif dalam proses pembelajaran*" (learn math from the teacher is a lot done during this time, the teacher still dominates the pattern of educational interaction in the learning process). This is the important challenge, that there is still teacher centered to learn mathematic. Mathematics has an important role for the development of science, and to learn mathematic, we must thinking. Abraham (2008: 46) told, "*berpikir sebagai tindakan pikiran seseorang menghasilkan pemikiran*" (thought as the act of a person's mind generate thoughts). The rapid advances in other fields of science are inseparable from the role that mathematics which is a basic science. Rooney (2008: 6) states, "Our understanding of everything from the behavior of sub-atomic particles to the expansion of the universe is based on mathematics."

Why then is mathematics seen as being difficult and hard work? Widjaya and Heck (2003: 1) state, "Indonesian mathematics education faces another problem: most pupils' attitudes towards mathematics are negative. Most of them perceive mathematics as difficult and boring. This is not surprising when we look closely at the common practice of teaching and learning mathematics in Indonesian classrooms." This phenomenon is visible in the mathematical value indicators which are generally lower than other subjects, so the factors that influence this needs to be investigated.

The student success results of studying mathematics are influenced by many factors. They can be broadly divided into two; internal factors and external factors. Internal factors consist of a variety originating from within the student, usually the psychological factors, such as motivation, interest, creativity, positive thinking ability, self-concept, and others. External factors consist of the contextual factors that surround the students, such

as teacher's competence, the use of instructional media, classroom atmosphere, forms, methods, and techniques, levels of rewards and lack of mathematics socialization from authorities.

Implementation of good learning should become the standard for education in Indonesia, where students learn and teachers teach in an interest, comfortable and real context. Learning can be said to be successful if students have achieved certain criteria as indicators of learning. This is not just about academic factors, such as students' mastery of subject matter, but includes non-academic factors such as the spirit of life, character and other psychological factors. Today, psychological factors are regarded as providing the groundwork for the success of moral development.

Education in Indonesia is inseparable from the many extraordinary events. These things colorize the world of education and provide significant lessons for the development of education in Indonesia. One extraordinary incident that happened was the success of Indonesia which became World Champion in the International Physics Olympiad in 2006 in Singapore. This proves that Indonesia may compete with other nations in the world. This success was not obtained by chance, and many efforts to achieve success. Yohanes Surya, as the builder TOFI (International Physics Olympiad Team) has provided an example of a good teacher for students. He showed he could provide good motivation and spread positive thoughts, which further became known as *Mestakung (Semesta Mendukung)*. By having positive thoughts and dreams, students have the confidence to obtain whatever is best. The TOFI team tried to dream something positive by creating banners that read, "*Indonesia is the World Champion of 37th International Physic Olympiads at Singapore, I Love Indonesia*" (Surya, 2006: 120). The ability to think positively is the skill possessed for the students to think about positive thinking behind the various events or adverse events experienced.





Positive paradigm encourages the learners to confront the problem and act to resolve them before problems uncontroable. By refusing to be angry or sad, learners will be motivated to gather the facts, talk to others, and make choices to arrive at the best solution. Even if there is no ideal solution, teachers can help to deal with problems more calmly that will help elaborating the negative impacts.

There are many unsolveable things that have been stucked in students brain which need the student adjusment to do. This capability will be greatly influenced by the concepts held by students about themselves, the better the students' understanding the concept the greater impact on its ability to behave towards the environment. Self-concept is the views, feelings and one's own judgments about the self-derived from the observation of oneself or by others' perceptions of the physical characteristics, psychological and social. Leonard and Supardi (2010: 347), in his research found that self-concept provides a positive direct effect and significant impact on student learning outcomes; this gives great support to the understanding of self-concept in learning.

The next factor is thought to influence the student learning outcomes are the awards and other appreciation received by students. One of example of these is the existence of the student itself. Those could be given from various resources as parents, teachers, and the surrounding environment. Those who are regarded as having excistancy them selves will also do the same to respect and appreciate others to face any kind of situation. In this case, self confident can be identified. They are ready for getting new ideas, accepting advice, and feeling comfortable relating to others. They can share the experiences and ask for help and critique from others. They also tend to accept their social environment and are responsible for their own actions, do not make excuses by blaming others when in failure.

2. METHODOLOGY

Data were collected by using instruments that have been validated. Instruments levels of awards received by students consists of four indicators, namely the appreciation of self, respect of parents, teachers appreciation of, and appreciation of the environment. The instrument consists of positive thinking ability of the 4 (four) indicators, namely to think positively about themselves, think positively about others and the environment, positive action is performed, and the positive attitude taken. Instrument of self-concept consists of three indicators, namely the perception of physical characteristics, psychological perception, and social perception. Instrument of learning mathematics teachers is using assessment document from each of the schools that serve the respondent.

Samples came from Junior High School in South Jakarta; 135 students were collected by multiple random sampling. Data were analysed using path analysis, with the first calculation of descriptive statistics, analysis and testing requirements, which include tests for normality, linearity tests, and multicollinearity test.

3. RESULTS AND DISCUSSION

The data has been collected it can be shown descriptively in Table 1.





Table 1. Descriptive Statistic

	Mean	Median	Mode	Std Deviation
Self Concept	112,28	111,00	108,00	10,96
Ability to Thinking Positive	110,18	110,00	107,00	10,92
Level of Appreciation	122,40	121,00	111,00	11,21
Student's Achievement	66,10	70,00	75,00	13,41

Testing requirements analysis showed that all variables are normally distributed, and the regression equation established between the independent variables on the dependent variable linear criteria. Furthermore, multicollinearity test results showed no meaningful correlation occurs among the independent variables. It is appropriate to say Kusnendi (2008: 148) that to be analysed by path analysis, assumptions must be found, namely: there is no problem between the variables causes multicollinearity.

The process of hypothesis testing is done using path analysis, which is looking for the influence coefficient between variables that one of

the other variables, either directly or indirectly. Counting process is done with the help of SPSS 15.0; in particular using regression analysis after the data is converted into raw scores. From the calculation will get the results of the correlation coefficients and path coefficients for each variable.

Criteria for deduction are as follows: said to be a significant pathway, if the path coefficients > 0.05 ; or $t_{hit} > t_{tab}$; or $sig < 0.05$. In contrast, non-significant paths is said, if the path coefficients < 0.05 ; or $t_{hit} < t_{tab}$; or $sig > 0.05$. The results of the calculation of correlation coefficients and path coefficients are shown in Figure 1.



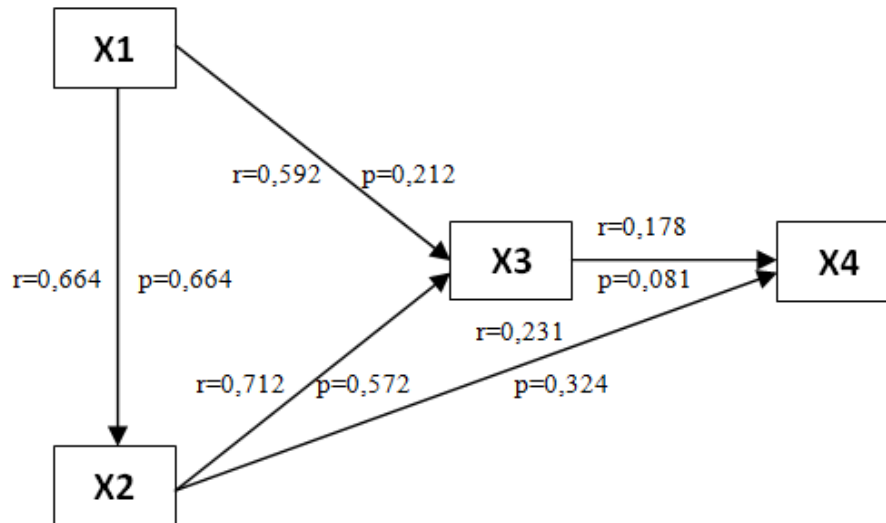


Figure 1. Correlation Coefficients and Path Coefficients

Information:

- X1 : Levels of appreciation received by students
- X2 : The ability of positive thinking
- X3 : Self concept
- Y : Students' mathematics learning achievement

Data processing that shown by figure 1 gave the following results: 1) Levels of appreciation received by students has positive and significant impact on the ability of positive thinking, 2) Levels of appreciation received by students has positive and significant impact on self-concept, 3) The ability of positive thinking has positive and significant impact on self-concept , 4) The ability of positive thinking has positive and significant impact on students' mathematics learning achievement, 5) The self concept has positive and significant impact on students' mathematics learning achievement, 6) levels of appreciation received by students has not indirect effect on students' mathematics learning achievement through self-concept, 7) Levels of appreciation received by students has positive and significant indirect impact on students' mathematics learning

achievement through the ability to think positively, 8) The ability of positive thinking is not an indirect effect on students' mathematics learning achievement through self-concept, and 9) levels of appreciation received by students has positive and significant impact on self-concept through positive thinking ability.

Descriptively seen that for all variables studied, the average score of students is high. This proves that psychologically, students have the power to harness its potential. Furthermore, this study found that the ability of positive thinking can be a catalyst for improvement, both in terms of perception and fact. Levels of awards received by students, when viewed directly influence, it did not give a positive impact on students' mathematics learning outcomes. However, when it is viewed indirect effect through the ability to think



positively, it will show changes and a more positive influence. This is supported by the results of research Leonard (2011) presented at the SEAMS-GMU forum, which stated that the skill to think positive and significant positive influence on the results of studying mathematics in Jakarta.

The award generally is an expression (either in word and deed) and the recognition of one's sincerity to someone else. Students who have a tendency to have be appreciated the ability to appreciate again and be more confident in facing the next life. The award is given in accordance with the portions, it will provide a positive impact on students, whereas if the award is not given at the right time, it will certainly have a negative effect. Nelson and Calaba (2007: 4) define the energy award for "acts of appreciation will proactively change the expression of feelings of gratitude of after-something-done deliberately to be energy use before-something-done." Giving proper recognition can be exemplified as a form of giving recognition and praise of the positive achievements carried out by students. This achievement is not necessarily related to cognitive achievement, but from the affective and psychomotor, such as complement when they are able to clean their own rooms, capable of providing help to others, and so forth. Conversely, if the award is given to students who do negative actions, such as praising students who are truant (usually done by peers), praised the students who received a red value, or parents who compare students with others. At the last, like Suchdi (2008: 85) says, "*orang-orang yang merasa memiliki jati diri dapat menghargai diri mereka sendiri dan menghadapi berbagai situasi dengan penuh keyakinan. Mereka bersikap terbuka terhadap ide-ide baru, dapat menerima saran, dan merasa enak berhubungan dengan orang-orang lain. Mereka dapat berbagi (sharing) pengalaman dan meminta pertolongan dari orang lain. Mereka juga cenderung menerima lingkungan sosialnya dan bertanggung jawab terhadap tindakan mereka sendiri, tidak mencari-cari alasan dengan*

menyalahkan pihak lain ketika mengalami kegagalan" (the people who are having identity can appreciate themselves and deal with the situation with confidence. They are open to new ideas, to receive suggestions, and feel comfortable dealing with other people. They can share (sharing) experience and ask for help from others. They also tend to accept their social environment and are responsible for their own actions, do not look for excuses to blame others when experiencing failure).

Findings showed that levels of awards received by students do not have a positive influence on mathematics learning outcomes due to the limitations and the tendency of researchers to assume that the variable levels of awards received by students is all the praise received by students (either praise or praise for good actions for actions not good) . This is more or less bias towards research, so hopefully the next study researchers can focus on the award given to students for good actions performed.

The ability of positive thinking is a form of commitment and awareness of one's being able to see the positive side and the side benefit of everything that happens within him. The ability of positive thinking is usually only occur in people who are living in a positive environment. Positive environment in question here is an environment full of love, mutual respect and mutually complementary. In this study, students who have high positive thinking ability, able to distinguish, or even change the things that are not good, do not support, and look bad, better, more colourful, can even consider such things as the impetus for fight better. Marcus Aurelius cited by Seto (2010), stated: "Our life is what our thoughts are created". That is, with positive thinking is not only result in mental health, but also result in a person's physical health. By thinking positive psychiatric condition, people try to be better because it can block the arrival of negative thoughts that can erode a person's health. A bottleneck occurs when prejudice is left stifle ideas and opportunities in





life. Usually starting with the first obstacle is present in the mind. And our prejudices are blocking us in reviewing the unique perspective that each person give to the outside world. Starting from positive thinking and always optimistic will be able to make the inner and outer lives for the better. Habituation to a positive mind-set will shape the personality, which is summarized into a phrase, self-concept.

Self-concept, as a form of self-confidence of students against themselves, including self-image, self-esteem and so forth, is an important psychological factor. Good self-concept originated from the background of a good environment, an environment that was always taught to believe in you, believe in your ability to cooperate with the people around him. Leonard and Supardi (2010: 343) said the concept of self-formed by a process of feedback from other individuals. Many studies that claim positive effects provided by the self-concept of learning outcomes, that is, self-concept is an important factor to be considered by every educator in the levels wherever they are. The important point is appreciation, cause it will increase the spirit of student to learn, like Sukmadinata (2007: 265-266) says, "*guru harus lebih banyak memberikan penghargaan atau pujian daripada hukuman, sebab siswa lebih termotivasi oleh hal-hal yang menimbulkan rasa senang daripada rasa sakit*" (teachers should be more reward or praise rather than punishment, because students are more motivated by things that cause of pleasure rather than pain).

This research has proven that by having the ability to think positive good, a person can change many things. The ability to think positively in this study serves as a catalyst, which can accelerate success in learning and also as agents of change, which allows one to transform the negative into a positive perception, looking at adverse events become more meaningful, and provide positive benefits.

4. CONCLUSION AND IMPLICATION

This research has shown that positive thinking ability may provide a good influence on the results of studying mathematics, even the skill of positive thinking may change the negative influence of awards received by students to be positive.

These results if replicated with further large scale research could provide all stakeholders of education, particularly in Indonesia, with evidence to create a variety of policies and activities that could generate positive thinking ability of Indonesian students. The presence of motivators and self-development seminars, are expected to continue to raise awareness of Indonesian students, so that they are able to stand their own feet and reach their own potential.

This development also applies to teachers as agents of change. Teachers can also serve as an example, which gives encouragement to students to continue learning and developing all their potential.

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