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Analysis of the Application of Technology to the Learning Process of Elementary School Students in Facing the Computer-Based National Assessment Examination (CBNA)

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ABSTRACT

This research was conducted to find out and analyze the application of technology to the learning process of elementary school students facing the CBNA (Computer-Based National Assessment) government program, which aims to map the quality of primary and secondary school education in Indonesia. This research aims to determine students' readiness to face CBNA and what factors are obstacles in preparing to face CBNA. This type of research is qualitative, with a case study approach regarding students' readiness to face CBNA. Preparations made by students facing CBNA include following socialization by teachers who serve as proctors and technicians. Then students take part in computer use training accompanied by a teacher, carried out after school. During this training, the teacher also provides motivational support to students so that they remain enthusiastic and not worry about facing CBNA. There are several obstacles to students' readiness in facing CBNA, namely, students have low technological literacy, limited computer equipment available, limited electricity sources as a resource for using computer devices, and limited internet networks, causing students not to be able to take part in the simulation on the CBNA page. Even though it is accompanied by If there are obstacles during the preparation process, students have good readiness to take part in the implementation of CBNA, which can be proven by the implementation of CBNA well.

INTRODUCTION

Technology plays an important role in progress in all areas of life. Currently, all aspects of life cannot be separated from the role of technology, which provides information more easily. With one touch, several things can be done easily because technology makes all forms of work easier. Technology has also changed many aspects of life; in fact, only a few areas are in contact

with technology. Likewise, in the teaching and learning process, the role of technology is also very necessary, namely to expand information about lessons that can be accessed easily by teachers and students. This technology can positively impact education in Indonesia with the various conveniences available. Technology in learning can improve the quality of learning and make it easier for students to accept learning material. In the form of measuring students in the learning process, according to Bennet and Gitomer (2009), it is differentiated as a tool for detecting learning difficulties (assessment as learning), assessment of the learning process (assessment for learning), and assessment to measure the achievement of learning outcomes (assessment of learning). Anggraeny et al, (2020).

Education in Indonesia aims to create a capable nation that believes in one God and has good knowledge and national insight. To measure the success of our educational efforts, it is very important to have a system that assesses achievements for this goal at the national and local levels. Realizing the importance of evaluation and assessment in education, the Indonesian minister of education has proposed a new national approach to eliminating the National Examination (UN) and replacing it with a Computer-Based National Assessment (CBNA). CBNA, which stands for Computer-Based National Assessment, is an educational acronym. CBNA is a program organized by the Ministry of Education, Culture, Research and Technology, Ministry of Education and Culture as an alternative to traditional national exams. The CBNA website launched by the Ministry of Cultural Education explains the evaluation program organized by the Ministry of Education and Culture. The main aim of CBNA is to improve the quality of education by capturing various aspects of learning, including input, process, and output, in all educational institutions. CBNA is carried out through 3 instruments: Minimum Competency Assessment (MCA), character survey, and learning environment survey. AKM aims to measure reading literacy numeracy mathematics literacy, while character surveys measure attitudes, values, beliefs, and habits that reflect student character.

Meanwhile, learning environment surveys can measure input at the class and educational unit level as well as the quality of the teaching process of CBNA participants. These are students in grades 5.8 and 11 randomly selected by the government, teachers, and principals of various educational units. Specifically in the welfare program, students who take part in the National Assessment are in the final stages of their study program. CBNA is one of the 4 policies of the independent learning program, designed to measure students' thinking and reasoning abilities when reading literacy texts or working on questions or problems requiring mathematical numeracy knowledge, such as knowing the participants' literacy, numeracy, and character abilities. The results of implementing CBNA will be used for evaluation to improve the quality of student learning and teacher teaching (Farolai & Nurjannah, 2022).

There are several points from this research regarding the impact of technology on learning and how the use of technology can improve the quality of education by CBNA's objectives. Faster and wider access to information: Technology opens the door to access to wider and more diverse educational resources. With the help of the internet, students and teachers can access various learning materials, research, and educational resources. Interactive learning: Technology makes learning more interactive and interesting. Apps, educational software, and online learning platforms can create more engaging learning experiences that help students become more engaged and understand the material better. Developing digital skills: Using technology in learning provides opportunities for students to develop digital skills. This is important when the ability to utilize technology is a key competency in the world of work. Adapt to individual learning styles: Technology allows learning models to be adapted to individual learning styles. This helps students at different learning speeds stay focused and understand the material in a way that works best for them.

Formative assessment: Technology can provide an ongoing formative assessment that allows teachers to track student progress in real-time. This is by the CBNA concept, which focuses

on assessing the learning process. Increased parental involvement: With the implementation of technology, teachers can communicate with parents more easily through online platforms. This creates a closer connection between school and home, supporting students' development outside the school environment. They increased Administrative Efficiency. The application of technology can also help increase administrative efficiency in education management, including implementing CBNA. More efficient administrative processes can free up teachers' time to focus on learning. Sitiwati (2020) said that using digital media is a new habit for people, especially in learning. Therefore, before sharing and disseminating information to students, teachers must first understand the information.

In technology learning, several impacts can strengthen the argument regarding the importance of applying technology in education, especially in the CBNA context: more accurate and objective assessment accuracy and objectivity. Computer systems can assess student answers consistently without bias, reducing the potential for subjective assessment errors. Adapting to individual needs, CBNA technology can provide more personalized assessments based on the needs and abilities of each student. This can help understand each student's level of understanding and provide appropriate feedback. Comprehensive data collection The CBNA technology system can comprehensively collect learning process data, including input and output. This can provide insight to policymakers regarding improving the quality of education. Use data for continuous improvement, through comprehensive data collection, CBNA can provide a basis for continuous improvement in the learning process. Teachers and management can analyze data to identify weaknesses and take corrective action. More active student involvement technology in CBNA can encourage student involvement by providing interactive assignments, game-based exams, or other interesting formats. This can make learning more interesting and effective. Increased efficiency and reduced costs in exam administration, especially in printing and distributing exam materials. This is in line with the efficiency of the CBNA program. Increasing performance measurability, technology-based CBNA makes measuring and analyzing student and teacher performance assessments easier. Measurable results can be used to plan and implement further improvements. Utilizing technology as a learning tool and applying technology in CBNA can also form students' habits in using technology in everyday learning. This creates a more modern learning environment and aligns with current technological developments. Showing these impacts can strengthen the argument about the importance of technology in education, especially in implementing CBNA.

From the explanation above, the researcher concludes that the importance of applying technology to the learning process in elementary schools to face the Computer-Based National Assessment Examination (CBNA), namely that technology is very important in learning to create or change various aspects of life there is not a single area that is not in contact with technology. Likewise, the role of technology is also very necessary in the teaching and learning process. So, this research aims to determine the application of technology to students and the level of knowledge of students and teachers in using technology in the implementation of CBNA. Since this program is new, researchers observed the target schools. They asked about the program's implementation from the planning stage, implementation stage and results (Wuwur, 2023).

RESEARCH METHOD

The research method used was descriptive qualitative by collecting data and information about the implementation of CBNA technology in elementary schools. The data sources and types of data collected and how to obtain the data are explained through primary data obtained from interviews with the principal of SD Inpres Malakantu and taking 3 students to find out what the student's abilities are regarding the ability to use computer technology and the student's readiness to take the exam. CBNA. This research was located at SD Inpres Malakantu District.

Tanahbulava, Kab. Sigi, Central Sulawesi Province. Tools used include computers or laptops (Amanda & Nurjannah, 2022).

RESULTS AND DISCUSSION

The application of technology in the implementation of CBNA at SD Inpres Malakantu was carried out in stages; preparations were carried out approximately two months before CBNA was implemented. The students who took part in CBNA were class V elementary school students; the number of students was 15, and the 2 reserve students were substituted for students who could not participate in CBNA at school. The 2021 National Assessment used to map the quality of education in Indonesia consists of three parts: the National Assessment of Minimum Competencies (AKM), the Character Survey, and the Learning Environment Survey (Santoso, 2021). Before implementing CBNA, the teacher council needs to prepare the things that need to be implemented in CBNA, such as software and networks. Apart from that, there needs to be a proctor and officers in implementing CBNA. According to Wenang Manguni (2022), in implementing CBNA, technicians and proctors are prepared who understand and can help accompany teachers and students in the CBNA process (Rahim & Rusman, 2022).

Steps in the Assessment Implementation Process No:030/H/PG.OO/2021 Article 3 Scope of POS AN regarding the implementation of the 2021 national assessment explains that 6 indicators must be met in implementing CBNA, namely 1) The room used for CBNA is in room class V, 2) Supervisor, Proctor, and Technician, 3) Supervisor's task, namely supervising students when carrying out CBNA, 4) Proctor's task, namely connecting all equipment to 1 computer, 5) Technician's task, namely preparing the computer and network, 6) Management Orderliness of Supervisors, Proctors and Technicians. 6 indicators are steps in implementing CBNA; in this case, the implementation of CBNA at SD Inpres Malakantu shows that the implementation is carried out by the steps, namely the AN Room for Students is by AN implementation standards with facilities. adequate computer according to standard specifications, internet network with good speed. Supervisors who come from other educational units, Proctors and Technicians who have been given tasks based on a Decree (SK) as well as supervisory duties of proctors and technicians which have been carried out in accordance with the technical guidelines for implementing CBNA activities as well as the rules and regulations that are adhered to by all elements of CBNA implementation at SD Inpres Malakantu.

Before implementing CBNA activities, schools make special preparations where students are prepared to understand reading and numeracy through lesson material provided by the teacher. Also, let us look at the overall implementation of the CBNA at SD Inpres Malakantu by national policies and technical instructions. This is due to the school report, which is the final result of the CBNA. In this research regarding interventions that can be carried out to implement CBNA at SD Inpres Malakantu, teachers can carry out class assessments, and this is done to improve student learning processes and develop critical thinking and attitudes towards these problems; teachers synchronize each student's homework data. Each teacher evaluates the results of students' homework by observing students' understanding of the next stage of implementing CBNA. Teachers can provide gradual training to students who still need to become proficient in using computers, or teachers can also assist with computer management during the implementation of CBNA (Purwati et al, 2021).

Based on the results obtained from the implementation of CBNA carried out by SD Inpres Malakantu school, it can be concluded that there are limitations in students being unable to use computers or Chromebooks, therefore there is a need for practice using computers, and CBNA simulations must be held. Apart from that, before implementing CBNA, students are expected to be able to take part in the CBNA simulation first so that students know how to use a computer device or chromebook. It is known that there needs to be more numeracy knowledge among students. Before carrying out CBNA, students are introduced to a computer or laptop device and trained on how to use it, so that when carrying out CBNA, students are used to facing a computer

or laptop. Getting used to introducing the forms of literacy and numeracy questions so that students begin to recognize and know the forms of questions (Dewi Purwati et al, 2021) needs to study questions about literacy and numeracy. The implementation of CBNA runs safely, orderly, and smoothly. The implementation process is also taking place according to the schedule that has been set. Still, there are obstacles, namely the lack of computer or Chromebook facilities and network problems that are sometimes unstable.

Applying Technology to Students

Application of computer technology The use of technology is not only used in a few sectors or fields of life. One sector that plays an important role in the use of technology is the education sector. The use of technology in this sector indirectly requires every school member, namely the principal, teachers, and students, to be sensitive to technological developments. The use of technology is also carried out in creating teaching media and carrying out CBNA exams, such as the use of technology at the Malakantu Inpres Elementary School where the CBNA exam was carried out where some of the teachers still needed to be able to use technology and teaching media theory. Apart from that, many students still cannot operate a computer due to the lack of knowledge about technology among students at SD Inpres Malakantu. So, schools and teachers need to introduce students to the use of technology. According to CNN Indonesia by Yohanie (2015), the use of technology in schools is seen as important as one of the skills of the 21st century. However, it experiences problems in several ways, such as a lack of teacher training, adequate electricity and equipment maintenance support, or the availability of complete infrastructure. According to Jamil (2019), one effort to improve the quality of education is by utilizing controlled computer technology in the form of supervision, supervision, and appropriate use in education and learning.

The application of computer technology in the Computer-Based National Assessment (CBNA) can provide several significant benefits in the student evaluation process. First, computer technology allows the use of questions and exams that are more dynamic and interactive. This can create a more engaging and immersive exam experience for students. In addition, interactive features can help evaluate student understanding more accurately, measure critical thinking skills, and apply knowledge in real contexts. Second, the application of technology in CBNA can increase the efficiency of exam management and supervision. Computerized systems allow exam administrators to easily manage large amounts of data, including settings and scoring. This can also help in preventing cheating and ensuring exam security. In addition, computer technology allows for adaptive learning, where exams can be adjusted to the student's ability level. This provides a fairer and more relevant exam experience based on each student's needs. However, it should be remembered that applying technology in CBNA also raises several challenges, such as the need for adequate infrastructure, teacher training, and data security. Therefore, implementing computer technology in CBNA must be planned carefully. Thus, CBNA is an evaluation tool and a driver of change towards a more innovative and inclusive education system. Regarding operational efficiency in improving learning outcomes, CBNA significantly positively contributes to shaping the future of education in Indonesia (Sultan, 2023).

However, even though the Computer-Based National Assessment (CBNA) provides great benefits, some drawbacks must be considered. One is dependence on equipment, such as computers, which can be a barrier in areas less touched by technological infrastructure. In addition, implementing CBNA requires an adequate computer lab, which may not be accessible to all schools, especially in rural areas. Therefore, this challenge shows that further efforts must be made to ensure access and equality in implementing CBNA so that the benefits can be felt evenly across all levels of society (Widiawati, 2020).

Level of Student Knowledge in the Use of Technology in Implementing CBNA

Knowledge in implementing CBNA, which is carried out at the Inpres Malakantu Elementary School. Several tests are given to students to determine their understanding of using computer

devices and fill it in on the answer sheet during the exam. Tests carried out include 1) Test of mastery of hardware such as mouse, keyboard. 2) How to type on the keyboard and direct the mouse. After completing these two stages, students are then asked to practice logging into the account provided by the Ministry of Education and Culture as a practice process. The account provided is pusmenjar.kemdikbud.go.id, the application students will use during CBNA. The account obtained is given to students to fill in based on the username and password that the school has obtained as practice material. After successfully logging in to the account, students are asked to work on the practice questions that have been prepared on the account, taking into account the time allowed. The time given is 1 (one) hour for working on numeracy and literacy questions. The level of success observed and taken into account in this service activity includes: 1) The success of all students in entering their username and password. 2) Successfully entering the required personal identification before entering the question given. 3) Successfully entering tokens. 4) completing questions before the specified time limit. Based on the results of the activities, it can be identified regarding the level of understanding of students and teachers in mentoring.

The level of students' knowledge in using technology in implementing CBNA at SD Inpres Malakantu can be measured through several stages of technology competency tests. Initially, students are tested regarding mastery of hardware such as the mouse and keyboard. Next, they were tested regarding their ability to type on a keyboard and direct a mouse. After the test stage, students log in to the pusmenjar.kemdikbud.go.id account, an application that will be used during CBNA implementation. This training process involves using a username and password provided by the school. The results of this activity show that 100% of students succeeded in entering their identification and tokens required before starting to work on the questions. In implementing CBNA, students are also tested regarding their success in completing questions before the specified time limit, with a processing time of 1 hour for numeracy and literacy questions. Observation results show that all students were successful in this stage. Through this activity, students at SD Inpres Malakantu understand the use of technology in CBNA. The smooth process of implementing the CBNA followed by class V reflects the level of understanding of students and teachers in preparing CBNA independently and fully online. However, problems were found related to internet interference, which slowed down the CBNA process, as Hildegardis et al. (2022) reported. This can be a focus for improvement to ensure the smooth implementation of CBNA.

CONCLUSION

Based on the explanation above, it can be concluded that the application of technology to the learning process in elementary schools facing CBNA is very important for students to know more about how important the application of technology is to learning and the application of technology, all students are expected to be able to keep up with existing technological developments. Because as time goes by, the activities carried out in schools will be related to existing technological developments, such as implementing the Computer-Based National Assessment. As for the implementation of CBNA, it is hoped that the teacher council will prepare students to carry out CBNA socialization and carry out training on the use of computer equipment, and students will also receive support and motivation from teachers. In preparation for CBNA, several obstacles were also found, namely the limited ability of students to use computer devices, the availability of a very limited number of computers in schools, limited electricity sources, and limited internet networks. Even though there were obstacles during the preparation process, students at SD Inpres Malakantu were well-prepared to participate in the

CBNA implementation. This can be proven by the successful implementation of CBNA for SD Inpres Malakantu students.

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