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Evaluation of the Use of CBT System in School Examinations in Cluster II Dewi Sartika, East Baturaja District

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Abstract

This study aims to evaluate the Computer-based Test system in school examinations in Cluster II Dewi Sartika, East Baturaja District. This research was conducted at SD Negeri 11 OKU, which is located at Jl. Jendral A. Yani, Kelurahan Baturaja Lama, District Baturaja Timur, Regency Ogan Komering Ulu. This research is a type of descriptive research with a qualitative approach. Observation, interview, questionnaire, and documentation methods were used to collect data. The data analysis stage includes data reduction, data presentation and conclusion taking. The results showed that the use of Computer Based Test in school examinations at SD Negeri 11 OKU has many benefits both in terms of material and spirituality, including being able to improve school exam results in the education unit itself, being able to make icons or showing the school's identity as a National Level Adiwiyata school for the preparation of facilities and infrastructure classified as quite adequate and adequate human resources. What distinguishes this study from other research is related to research subjects that focus on assessment using CBT and within the scope of elementary schools.
Keywords: *Evaluation, School Exam, Computer Based Test*

Introduction

The Industrial Revolution 4.0 is a form of technological sophistication that penetrates all fields that cannot be avoided, including the world of education (Haerullah et al., 2019). The learning system is carried out through a personal computer or Android device connected to an internet network connection (Atsani, 2020; Pandia, 2020; Wijayaningputri et al., 2022). Teachers can learn together at the same time using groups on social media such as WhatsApp (WA), telegram, Instagram, zoom applications or other media as learning media (Qamariyah, 2021). Thus, teachers can ensure that students follow learning at the same time, even in different places (Alfiyanto & Hidayati, 2022; Harahap et al., 2022; Mulyadi et al., 2023; Susanti et al., 2022). So it is during exams.

So far, the organizer of the School Examination is the National Education Standards Agency (BSNP), and it is carried out with a conventional system known as the Paper Based Test (PBT), so this implementation requires considerable costs and is less effective (Nugrawati, 2019; Pakpahan, 2016). In response to and following the current advances and technological developments, the conventional examination system or paper-based test (PBT) has switched to a computerized system.

Computer Based Test or Computer-Based Exams are exams with a system using a computer as a medium for test implementation (Maulani & Santoso, 2021). The presentation of Computer Test questions is carried out computerized so that every participant who takes the test gets a question package according to the techniques provided by the school (Habsari, 2019). Actually,

the difference between the two methods of conducting school exams only lies in the technical aspects of their implementation. According to Bull and Mckenna, Computer Based Test (CBT) is the use of computers in tests and assessments of student learning outcomes. The classification used in the evaluation of learning outcomes includes diagnostic assessments, individual tests, and summative tests (Balan et al., 2017).

Regulation of the Minister of Education and Culture of the Republic of Indonesia (Permendikbud) number 3 of 2017 concerning Education Assessment Standards. Competency in assessment includes aspects of assessing knowledge, attitudes, and skills. One form of assessment is the School Examination (Hajaroh & Adawiyah, 2018). The government issued a new policy related to exams with computer systems in 2015. It is implemented only in junior and senior secondary education units. Technological developments increasingly play an essential role in the implementation of learning and teaching process activities, including in carrying out exams, so that computer-based tests (CBT) are implemented not only in junior and senior secondary education units but also in elementary school units.

Some of the supporting factors for the implementation of computer-based school exams are aspects of adequate infrastructure, the mental readiness of students and the competence of teachers, supervisors and assistants as a motor for the implementation of exams (Nurhidayat, 2016). An admin or teacher who has knowledge, expertise, and competence in related fields is needed because the admin has full responsibility for the obstacles that occur during computer-based examinations (Nadeak et al., 2022). Based on the results of initial observations in the field from 26 to 19 June 2021, researchers found that in cluster II Dewi Sartika, there is one elementary school that has implemented School Examinations with a Computer Test (CBT) system. This is done because there are several symptoms, namely 1) Lack of student understanding of science and technology; 2) There is often cheating or leakage of questions during exams; 3) Of the 129 elementary schools in OKU district, only one of these schools is the first to conduct School Examinations with a Computer Based Test (CBT) system; 4) The teacher's ability or understanding of Computer Based Test (CBT) is very lacking; 5) Adequate infrastructure readiness is the main factor in organizing Computer Based Test (CBT) based School Examinations; 6) Mental and material readiness of students who must be fostered in facing this School Exam; 7) Mental readiness and competence of teachers must be prepared to face School Examinations with Computer Based Test (CBT) system.

Method

This research will be conducted at SD Negeri 11 OKU, which is located at Jl. Jendral A. Yani, Kelurahan Baturaja Lama, District Baturaja Timur, Regency Ogan Komering Ulu. The study was conducted in June-August 2021. This research is descriptive research with a qualitative approach. In this study, researchers want to reveal phenomena, conditions, patterns, and events that occur. The subject taken in this study was the end-of-year assessment, namely the School Examination for grade VI students with a Computer Test (CBT) system at SD Negeri 11 OKU. The main informant in this study is the School Examination Proctor. Other informants supporting the data source are principals and teachers at SD Negeri 11 OKU. Observation, interview, questionnaire, and documentation methods were used to collect data. The data analysis stage includes data reduction, data presentation and conclusion taking.

Results

CBT and PBT planning starts from the recruitment of the School Examination Committee carried out by the Principal by taking or determining personnel at SD Negeri 11 OKU. Then the

second is the CBT system setup. The CBT system setup is carried out by the IT TEAM by preparing a CBT web built using PHP Programming language. The third is the preparation of the question script. In preparing the question script, the teacher sends the prepared question script in the form of words to the executive committee so that the question script is checked and edited first before printing or input in the CBT system application. Then, the exam schedule was prepared.

The school sets the determination of the exam schedule with CBT and PBT. The exam is held according to a predetermined schedule. Furthermore, the first stage in the implementation process is coaching/simulation. The implementation of experiments or simulations of the CBT system is carried out H-3 before the official examination takes place. For the PBT system, no simulation is carried out. The second is the process of conducting the exam. The implementation of the CBT system exam includes the distribution of question codes, application login, and doing questions after logging out of the application. The implementation of the PBT system exam provides for the distribution of question manuscripts to students' homes. Students do the questions, and after finishing working, the question manuscripts and answers are submitted to the Exam Supervisory Committee. The third is the processing of exam results. In processing exam results, an upload process is carried out and stored or backed up on the computer of SD Negeri 11 OKU.

From the results of the study, the process of using computer-based and paper-based systems in the implementation of school examinations at SD Negeri 11 OKU can be said to have run well by going through several stages, namely, there is a planning stage and an implementation stage. This is in agreement with Listyangsih (2014: 30) that planning is a continuous process that includes two aspects, namely planning formulation and implementation. This is also in accordance with research conducted by Lestari (2019), who found that the process of using computer-based tests as a means of evaluation goes through several stages that must be carried out, namely the planning stage, the question preparation stage, and implementation.

Based on the observations, the stages contained in the planning are the recruitment of exam supervisors, the preparation of the CBT system, the preparation of question scripts and the preparation of exam schedules. The stages contained in the implementation process are coaching/simulation, the process of implementing exams and processing exam results. This finding is also confirmed by similar research by Arif (2016) that in the planning stage, there are several activities carried out, namely socialization, school data collection, recruitment of exam supervisors, management of the CBT system, preparation of questions, and determination of schedules. There are 3 activities carried out in the exam stage, namely Pre-Exam Implementation, Official CBT Exam Implementation and Results Processing.

Computer Test (CBT) on the School Examination at SDN 11 OKU is carried out with the first two versions of the online and semi-online versions. In principle, they work the same. Both use servers. It's just that the difference is that one employs a cloud server, and the other uses a real server, in this case, computer devices and other devices such as Routers and Gensets.

The use of a computer-based Test (CBT) in school examinations at SD Negeri 11 OKU is carried out with many considerations. Among others, SD Negeri 11 OKU is a national-level Adiwiyata school using CBT. Our school, SDN 11 OKU, wants to reduce the use of paper. By using the CBT application, we can save a lot of paper usage. We take a small-scale count. If 1 student needs at least 10 sheets, including answer sheets, 1 lesson and one exam time, then for 140 students, 1400 sheets or approximately 3 reams. If there are 7 subjects, it means it takes 21 reams of paper. Therefore, I accept a policy for school exams using the CBT application. Plus, we must always follow the development of technology, which is increasingly advanced.

The Computer Test (CBT) application for School Exams at SD Negeri 11 OKU is really very effective and efficient in many ways, including time, cost, how to work, and examples of the past during school exams. There was an exam correction period. Still, if you use the CBT application after the student is finished, we can immediately find out his grades as well as the student's. For transparency, the CBT application is also sincere because he can only open the exam if he is out of the yard. Students will immediately finish and for a much lighter fee, according to our school Adiwiyata.

The mental state concerns confidence in oneself. Emotional states include conflict, tension, and anxiety. Knowledge of readiness to learn and understanding of the use of the CBT system. This is in agreement with Slameto that a state declared ready at least covers various aspects that affect readiness, namely physical, mental, and emotional conditions, needs or target motives, skills, knowledge, and other definitions that have been learned (Slameto, 2003). In line with what Dalyono said, readiness is a condition in which there is sufficient ability both physically and mentally. Physical readiness means having good health and energy, while mental readiness is having good interest and motivation in carrying out an activity (Dalyono, 2005).

Based on interviews with school principals in the implementation of School Examinations with computer-based and paper-based systems at SD Negeri 11 OKU, the process of using computer-based and paper-based systems has been going well in accordance with the questions. The use of this computer-based and paper-based system has been running for a year and has been implemented from 2020 until now. The use of computer-based and paper-based systems can make it easier for students to take school exams. Besides that, it also makes it easier for teachers to work when carrying out learning outcome tests, stages of carrying out teaching outcomes tests and making it easier for teachers when correcting student answers.

This is in accordance with the question, namely, the use of computer-based systems can facilitate the implementation of school exams. Questions that are correcting students' answers become faster and easier. Meanwhile, exams through the CBT system are increasingly practical, not tricky and make examinees more focused. It is not complicated and saves time because there is no need to take a long time to fill out the answer sheet. The availability of time on the screen can maximize the time provided. The more effective the time spent working on the questions, of course, the more questions he can answer. Computer-based and paper-based systems can minimize implementation costs because there is not much printing of questions and answer sheets on paper. After all, only a few students follow the PBT system. This is in accordance with the question, namely, the use of CBT and PBT systems can save time implementing UTS, and the question is that the use of CBT and PBT systems does not cost much.

In the process of conducting the exam, there must be obstacles, such as unstable network connections. Obstacles obtained in the simultaneous computer-based examination resulted in semi-online servers taking place simultaneously with users exceeding 100 networks, depending on the total number of students who took the exam. This can result in an internet connection that is not smooth, especially if it can be interrupted automatically. The implementation of computer-based exams is re-carried out for students who do not pass the exam due to unstable connections. This is in accordance with the question, which is to have obstacles during the implementation of the exam. So, if there are obstacles, there must be a solution according to the question, namely, how to overcome these obstacles.

With this, the school must have a solution or solution to the problem at hand. Students who experience problems immediately report to the teacher as the exam supervisor. So, the exam proctor directs the student to log in to the system if the connection is reconnected. However, if students still cannot enter the system, the invigilator immediately overcomes this by sending a

PDF question script that has been prepared before the exam. This question script will be sent directly to students online, and then students can answer the questions manually on paper. After they have finished answering, students can take photos of the answers and send them directly to the exam supervisor.

In the question, namely student learning outcomes on the use of computer-based and paper-based systems, the answer has no effect because it is the same as student learning outcomes before the implementation of this computer-based and paper-based system. The results of student scores also vary; some have high scores, and some have low scores depending on students' readiness to face the exam. In the question, namely, whether the use of computer-based systems will continue after school activities return to normal, the answer is that there is still no decision on whether the use of computer-based and paper-based systems will continue or not if school activities have returned to normal depending on the decision of the school, of course, it will be considered and find the best way in the future.

Based on the results of interviews that have been conducted, the use of computer-based and paper-based systems can be said to be effective, namely, the first-time effectiveness from the beginning of the preparation of the question so that it does not require such long work. Then, the second objectivity of assessment, using computer-based and paper-based systems, is very objective because the questions made in the form of automatic multiple choice assessments have also been arranged so that the element of subjectivity is not available at all. The third reduces cheating because the time is set to 90 minutes automatically, or not students are required to complete everything in 90 minutes. So, if used in opening a notebook, of course, it can take time, and students can run out of time in the process. The fourth is scoring; teachers can recap grades quickly and reduce errors in correcting because all assessments are carried out automatically or through the use of computers. The fifth is economical, and teachers do not need to print too many question scripts because, on average, many students take CBT, so the use of paper is only used for students who take PBT.

Discussion

It can be concluded that using this computer and paper-based system can be said to be effective. This can be seen from Arikunto's theory (2012) that a test can be said to be effective if it meets five requirements, namely valid tests (validity), high reliability, objectivity, practical (practicability), and economical. This good question can be seen from the results of observation and documentation at the question preparation stage. Valid questions are closely related to the material to be measured in the test. The material in question is the material contained in the curriculum.

Reliability can be seen from the results of observations and questionnaires. Several factors influence the reliability of measuring instruments. Mcintire & Miller suggest that the factors that affect religiosity are the format of the test, the administration of the test, the scoring of the test, and the person taking the test. The format of the test does not change the test items on the computer-based system display, and the paper does not create difficulty reading questions or instructions. Test administration, for example, is given standard instructions, the inclusion of instructions on display on a computer, and a comfortable test room. Test scoring can recap scores quickly and minimize correction errors. People who take tests, for example, students, do not experience fatigue or illness (Wardani, 2021).

Objective, practical and economical can be seen from the results of the interview. Assessment using computer-based and paper-based systems is very objective because the questions are in the form of multiple-choice questions, so the evaluation has also been arranged

so that the element of subjectivity is absent. In addition, computer-based exams are more practical and more accessible and make examinees more focused. It's not complicated and saves more time because it doesn't take long to do the questions. The use of computer-based and paper-based systems can be said to be economical because it can minimize the use of paper or paperless. Teachers do not need to print too many question manuscripts because, on average, many students take CBT, so the use of paper is only for students who take PBT.

In addition, effectiveness can be seen from the process of using it, which has been running well. This is in line with Dwi & Musadad's findings that CBT has proven effective as a means of evaluation, both in the implementation and processing of its assessment. The use of PBT can also help the problem of students who do not have computers/devices can still follow the implementation of UTS at school. Furthermore, effectiveness can be seen in students' readiness to use computer and paper-based systems (Dwi & Musadad, 2019). In line with Fauzan & Mukminan's research that the effectiveness of the use of evaluation is influenced by students' readiness to face exams. To determine student readiness, researchers need to know students' reactions or responses (Fauzan &. This is in accordance with Tohirin's opinion that readiness is the willingness to react or respond (Tohirin, 2016). From the results obtained, it is clear that students received a positive response to the use of computer-based systems. Hence, students are already ready to take school exams using the computer-based system of SD Negeri 11 OKU.

Conclusion

The use of Computer Based Test (CBT) in school examinations at SD Negeri 11 OKU has many benefits both in terms of material and spirituality, including being able to improve school exam results in the education unit itself, being able to make icons or showing the school's identity as a National Level Adiwiyata school for the preparation of adequate facilities and infrastructure and adequate human resources.

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