The Influence of Emotional Intelligence and Self-Efficacy on the National Examination of Students of SMAN Bengkulu

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Abstract—The objective of this study was determined the relationship between emotional intelligence and self-efficacy of students in dealing with the National Examination. The population of the study was all students in one of senior high school in Bengkulu. Number of samples in this study is 100 students for Class XI. The sample was selected by the random technique. Data collection was carried out using the instruments of questionnaire to measure students’ anxiety and test of mathematics understanding to measure students’ cognitive level of mathematics understanding. Data were analyzed by using the Path Analysis. The results of the study were that the emotional intelligence has a direct positive effect on the National Mathematics Examination. Also, the self-efficacy has a direct positive effect on the National Mathematics Examination. Finally, the emotional intelligence of teachers has a direct positive effect on the self-efficacy of high school students.

Keywords—emotional intelligence; self-efficacy; the national examination

I. INTRODUCTION

Efforts to improve the mathematical abilities of high school students continue to be made, but the results of the national mathematics exam are low. Some variables that have been influential and often forgotten are emotional intelligence, and self-efficacy [1]. Therefore, emotional intelligence is our concern. Emotional Intelligence is a person's ability to receive, assess, manage, and control his emotions which includes indicators: self-awareness, emotional management, emotional beliefs, and values of emotional intelligence and beliefs [2].

According to Khaledian, et al., there is a meaningful positive correlation between their emotional intelligence and academic achievement [3]. The results also revealed that there is no significant difference between the emotional intelligence of the male and female students. However, there are significant differences in male and female students' anxiety test which suggests that anxiety test of female students was greater than male students.

The result of presented in Adegbayeg, et al. showed that there was a significant relationship between emotional intelligence and attitude towards examination [4]. Also, it revealed that emotional intelligence has significant correlation with gender (r = 0.203, p<0.05), which implies that gender plays a significant role in the emotional intelligence of undergraduates. Emotional intelligence also has a correlation with age (r = 0.073, p<0.05). This implies that age of undergraduates also plays a significant role in their emotional intelligence. Attitude towards examination had a correlation with age (r = 0.086, p<0.05). Therefore, teacher have to assist students in determining the appropriate emotional intelligence as this would help them to develop positive attitude towards examination. But, according to Behrozi, et al. direct relationships of resiliency with academic performance, resiliency with mental health, emotional intelligence with academic performance and self-efficacy with academic’s performance were not significant [5]. Also, that the indirect relationship of emotional intelligence with academic performance by the mediating role of resiliency and self-efficacy was not significant. However, all dimensions of emotional intelligence namely emotional awareness, emotional regulation, self-motivation, empathy and social skills do not affect students’ academic performance [6]. The indirect relationship between emotional intelligence with mental health by the mediating role of resiliency and self-efficacy was significant [5].

Other findings conclude that emotional intelligence, self-efficacy and parental involvement have a great influence on student’s academic performance [7]. These different findings are our concern to examine emotional intelligence and mathematics learning achievement. According to Hassan, emotional intelligence is a class of mental operation which includes cognition, feeling and thinking; combine together in all social practices [8]. So that an understanding of the roles of emotions play in the context of teaching is becoming an essential factor in understanding the practice of teaching. Emotional intelligence was encompassing the human skills of empathy, self-awareness, motivation and self-control [9]. Its cognitive components reflect the potential for intellectual and emotional growth. The study of M. Afifi, stated that students with higher emotionally intelligent would have an adequate capacity to attend, understand and regulate their emotions, cope better with stressing events and life challenges and will
regulate their negative emotions [9]. Therefore, they can improve their performance in math learning. According to Hashemi, et al. emotional intelligence plays a very important role in the formation, development and the continuation of the effective human interactions, and it is generally one of the most important factors that enables an individual to know how, when, and in what form to use communication strategies [10]. Emotional intelligence is a set of non-cognitive capabilities that increases a person’s ability to cope with environmental demands and resulting pressures.

These quotes give us the interest to examine the relationship between emotional intelligence and the ability to understand mathematics. This is also supported by good self-efficacy. While, self-efficacy has a direct positive effect on the performance of mathematics teachers [1]. Based on the previous description, this paper discusses to the relationship between emotional intelligence, self-efficacy and the ability to understand mathematics.

II. METHODS

The research was a survey. The population of the study was all students in one of High school in Bengkulu. Number of samples in this study is 100 students for Class XI. The sample was selected by the random technique. Data collection was carried out using the instruments of questionnaire and test of mathematics understanding ability. It was used to measure students’ anxiety and cognitive level of mathematics understanding, respectively. The questionnaire consisted of 36 items. While tests of mathematical abilities contain geometry, limit functions and algebra. The test consists of 100 multiple choice items. Both instruments were developed by researchers and have been tested for validity and reliability. Both are valid content and empirically, with a reliability level of 0.85 for questionnaires and 0.81 for tests of mathematical abilities. Data were analyzed by using Path Analysis.

III. RESULTS AND DISCUSSION

Based on an analysis of data questionnaire and understanding of ability test of mathematics, using inferential statistical analysis, the results are as follows. The regression equation for National Examination (Y) on Emotional Intelligence (X1) is $Y = 24.75 + 0.781X1$, with Lilliefors statistics estimated score of National Examination (Y) on Emotional Intelligence (X1) equal to Lo = 0.0790 $<$0.0886 = Ltable for a significant level 5%, which means Reject Ho. Thus, it can be concluded that the score for Emotional Intelligence (X1) comes from a population that is normally distributed. With linearity test obtained F count $= 0.87 <1.59 = Ft$ with a significance level of 5%, which means the regression model is linear.

The self-efficacy regression equation for Emotional Intelligence is $X2 = 15.72 + 0.87X1$, with Lilliefors statistics self-efficacy (X2) estimated error score for Emotional Intelligence (X1) equal to Lo = 0.0790 $<$0.0886 = Ltable for significant level 5%, which means Reject Ho. Thus, it can be concluded that the error score of teacher self-efficacy (X2) on Emotional Intelligence (X1) is derived from a population that is normally distributed. With linearity test obtained F count $= 0.98 <1.71 = Ft$ with a significance level of 5%, which means the regression model is linear.

The coefficient of the path of self-Efficacy (X2) to the National Mathematics Examination (Y) ($\rho_{Y1}$) is 0.189; with $t = 2.239$, $t_{table} (\alpha = 0.05, dk = 95) = 1.6607$. Because $t_{test} > t_{table} (\alpha = 0.05, dk = 95)$, means that reject Ho, and accept H1. Thus, it can be concluded that the path coefficient is very significant, which means that emotional intelligence has a direct positive effect on the National Mathematics Examination.

Thus, it can be concluded that the path coefficient is very significant, which means that self-efficacy has a direct positive effect on the National Mathematics Examination.

The path of Emotional Intelligence pathway (X1) to self-efficacy (X2) ($\rho_{X1}$) is 0.652; with $t_{test} = 3.697$, $t_{table} (\alpha = 0.05, dk = 95) = 1.6607$. Because $t_{test} > t_{table} (\alpha = 0.05, dk = 95)$, means that reject Ho, and accept H1. Thus, it can be concluded that the path coefficient is very significant, which means that the emotional intelligence of teachers has a direct positive effect on the self-efficacy of high school students.

The description of the results of the study showed that emotional intelligence and self-efficacy were positively influenced by the ability to understand mathematics. Therefore, mathematics teachers must pay attention to emotional intelligence and self-efficacy of students. This is an effort to improve students’ ability to understand mathematics [11-13], namely through realistic mathematics learning. Students learn mathematics with starting-point contextual problems. This makes it easier for students to carry out abstractions, idealizations, and generalizations of mathematical concepts. In this learning, students are guided to learn to use the surrounding environment and local culture (ethnomathematics) [14-17].

IV. CONCLUSION

The conclusions of the study are the emotional intelligence has a direct positive effect on the National Mathematics Examination. Also, the self-efficacy has a direct positive effect on the National Mathematics Examination. Finally, the
emotional intelligence of teachers has a direct positive effect on the self-efficacy of high school students.

REFERENCES


