The Influence of Exercise Level of High School Students on Computer-Based Tests on the 2018 UN Results

Safari
Researcher at the Education Assessment Center, Balitbang Kemendikbud.
safari_puspendik@yahoo.com.

Abstract. The main objective of this study is to answer the following question. Is there any influence on the frequency level of high school students' training on computer-based national exams (UNBK) on the 2018 UN results? The population of this study was high school students who were studying in 2017, while the sample was 12th grade high school students who were taking the National Examination (UN) in 2018. The data in this study took the form of test scores and questionnaires answered by high school students in 34 provinces throughout Indonesia, which is 167566 students. Based on the results of the analysis of one-way variance, the following results are obtained. First, based on the national average, that at all levels of value indicates that the more frequency of exercise the greater the percentage of value. Second, the influence of the level of training of high school students on computer-based examinations of the 2018 UN results are proven. This means that there are significant differences in the level of training of high school students on computer-based examinations of the 2018 UN results ($P$-value = 0.00). The conclusion is that the influence of the level of training of high school students on computer-based examinations of the 2018 UN results is significant.

Keywords: students, training, computer, UNBK, high school
INTRODUCTION

Computer-based national exam (UNBK) training or simulation activities for high school students are very important activities because they provide opportunities for students to know their readiness to face the national exam (UN). A student who at the time of the simulation results is not satisfying will study harder to get a better UN score. For those who have good simulation results, they will feel a little calmer and more "confident" (confident) to face the National Examination. In the UN simulation activities, a student will work on the questions that have been prepared on the computer. National Examination Time By practicing the answer questions directly on the computer, students can avoid mistakes when filling in answers that result in not passing.

The benefits of UNBK have been proven, namely saving the state budget. UNBK is considered very economical because it does not need to print and distribute the question scripts and Computer Answer Sheets (LJK) to all regions. The state can save the cost of printing question scripts and the cost of distributing questions per region. UNBK makes the implementation of the National Examination a lot more efficient. The school also does not need to increase the number of UN practice texts in the photocopy. As long as schools have adequate computers, electricity facilities, and internet networks, students can finally join the UNBK.

One of the things that became a concern in the minds of students of the UNBK participants was the possibility of power failure. This is certainly reasonable because the computer used for UNBK requires electricity so it can turn on. They are afraid that the answers that were previously filled will be erased. The UNBK system has been set up to automatically save the results of temporary work. So, the students' answers will not disappear if there is a sudden power cut and students have not finished. Just in case, the school must prepare power supply equipment without interruption on each computer. The device is able to provide electricity supply for eight hours if the electricity flow from PLN is suddenly cut off. The school will definitely communicate to PLN so that the electricity supply during UNBK implementation is monitored safely. In addition, the generator set will be prepared at each school.

Although it has not reached all schools in Indonesia, UNBK is considered more efficient than paper-based national exams. The application of the Computer-Based National Examination (UNBK) has advantages over the Paper and Pencil-Based National Examination (UNKP). The delay in UNBK questions is smaller than UNKP. This system also minimizes the exchange of questions, and unclear printouts of the questions. In addition, UNBK does not have the complexity of collecting national exam answer sheets (LJUN). "UNBK also better accommodates students with disabilities, for example for low vision (lack of vision), writing and images can be enlarged." National Examination Results can be announced more quickly so students have more time to prepare for education to a higher level. Another plus, security and logistics provision of UNBK are also easier.

To reduce the level of anxiety and stress of students in the face of exams, computer-based national exam (UNBK) training or simulation activities are needed. Computer-based national tryout (UNBK) training is an independent learning technique which is one of the ways to improve student learning completeness especially in aspects of: (a) cognition; (b) motivation, (c) behavior; and (d) context (Hoop et al., 2016: 75). This technique is very important because in learning can increase learning opportunities for students and can reduce student learning difficulties (Ylonen and Norwich, 2013: 137). In practice, students will encounter problems. Problem-based learning and group learning can encourage students to think critically through planning, arguing, expressing questions and problems, and analyzing and providing solutions to surrounding environmental problems (Asyari et al., 2013: 36). To develop learning and improve teacher reflection processes can be used through confrontation between critical aspects, actions in context, reflection in, on, and for action (Olteanu, 2016: 60). Knowledge of the meaning of learning objects is an important contribution from the study of learning (Bjorkholm, 2015: 194). Teachers must be involved in the study of learning to develop, from the experience of their students, learning objects that have important implications for pedagogy (Wood et al., 2015: 288).

The effectiveness of modern computer applications is usually considered a function of the five basic computer attributes and secure system information: availability, accuracy, authenticity, confidentiality, and integrity. (Katzan Jr., 2016). Multi-media Computer Utilization Active Creative Skills (MIMIKO ATRACTIVE) in remote sensing learning and geographic information systems can improve students' spatioal intelligence and students' impressions of this model learning mostly state good and can foster group collaboration with well (Umatsi, 2011: 373). The results of computerized adaptability testing (CAT): (1) CAT that is developed based on user needs: Internet-based, has a security system, and is easily accessible; (2) CAT can recognize 3 users: administrators, teachers, and students; (3) CAT can provide items that are adaptive based on responses from test participants. Overall CAT performance is able to carry out the task well to select the test and measure the ability of the test participants to be accurate and precisely seen in terms of the correlation between the results of the estimated ability with pure recurrence in school is quite high, which is 0.67; (Winarno, 2012: 574).

A study in China has found that students who show high levels of anxiety achieve low scores on learning achievement tests (Shao, Yu, & Ji, 2013). Students don't care about being able to understand their instructors. They are very eager to interact with the instructor when answering questions about
students' negative experiences in class are also reported as one of the factors underlying anxiety (Thompson & Lee, 2013; Sylvén & Thompson, 2015). One of the main factors of anxiety experienced by students is fear of failure, (Santos et al. 2015). Both men and women have similar levels of anxiety (Bensalem, 2017). Students with a higher level of confidence have less anxiety when giving oral presentations, (Al-Hebaish, 2012). Tsai and Li (2012) reported that the higher the anxiety level test for students, the lower their grades in English read proficiency tests. Russell and Topham (2012) reported social anxiety among students. "Social anxiety is a persistent and hidden disability that affects learning and well-being (p. 375). They add students with social anxiety requiring pedagogical support.

The results showed that emotional intelligence affects teacher performance, work stress does not affect teacher performance, but simultaneously (together) emotional intelligence and work stress affect teacher performance (Mangkunegara and Puspitasari, 2015: 142). Music can reduce stress because music plays a role in balancing brain waves. The slower the brain waves, the more relaxed, satisfied, and the emergence of a sense of peace within. Music can also improve the quality of physical, behavioral and psychological aspects. Music can be used as an approach choice in helping individuals who experience physical, behavioral and psychological barriers to be better (Dewi, 2009: 106-115).

From the various descriptions above, the problem in this study is whether there is an influence on the frequency level of high school students' training on computer-based national exams (UNBK) on the 2018 UN results? Based on the formulation of this problem, the purpose of this study was to determine whether there was an effect on the frequency level of high school students' training on computer-based national exams (UNBK) on the 2018 UN results.

**RESEARCH METHODS**

The research method used is an explorative method. The basic use of this method is adjusted to the main purpose of this study, among which is to obtain the facts of the existing symptoms and find out the facts factually based on this research data. The population of this study was high school students who were studying in 2017, while the sample was 12th grade high school students who attended 2018 UN. The instruments of this study were tests and questionnaires. The data in this study are in the form of test scores and questionnaires answered by public and private high school students in 34 provinces throughout Indonesia. The number of high school students taking the National Examination for the 2017/2018 school year is 167566 students consisting of majors: Science = 81022 (48.4%) students, Language = 2179 (1.3%), Religious = 2926 (1.7%), Catholic = 66 (0%) students, Protestant = 177 (0.1%) students, IPS = 81159 (48.4%) students.

The analytical method used in this study is a one-way variant analysis. Variant analysis is used to calculate the difference between the results of the National Examination and the ability of high school students. So that the results of the analysis of this study can be obtained accurately, all data in this study are processed or analyzed using the SPSS 22.00 program.

**RESEARCH RESULT**

Based on the national average, the level of frequency of high school students' training on UNBK is as shown in Table 1.

| Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|---------|---------------|-------------------|
| Tidak pernah | 33254  | 19.8 | 19.9 | 19.9 |
| 1 kali | 31326   | 18.7 | 18.7 | 38.6 |
| 2 kali | 39142   | 23.4 | 23.4 | 62.0 |
| 3 kali | 43106   | 25.7 | 25.8 | 87.7 |
| Lebih dari 3 kali | 20560 | 12.3 | 12.3 | 100.0 |
| Total | 167388  | 99.9 | 100.0 |

Table 1 informs that the frequency of student training in the most UNBK was 3 times (25.7%), 2 times (23.4%), never (19.8%), 1 time (18.7%), then the most little is more than 3 times only (12.3%). The information is clearly seen in Figure 1 below.
In this paper only an analysis based on the value of Mathematics is presented as a representative of several subjects tested. This is because the results of the analysis show the same conclusions. Table 2 informs that at all levels of Mathematical values shows that the more frequency of training the greater the percentage of value.

### Table 2. Frequency of high school students' training on UNBK Based on Mathematical Values

| Nilai Matematika | Sangat Baik | Baik | Cukup | Kurang | Total |
|------------------|-------------|------|-------|--------|-------|
| Tidak pernah     | 186         | 600  | 1366  | 31,000 | 33,252|
| % of Total       | 0.1%        | 0.4% | 0.8%  | 18.6%  | 19.9% |
| 1 kali           | 136         | 516  | 1304  | 29,344 | 31,300|
| % of Total       | 0.1%        | 0.3% | 0.8%  | 17.5%  | 18.7% |
| 2 kali           | 218         | 810  | 1930  | 36,181 | 39,139|
| % of Total       | 0.2%        | 0.3% | 1.2%  | 21.6%  | 23.4% |
| 3 kali           | 331         | 1202 | 2537  | 39,032 | 43,012|
| % of Total       | 0.2%        | 0.7% | 1.5%  | 23.3%  | 25.8% |
| Lebih dari 3 kali| 296         | 1039 | 1990  | 17,231 | 20,556|
| % of Total       | 0.2%        | 0.6% | 1.2%  | 10.3%  | 12.3% |
| Total            | 11,676      | 41,67 | 91,27 | 152,888 | 167,349|
| % of Total       | 0.7%        | 2.5% | 5.5%  | 91.4%  | 100.0%|

Source: Research result, 2018

### Table 3. Tests of Between-Subjects Effects

| Source          | Type III Sum of Squares | df | Mean Square | F     | Sig. |
|-----------------|-------------------------|----|-------------|-------|------|
| Intercept       | 10011.536               | 1  | 10011.536   | 472.452 | .000 |
| Tingkat latihan | 113.582                 | 4  | 21,419      | 4.017  | .003 |
| Error           | 550.177                 | 636.463 | 864   |       |      |
| Semua jurusan   | 9545.579                | 5  | 1909.116    | 260.341 | .000 |
| Error           | 142.092                 | 19.377 | 7.333 |       |      |
| jwb_17 *        | 153.009                 | 19  | 8.053       | 11.050 | .000 |
| KD_STUDI        | 121920.372              | 167297 | .729 |       |      |

Source: Research result, 2018

Table 3 shows that the level of training of high school students on computer-based examinations of the 2018 UN results is proven. This means that there are significant differences in the level of training of high school students on computer-based examinations of the 2018 UN results (P-value = 0.00). The conclusion is that the more frequency of exercise the greater the percentage of value.

### DISCUSSION

Based on all the results of the above analysis shows that the more frequency of exercise the greater the percentage of value. This is supported by the following results of the student questionnaire. (1) students' feelings when facing UNBK, namely: students who feel optimistic 77,564 (46.3%), feel anxious 38,581 (23%), feel mediocre 35,582 (21.2%), very worried 15,714 (9.4%). (2) Students' assessment of the UNBK work procedure: students find it easy 71,192 (42.5%), quite complicated 53,437 (31.9%), very easy 18,561 (11.1%), complicated 17,251 (10.3%), very complicated 6,946 (4.1%). (3) Feelings of students when working on UNBK: mediocre 50,170 (29.9%), feeling challenged 48,782 (29.1%), feeling scared / tense / nervous 39,636 (23.7%), feeling happy 18,295 (10.9%), feeling confused 10,500 (6.3%). (4) Students feel motivated by the UNBK: motivated 86,541 (51.6%), ordinary 48,764 (29.1%), highly motivated 25,825 (15.4%), unmotivated 6,252 (3.7%).
The main factor that influences the success of the learning process is the learning method used by teachers and students themselves. Other factors can be the use of tools, infrastructure in the curriculum school used in schools. Factors that influence learning achievement are internal factors which include physical factors (health and disability) and psychological factors (intelligence, attention, talents, interests, motivation, maturity, and fatigue). For external factors include family factors (how to educate parents, relationships between family members, family economic conditions, family needs, and home atmosphere), school factors (teaching methods, curriculum, teacher relations with students, student relations, school discipline and learning tools), and community factors (student activities with the community, mass media, social partners and community life forms). In general, the factors above are also influenced by student learning styles. Student learning styles act as filters for learning, processing and communication (Mayasari, 2016: 122). Positive thinking can also reduce stress. The findings of the study, significantly stated that positive thinking training was effective in reducing stress levels in students. (Kholidah and Alsa, 2012: 67-75).

CONCLUSION
Based on all the descriptions above, the results of the study can be concluded with the findings and suggestions as follows.

First, based on national averages, informs that at all levels of subject values it shows that the more frequency of training the greater the percentage of value.

Second, the influence of the level of training of high school students on computer-based examinations of the 2018 UN results is proven. This means that there are significant differences in the level of training of high school students on computer-based examinations of the 2018 UN results (P-value = 0.00).

SUGGESTION
Based on the research results above, there are two important suggestions like the following. First, the government held a UNBK program aimed at improving the quality of education primarily for national examination programs, the existence of a system that is directly integrated with other educational applications such as DAPODIK, E-Raport and others will make it easier for schools to carry out national examination activities. However, more resources are needed in order to be able to carry out UNBK activities smoothly mainly in terms of human resources and also supporting devices (Computers). Therefore, to the high school principals to socialize this and especially the implementation of UNBK to students, teachers, communities in accordance with the operational standards of the procedure. Second, teachers especially those who teach UN subjects need to give a lot of practice examples and concrete practices that are prioritized on materials with low UN absorption capacity.

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