THE INFLUENCE OF COMPUTER AVAILABILITY AT HOME AND AT SCHOOL FOR STUDENTS ON 2019 UNBK RESULTS

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ABSTRACT

The main purpose of this study is to answer the following question. Is there an influence on the availability of computers at home and at school for students on the results of the 2019 UNBK. The population of this study is SMP / MTs students who take the UNBK in 2019. The data in this study took the form of test scores and student responses to questionnaires in 34 provinces throughout Indonesia. The questionnaire was filled in voluntarily on the last day of UNBK, so the number of respondents who filled out the questionnaire was 63902 junior high school students. The number of respondents is a sample in this study. Based on the results of the t-test analysis the following results were obtained. The effect of the availability of computers at home and at school for students on the 2019 UNBK results is proven (P <0.05). This means that there are differences in the availability and unavailability of computers both at home and at school against the 2019 UNBK results for Indonesian, English, Mathematics, and Science subjects. The conclusion is that there are differences in the availability and unavailability of computers both at home and at school against the 2019 UNBK results.

KEYWORDS

UNBK, computer, junior high school, at home

1. INTRODUCTION

In standard operational procedures (POS) on the implementation of computer-based national exams (UNBK) aims to improve efficiency, quality, reliability, credibility, and integrity of the exam (BSNP, 2018). With the implementation of UNBK has many benefits, including: can save budget, minimize the delays in the UN question script, can reduce cheating, facilitate students, UN results can be known more quickly. Although there are some weaknesses, including: lack of computers, internet network problems, and electricity supply. According to Thurlow et al (2010) there are several benefits of online exams including: efficient administration, improving the ability of examinees, exam results can be immediately known, developing item questions can be done efficiently, the level of authenticity / originality of the test can be improved. So computer-based exams have more advantages compared to paper-based exams in terms of distribution of questions and answers, time to check results, and reduce paper usage, (Handoko et al., 2019). Kenneth (2010) suggested that online examinations can improve student exam standards while the traditional exam system using pen and paper requires more effort for students and exam supervisors. Manual exams also take longer because of the examinees must prepare equipment (books, pens / pencils, erasers, etc.) to take the exam in an orderly manner. The concept of integration of digital technology must start from the implementation of the curriculum, (Matos et al, 2019). Although the results of OD and colleagues’ studies compared paper-based test scores (PBT) and computer-based tests (CBT)
and demographics, previous academic success, learning styles, or performance were affected by the performance. The results show that PBT and CBT scores are the same, but female, non-Hispanic and non-white students and those who prefer PBT have higher PBT scores (OD et al., 2019). But Fauzan and Mukminan's research results (2019) are different, namely (1) there is a significant difference in students' readiness in facing UNBK between those carrying out CBT and PBT tryouts, (2) differences in the effectiveness of CBT and PBT-based national exam tryouts for XII students in dealing with UNBK (Fauzan and Mukminan, 2019). As for Converting to Computer-Based Testing (2006) published by Professional Testing Inc. mention the challenges and problems faced in conducting online exams, including: online exam resources; Item banks; online exam delivery methods; online exam scheduling; online test locations and software; online exam security considerations; inform stakeholders of online exams; and online exam eligibility analysis.

UNBK can increase student motivation (Ummah, 2019). UNBK is also able to place students as technology players who can operate computer equipment. This means that computer-based technology has infiltrated many aspects of life and industry, but there is little understanding of how it can be used to increase student involvement, a concept that has received strong attention in education because of its association with a number of positive academic outcomes. Findings such as digital games provide the most extensive influence of various types of student involvement, followed by the web and Facebook. As for wikis, blogs, and Twitter are less conclusive and very limited. Overall, the use of this technology provides initial support that computer-based technology influences student involvement (Schindler et al., 2017). At the same time, the rapid advancement of information technology and transportation has given birth to a “borderless-state” which in turn has had a negative impact in the form of culture shock and the unity of global identity among Indonesia's young generation. The accumulation of failure to manage the impact of these cultural currents poses a threat to the development of national character (Ministry of National Development Planning, 2014).

Although it seems easy to use a computer, because it only clicks with the mouse and only types in a username and password, this needs to be trained for all students in the archipelago so that the UNBK can be carried out nationally and comprehensively throughout the country. UNBK has been able to foster attitudes and interest in learning to prepare well and be able to foster a disciplined attitude towards self and time, students are 'forced' to discipline in accordance with their exam sessions and may not be late, let alone not attend, because this will be very detrimental to themselves. It is hoped that in the future UNBK can be a solution in accepting new students as a whole, meaning that there are no more exams, but based on UNBK scores so that it saves costs, guarantees honesty and can improve the quality of Indonesian education because it prioritizes honesty and if you want to get grades good, then have to study well. This model of implementing UNBK can be easily carried out in all schools that implement UNBK in all regions of Indonesia so that the results can provide information or data that is broader and more complete so that it can assist the government in making policy towards the UNBK system in the future (Widagdo et al., 2019). A good UN result accompanied by honesty is the basic capital for the future. This shows that Indonesian teachers have worked hard and succeeded in their learning (Sulistiyono et al., 2018).

The issue of infrastructure is a major point in the implementation of UNBK. Schools that will implement UNBK which still lack the availability of computers and laptops, the school has anticipated them by borrowing laptops from students' parents. The things that need to be prepared in the implementation of UNBK include analyzing hardware, software, application users and SOP because this application will be used by many users (Rusmawan, 2017). In this case, the need for rapid availability of network services, network stability, and compatibility with the technology used are primary needs for students. The use of technology today has touched all aspects of life. The educational aspect is one that is affected by technological developments, especially the internet (Nindyasari et al., 2019). In UNBK, the problem of internet connectivity is very big influence on the continuity of the examination process, because the work process will be stopped altogether and this will greatly affect the mentality of students. The solution to this problem must continue to receive attention, (Mubarok et al., 2019). Although the school area is in a state of disaster such as
in Palu City. The Effectiveness of the National Examination at the State Senior High School Level by the Department of Education and Teaching in Palu City, Central Sulawesi Province, of the 3 (three) elements used, only the element of suitability needs has not been achieved properly, because although the National Examination budget has been budgeted but still it was felt that this had an impact on the lack of supporting infrastructure (Nursyam, 2017).

Students also experience anxiety in dealing with UNBK. Excessive anxiety (high to very high) when facing UNBK can interfere with the learning process and hinder the implementation of the exam, so students in the high and very high categories should get serious attention (Apriliana, 2018). In order for students to reduce anxiety, students must: (1) have good computer operating skills in order to solve computer-based problems; (2) has a high integrity, attitude as an embodiment of the Strengthening of Character Education (PPK) value; (3) able to develop self-potential as much as possible in accordance with the needs and development of the times (Anita et al., 2019). In principle, students must think positively, because there is a significant positive relationship between self-acceptance and adversity intelligence. The more positive self-acceptance, students have, the higher their adversity intelligence. Conversely, the more negative the students' self-acceptance, the lower their adversity intelligence (Lift and Indriana, 2019). Student anxiety can be caused by the following things: (1) an error occurs during data synchronization, (2) disruption of the UNCBT application and logout during the exam, (3) the connection of the old internet network when changing exam questions. The solution: (1) wait and fix errors that occur when synchronizing data by technicians, (2) use a backup computer that has been provided, (3) wait approximately 5 minutes until the network returns to recovery, (Jariyati, 2019).

From the various descriptions above, the problem in this study is whether there is an influence on the availability of computers at home and at school for students on UNBK 2019 results. Therefore, the purpose of this study is to find out whether there is an influence on the availability of computers at home and at school for students against the 2019 UNBK results.

2. RESEARCH METHOD

The research method used is exploratory method. The basis for using this method is adapted to the main purpose of this study, among others, is to obtain facts from the symptoms that exist and look for information factually based on research data. The population of this study was SMP / MTs students who took UNBK in 2019. The data in this study took the form of test scores and student responses to questionnaires in 34 provinces throughout Indonesia. The questionnaire was filled out voluntarily on the last day of UNBK. The number of respondents is a sample in this study. The number of respondents was 63902 SMP / MTs students consisting of SMPN / MTsN 34083 students and SMPS / MTsS 29804. The number of respondents who did not fill in this question was 15 students (0%). The complete data can be seen in Table 1.

<table>
<thead>
<tr>
<th>Table 1. Percentage of Public and Private SMP / MTs Students</th>
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</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Valid</td>
</tr>
<tr>
<td>N</td>
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<tr>
<td>S</td>
</tr>
<tr>
<td>Total</td>
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</tbody>
</table>

The analytical method used in this research is descriptive and one-way variant analysis. Both are used to calculate the effect of the availability of computers at home and at school for students on the 2019 UNBK results. So that the results of this research analysis can be obtained accurately, all the data in this study are processed or analyzed using the SPSS 22.00 program.
3. RESEARCH RESULT

Based on the percentage of the number of students who have filled out the questionnaire 63902 SMP / MTs students are as in Table 2.

Table 2. Percentage of Computer Availability

<table>
<thead>
<tr>
<th>No.</th>
<th>Computer Availability</th>
<th>Home (%)</th>
<th>School (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Available</td>
<td>29804 (46.6%)</td>
<td>60110 (94.1%)</td>
</tr>
<tr>
<td>2.</td>
<td>Not Available</td>
<td>34098 (53%)</td>
<td>3792 (5.9%)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>63902 (100%)</td>
<td>63902 (100%)</td>
</tr>
</tbody>
</table>

Table 2 informs that the majority (53%) of respondents at home are not available with computers, but conversely for schools 94% have computers.

Table 3. T-test Test Available and Unavailability of Computers at Home Against the Four Subjects

<table>
<thead>
<tr>
<th>t-test for Equality of Means</th>
<th>Std. Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>e</td>
</tr>
<tr>
<td>BIN</td>
<td>Equal variances assumed</td>
<td>56,998</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>56,907</td>
</tr>
<tr>
<td>BING</td>
<td>Equal variances assumed</td>
<td>83,100</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>80,971</td>
</tr>
<tr>
<td>MAT</td>
<td>Equal variances assumed</td>
<td>64,137</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>62,794</td>
</tr>
<tr>
<td>IPA</td>
<td>Equal variances assumed</td>
<td>64,241</td>
</tr>
<tr>
<td></td>
<td>Equal variances not assumed</td>
<td>63,289</td>
</tr>
</tbody>
</table>

Table 3 is the data for the availability of computers at home. To save space, this data is representative of both variables: the availability of computers in schools, because of the availability of computers in schools the results are the same. Table 3 shows that the influence of the availability of computers at home and at school for students on the 2019 UNBK results is proven (P <0.05). This means that there are differences in the availability and unavailability of computers both at home and at school against the 2019 UNBK results in Indonesian, English, Mathematics, and Natural Sciences (Sig. 0.000).

4. DISCUSSION

The conclusion of this study is that there are differences in the availability and unavailability of computers both at home and at school against the 2019 UNBK results in Indonesian, English, Mathematics, and Natural Sciences (Sig. 0.000). The results of this study are the same as those of Fauzan and Mukminan (2019), namely: (1) there is a significant difference in students' readiness in
facing UNBK between those carrying out CBT and PBT tryouts, (2) differences in the effectiveness of CBT and PBT-based national exam tryouts for students class XII in facing UNBK. The results of this study are also the same as those of Converting to Computer-Based Testing (2006) published by Professional Testing Inc. the result is the challenges and problems encountered in conducting online exams are: online exam resources; Item banks; online exam delivery methods; online exam scheduling; online test locations and software; online exam security considerations; inform stakeholders of online exams; and online exam eligibility analysis. The results of Jariyati's research (2019) also produced the same results, namely: (1) there was an error during data synchronization, (2) the disruption of the UNBK application and logout on during the exam, (3) the old internet network connection at the time of changing the exam questions. The solution: (1) wait and fix errors that occur when synchronizing data by technicians, (2) use a backup computer that has been provided, (3) waits for approximately 5 minutes until the network returns to recovery.

Based on the results of the above studies, there are several things that cause differences between students who have computers both at home and at school in the context of UNBK preparation are: (1). inadequate number of computers. The most obvious obstacle to implementing a computer-based national exam is the minimum number of computers owned by each school so that not all schools are able to carry out computer-based national exams. Not to mention the schools in remote areas that have no computers at all, adding to the problems in the implementation of UNBK; (2) uneven internet network. The computer-based national exams are conducted online and the most important requirement for the smooth exams is the availability of the internet network. Internet networks in some areas are still experiencing difficulties to access. Especially if it has to be used to implement UNBK which requires a strong internet network; (3) the implementation of national exams which are usually held simultaneously must be held in waves because the number of computers is not balanced with the number of UN participants. Examination of the National Examination in a way more or less will affect the psychology of students, besides the potential for cheating can occur because students who have exams have the opportunity first to tell their friends who have not tested the questions that appear in the National Examination even though the potential is fairly small; (4) electricity flow also becomes an obstacle for UNBK implementation. Indeed, in the city the flow of electricity is adequate, but what about schools in the boulder / remote areas that still cannot be electrified. It is impossible to carry out UNBK if there is no electricity because to power a computer requires electricity; (5) raises social problems, examinations using the UNBK method may lead to social jealousy because some students already enjoy the convenience of carrying out national examinations using computers while on the other hand students whose schools do not yet have adequate facilities still have to carry out UN manually. This implies the inequality of educational facilities and infrastructure is still very visible in Indonesia.

The obstacles that will be experienced by students and the exam committee are as follows. (1) Limited server strength. Already we know together in the world of websites or sites if there are many visitors, then there are times when the site will be down or inaccessible if it is not supported by a large server. This is a concern if the central committee does not anticipate when each school downloads questions that will be tested especially during UNBK. When the server is down, it is certain that students who get session 1 will be delayed from a predetermined schedule and can have a psychological impact on students who will fill in randomly in a hurry. (2) Lights Off. UNBK means using a computer or laptop that requires power to operate it. Even though in the technical guidelines (Technical Guidelines) the committee must provide generators to anticipate blackouts but the generator has an unstable voltage, a computer or laptop might have problems when using generators and will disturb the concentration of students when filling UNBK questions. In order for a stable voltage computer or laptop must be equipped with one stabilizer for one computer or laptop. Of course requires substantial funds, especially for schools with a large number of students. (3) Server Computers in Troubled Schools, problems can occur in the server computers in schools that cause all clients used for UNBK to be disrupted so that students cannot access the questions that are tested because the server computer has a problem. (4) Exam Browser Application Problematic, Exam Browser Application is also for imperfect humans, often students have logged in but suddenly log out by themselves so they have to log in again which takes about 1-2 minutes to
be able to reenter. Again, this will disrupt the concentration of students when working on UNBK questions. This application often errors with writing Error 500, or writing "Sorry, username is active, please contact the actor to reset your login status". (5) Change of disturbing tokens. At the time of UNBK (Computer Based National Examination) before working on the questions, students must enter 6 digit letters in order to work on the questions. Unfortunately this token is considered annoying because every 15 minutes always changes. If only the government could still fix this it would be better especially for schools that have exam rooms far apart from server computers. This is very disturbing because I have to write the token every 15 minutes. (6) Internet Interference. For download questions, retrieve tokens and send reports, it requires smooth internet access. Unfortunately, internet access in the area is different from the already fast urban areas. Internet in rural areas is usually disrupted due to weather conditions or blackouts because they are usually schools in rural areas using internet access using omni wifi antennas from internet access owners. In addition, schools often pay late for the internet because of financial reasons so that it is not possible to conduct a Computer-Based National Examination. (7) Computer or Laptop suddenly turns off. Often during UNBK simulations and rehearsals some computers or laptops suddenly die due to several factors other than because the computer or laptop is already in trouble before use or because of other factors. So that this can also disrupt the concentration of students when working on UNBK.

Although there are many obstacles in its implementation, there have been a number of efforts made by schools in remote areas facing UNBK policies, namely in schools making preparations, including improving student learning, implementing additional learning more effectively than the previous year, providing training or teaching students how to use computers. With these efforts it is expected to be able to assist students in the implementation of UNBK later, so that students can graduate with good results (Maulida and Wirdanesih, 2019). According to the results of research Putra et al. (2019), there are some things that schools must prepare well. (1) In the context aspect (Context) which includes school policies, online exams are carried out in moderation and will have an impact on students' habits towards online exams. (2) In the aspect of online exam input, which includes facilities and infrastructure, software and hardware, test questions and implementation management are partly inadequate and not in accordance with the success criteria, some also require further follow-up to achieve the success of the implementation program Android-based online exams at the input level and accompanied by complete government documents. (3) In the aspect of the process, the implementation of an android-based online exam, which includes supervision, the consequences of violations, the jockey system and the Google system block are still lacking on the Google system block so that the results of student grades are guaranteed to be pure. (4) In the output aspect (product), online exams can streamline the time in the inputting process done by IT staff because they do not have to collect student answer papers, do not have to check every student answer sheet and the loss of students' concerns about the loss of student answer sheets. Because after filling in the question the value will immediately come out if the server directly informs the student's grade that same day.

5. CONCLUSIONS

Based on all the descriptions above, the results of the study can be concluded with the findings and suggestions as follows. Most (53%) of respondents for the home are not available with computers, but vice versa for schools 94% have computers. The influence of the availability of computers at home and at school for students on the 2019 UNBK results is proven (P <0.05). This means that there are differences in the availability and unavailability of computers both at home and at school against the 2019 UNBK results for Indonesian, English, Mathematics, and Natural Sciences (Sig. 0.000).
SUGGESTION

Based on the research results above, there are important suggestions like the following. (1) In the context aspect (Context) which includes school policy, online exams are carried out well and also to prepare students' habits towards online exams. (2) In the aspects of online exam input in schools which include facilities and infrastructures, software and hardware, test questions and implementation management are partially adequate and in accordance with the success criteria, some also require further follow-up to the success of the program. the implementation of an android-based online exam at the input level and is accompanied by a complete government document. (3) In the aspect of the process (Process), the implementation of an Android-based online exam, which includes supervision, the consequences of violations, the jockey system and the Google system block are still lacking on the Google system block so that the results of student grades are guaranteed to be purified. (4) In the output aspect (product), online exams can streamline the time in the process of inputting the value done by IT staff because they do not have to collect student answer papers, do not have to check each student's answer sheet and the loss of students' concerns about missing student answer sheets. Because after filling in the question the value will immediately come out if the server directly informs the student's grade that same day. (5) For security questions, it is best to do a google block so that students do not look for answers on the internet during the exam. (6) The test questions along with the answers should be carried out validity on each subject maple at school, so it really measures the ability of students in each subject. (7) Schools should conduct an android-based online exam simulation 1 week before the exam to ensure the readiness of students and their implement. (8) Supervisors should prepare the connector before the test is carried out so that it does not waste student time and the exam activities run smoothly. (9) Internet speed is very influential on online test programs based on Android. If the internet is slow then the process of filling in student questions will be hampered so that it spends time in online examinations, and therefore needs to be increased again the level of internet speed or increase the amount of wifi.

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REFERENCES


OD, BKF; MD, LF; and OD, RT. (2019). Student Performance and Attitudes During the Transition from Paper to Computer-Based Examinations. The Journal of the Association of Schools and Colleges of Optometry, Volume 45, Number 1 (Fall 2019).


