Self-efficacy and anxiety of National Examination among high school students

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Abstract

This study aims to analyze correlation of self-efficacy and anxiety of National examination (Ujian Nasional) among high school students in Lhokseumawe, Aceh Province, Indonesia. Participants of this study were 102 students of 12 grade at Lhokseumawe 3 High School (SMAN 3 Lhokseumawe). The study was conducted with a quantitative approach and performed in Lhokseumawe, Aceh Province, Indonesia. Measurement of examination anxiety was done by using Examination Anxiety Scale which developed by Putri and Qudsyi (2014) which based on Bucklew’s theory and students self-efficacy variable was measured using Morgan-Jinks Students Efficacy Scale (MJSES) which developed by Jinks and Morgan (1999). Cronbach’s Alpha coefficient of each scales are 0.804 for Examination Anxiety Scale and 0.797 for Indonesian version of MJSES. Result of data analysis showed that there is significant negative correlation between self-efficacy and anxiety of National examination among students, with r=-0.200; p=0.022 (p<0.05). Based on this analysis, it can be concluded that there is a significant negative relationship between self-efficacy and anxiety ahead of the National Exam in high school students. It can be said that the higher self-efficacy owned by high school students, the less anxiety that felt before the National Examination. Based on the analysis performed, produced the value of R Square of 0.040. Based on this analysis, it can be concluded that the role of self-efficacy has reduced by 4 percent against anxiety that felt by high school students before the National Examination.

Keywords: anxiety of National Examination; self-efficacy; high school students

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1. Introduction

One of important issues in education is the quality of education. Indonesia’s government, in this case Ministry of Education and Culture has committed to undertake quality improvement in all types and levels of education as one of the main targets of development in education. According to Windham (in Widyanti, Patmonodewo, & Zarfiel, 2009), improving quality of education can be seen from the outcome of education, and the final result can be seen from its output and outcome. Output is a direct result of the educational process, including academic achievement, while outcome is long-term effects of educational process.

Quality of education in Indonesia can be seen through the evaluation of educational process that has lasted. The evaluation was done to see how big achievements that have been achieved by learners. Based on Permendikbud No. 3 of 2013, there are four criteria for graduation of students from the educational unit taken, namely completing entire learning program, obtain a minimum value both at final assessment for all subjects, graduate school exams, and pass the National Examination (UN). Can be seen here that, learners deemed to have completed the educational process if it meets four criteria, and one of them was passed in National Examination (UN).

Under the regulation of National Education Standards Agency (BSNP) No. 0022/P/BSNP/XI/2013 about Standard Operating Procedures (POS) Implementation of National Examination in School Year 2013/2014, graduation of students from UN is determined based on Final Score (NA). Final score (NA) is obtained from combined score of school exam subjects tested nationally with score of UN, with a weighting of 40% to the score of school exams and 60% to the score of UN. Additionally, learners have passed the examination if the average Final Score (NA) of all subjects tested lowest achieving 5.5 (five point five), and final score of each subject lowest 4.0 (four point zero).

Although score of UN did not become a major component in determining the graduation of students, graduation in UN still be one of the main goals of students. Moreover, some universities also accommodate score of UN as a recommendation into universities (www.pusat-ujianasional.com, 2013). Given the importance of UN as a determinant of students’ graduation, often students feel psychological burdens before UN, such as feelings of anxiety and fear if later does not pass the examination. As stated by Suharto (2012), that the problems faced by students approached UN is anxiety and fear of not graduating.

Survey ever conducted by Kemdikbud in 2012 (www.tempo.co, 2012) showed that 56% of students feel anxious in facing of UN, 22.4% of students felt very anxious, and 21.6% of students feel indifferent in facing of UN. In addition, the survey also presented the results of that as much as 37.2% of students feel very worried about the exam, 37.2% of students felt quite worried, and 25.6% of students feel not worried. In line with that Suharto (2012) also presents the results of a survey of 292 participants of UN in SMAN 7 Bandar Lampung, the results show that 47% of students expressed worry, fear, and anxiety can not meet the expectations of parents and schools to be able to graduate with high marks. Then only 53% have confidence and be ready to deal with it (Suharto, 2012).

Exam has become one source of worry and anxiety in a process of education that student passed. Several studies have shown, that work associated with academic and exam represents as a source of its own concerns for middle school students. A research conducted by Gallagher and Millar (in Putwain, 2007) showed, that six highest ranking student who became a source of concern related to school work, which pass the exam become the main source of worries rank and consequence failed the exam. In line with that Packard (1999) which states that in a survey, students rank first in category of most schools make students anxious and stressed.

In essence, feelings of anxiety when facing exams is a natural thing to happen. Anxiety can be experienced by anyone and anywhere, including perceived by students just before exams, especially on a National scale test and become one of determining the graduation of students from school. Adewuyi, Taiwo, and Olley (2012) explained, that anxiety is the emotional component man shown in form of worry and anxiety. When emotional component is shown associated with a condition test or exam, then this is also called test anxiety (Adewuyi et al., 2012).

Huberty (2009) explains, that anxiety is a normal emotional state in humans, and may occur in a variety of situations, one of them in school setting. Huberty (2009) adds, although anxiety is a normal thing in humans, however, if anxiety is constantly allowed to drag on will be able to interfere with individual's own condition. Like for example, anxiety that felt by students during exams, it can have a negative effect on the ability of student to be able to demonstrate optimal performance. Students with high anxiety tend to be less than optimal in its performance compared with students whose low anxiety (Hill & Wigfield, 1984). In fact, the consequences are unacceptable from
a severe test anxiety is that students will have a low self-esteem, lack of effort, loss of motivation, to students experiencing general anxiety, fears, phobias, social anxiety, and to withdraw at the extreme of social environment (Huberty, 2009).

Reality on the field has also been shown how the impact of anxiety that felt by students before National Examination for student life. As has been reported by the media, there is a student who chose to end life by hanging himself because of fear and worry if he does not pass National Examination (www.megapolitan.kompas.com, 2013). Not only that, a high school student was suicide by hanging himself because of alleged stress in facing of National Examination (www.video.tvonenews.tv, 2013). There is also news that shows that high school students in Kupang was deeply stressed due to the postponement of National Examination schedule in 2013 (www.tribunnews.com, 2013). Excessive anxiety that felt by students when National Examinations in Malang also make students experienced in trance (www.malang-post.com, 2013). Based on this, it is important for students to be able to manage their anxiety before exam, so it does not adversely affect students.

Some research has shown there are several factors that affect student’s anxiety before exam, namely self-esteem (Locker & Cropley, 2004), self-efficacy (Barrows, Dunn, & Lloyd, 2013; Adewuyi et al., 2012; Rouxel, 1999; Perepiczka, Chandler, & Becerra, 2011; Schneider, 2011; Akin & Kurbanoglu, 2011), self-regulation (Parks-Stamm, Gollwitzer, & Oettingen, 2010; Gholamitoponposhti, 2013), peer support (Griffin & Griffin, 1997), and students attitude (Akin & Kurbanoglu, 2011; Perepiczka, Chandler, & Becerra, 2011). Based on previous studies, it can be seen that self-efficacy to be one of factors that influence student’s anxiety before exam.

Self-efficacy is the belief of the extent of individual estimates his ability in executing a task or action required to achieve (Bandura, 1997). Bandura (1993) also explained, that self-efficacy will affect individuals in feeling, thinking, self-motivated individuals themselves, and in the act. Related to academic activities, Bandura (1993) explains that student’s self-efficacy will be able to regulate their own learning and make students experts on all student’s academic activities to determine his goals, levels of motivation, academic ability that can be owned by students, and academic achievement of students.

Research results by Barrows et al (2013) showed that student’s self-efficacy become moderator variables in student’s anxiety before exam and its effects on test scores. Additional analysis of research by A dewuyi et al (2012) showed that self-efficacy has a relationship with test anxiety, where the higher student’s self-efficacy, the lower student’s perceived anxiety on exam. In line with research results by Perepiczka, Chandler, and Becerra (2011) which shows that there is a negative relationship between self-efficacy for studying Statistics with anxiety about Statistics on students. Research results by Akin and Kurbanoglu (2011) also shows that anxiety is negatively related to student’s self-efficacy.

2. Problem statement

Reality in field shows that there are still many students who experience anxiety before National Examination, which if it continues could potentially interfere with the performance of students in National Examination. Anxiety felt by students is apparently due to perceived self-efficacy of students tend to be low.

3. Research question

The research question is, "how is the role of self-efficacy in anxiety of high school students towards the National Examination?".

4. Purpose of the study

The purpose of this study is to test empirically the role of self-efficacy in anxiety of high school students towards the National Exam.
5. Research methods

5.1. Participants
There are 102 subjects that were involved in this study, from Lhokseumawe, Aceh, Indonesia. The selection's criteria for subjects are students at 12 grade. There are 59 boys (57.8%), and 43 girls (42.2%)

5.2. Measures

5.2.1. Anxiety of National Examination
Measurement of anxiety in this research was done by using Anxiety of National Examination which developed by Putri and Qudsyi (2014) that based on Buclew’s theory. This scale included 18 items and divided into 2 (two) subscales, which are 6 (six) items as physiological subscales and 12 (twelve) items as psychological subscales. This scale wrote into Indonesia version, which Cronbach’s Alpha coefficients of this scales are 0.804.

5.2.2. Self-efficacy
Measurement of self-efficacy in this research was done by using Morgan-Jinks Student Efficacy Scale (MJSES) which developed by Jinks and Morgan (1999). This scale included 18 items and divided into 3 (three) subscales, which are 5 (five) items as talent subscales, 3 (three) items as context subscales, and 10 (ten) items as effort subscales. This scale was adapted into Indonesia version, which Cronbach’s Alpha coefficients of this scales are 0.797.

5.3. Statistical analysis
Data analysis of this research was done by using correlational analysis to test empirically relationship between self-efficacy and anxiety of National Examination among high school students, with Product Moment Pearson’s Correlation.

6. Results

The first analysis was using descriptive statistics to describe the ranks of score, both from anxiety and self-efficacy.

Table 1. Descriptive data of anxiety

<table>
<thead>
<tr>
<th>Score Categorization</th>
<th>Number of subjects</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>X &lt; 31.5</td>
<td>Very low</td>
<td>9</td>
</tr>
<tr>
<td>31.5 ≤ X &lt; 40.5</td>
<td>Low</td>
<td>28</td>
</tr>
<tr>
<td>40.5 ≤ X &lt; 49.5</td>
<td>Medium</td>
<td>47</td>
</tr>
<tr>
<td>49.5 ≤ X &lt; 58.5</td>
<td>High</td>
<td>18</td>
</tr>
<tr>
<td>58.5 ≤ X</td>
<td>Very high</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2. Descriptive data of self-efficacy

<table>
<thead>
<tr>
<th>Score Categorization</th>
<th>Number of subjects</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>X &lt; 31.5</td>
<td>Very low</td>
<td>0</td>
</tr>
<tr>
<td>31.5 ≤ X &lt; 40.5</td>
<td>Low</td>
<td>1</td>
</tr>
<tr>
<td>40.5 ≤ X &lt; 49.5</td>
<td>Medium</td>
<td>28</td>
</tr>
<tr>
<td>49.5 ≤ X &lt; 58.5</td>
<td>High</td>
<td>57</td>
</tr>
<tr>
<td>58.5 ≤ X</td>
<td>Very high</td>
<td>16</td>
</tr>
</tbody>
</table>

The tables below are showing the descriptive data for.

Table 3. Descriptive data of research
Moreover, researchers examined the correlations between self-efficacy and anxiety of National Examination among high school students. Before researchers analyze correlation test between variables, it’s required to take normality and linearity test of the data. The tables below are showing the data analysis for.

### Table 4. Normality test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Statistic</th>
<th>df</th>
<th>Sig</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>0.080</td>
<td>102</td>
<td>0.106</td>
<td>Normal</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.070</td>
<td>102</td>
<td>0.200</td>
<td>Normal</td>
</tr>
</tbody>
</table>

### Table 5. Linearity test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean square</th>
<th>df</th>
<th>Sig</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy - Anxiety</td>
<td>228.256</td>
<td>1</td>
<td>0.033</td>
<td>Linear</td>
</tr>
</tbody>
</table>

### Table 5. Correlation test

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>r</th>
<th>r²</th>
<th>Sig</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy - Anxiety</td>
<td>102</td>
<td>-0.200</td>
<td>0.040</td>
<td>-0.020</td>
<td>Correlate</td>
</tr>
</tbody>
</table>

The score showed with \( r = -0.200; p = 0.022 \) \((p < 0.05)\). It means that there is significant correlation between two variables. Based on this analysis, it can be concluded that there is a significant negative correlation between self-efficacy and anxiety ahead of the National Examination in high school students. It can be said that the higher self-efficacy owned by high school students, the less anxiety felt before the National Examination among high school students. Based on the analysis performed, produced the value of \( R^2 = 0.040 \). Based on this analysis, it can be concluded that the role of self-efficacy has reduced by 4 percent against the anxiety felt by high school students before the National Examination.

### 7. Discussion

This study aimed to test empirically relationship between self-efficacy and anxiety ahead of National Examination on high school students. Based on analysis that has been done before, obtained results showed a significant negative correlation between self-efficacy and anxiety felt before National Examination high school students. The results obtained with \( r = -0.200 \) and the value of \( p = 0.022 \) \((p < 0.05)\). Thus, it can be said that self-efficacy plays a role in reducing the anxiety felt before National Examination among high school students, with the effective contribution of 4 percent.

Results of this study also proves the results of previous studies, which states that there is a negative relationship between student self-efficacy and anxiety felt by students before exam (Yari & Bakht, 2012; Rini, 2013; Koksal, 2009; Suryatama, 2014; Nie, Lau , & Liau, 2011; Permana, 2014; Tsai, 2013; Barrows, Dunn, & Lloyd, 2013). This study proves too similar studies related to positive beliefs, like self-efficacy, also played a role in lowering anxiety students before exam, especially National Examination (Pangastuti, 2014; Nur, 2013).

Bandura (1993) stated that students belief about their efficacy will make students to be able to regulate their own learning and make students become proficient in academic activities that will determine the aspirations of students, the level of student motivation and academic achievement of students. According to Schunk (2008), with regard to
interaction between self-efficacy (personal factors) and behavior, research shows that self-efficacy beliefs influence behavior toward achievements like choice tasks, persistence, effort deployed, and acquisition of skills and behavior.

Still according to Schunk (2008), one changes the efficacy of her actions. Indicators of progress experienced to give a message to people that he was able to do well so that increased his efficacy to learn more. Thus, a person's behavior change himself. Individual self in turn can affect behavior again. And this behavior affects back for the environment, which will affect the individual again. Bandura (1993) also suggested that individuals perceived self-efficacy will affect individual’s behavior not only through cognitive processes, but also through the motivational process. Students who have high self-efficacy tend to like to get involved in tasks, because it gives the fulfillment of need for independence and competence.

Based on analysis data and previous discussion, it can be concluded that there is a significant negative correlation between self-efficacy and anxiety ahead of the National Examination in high school students. Based on the research results and conclusions, then there are a few recommendations. First, students need to maintain and enhance self-efficacy to optimize the conditions themselves when facing National Examination and reduce the anxiety felt by the students before National Examination. Second, teachers need to motivate students so that students have a high self-efficacy when facing National Examination. Third, for the next researcher can add other variables are assumed to have an influence on the anxiety felt by high school students before National Examination.

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References


