

PERCEPTIONS OF GRADE XII STUDENTS TOWARDS THE IMPLEMENTATION OF COMPUTER BASED TESTS (CBT) IN SENIOR HIGH SCHOOLS

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Abstract

The rapid advancement of information technology has significantly transformed educational evaluation systems, one of which is the implementation of Computer-Based Testing (CBT). This assessment method is considered more efficient and capable of accelerating the evaluation process; however, its effectiveness largely depends on technical readiness and user experience. This study aims to analyze Grade XII students' perceptions of CBT implementation, focusing on aspects such as interface design, question navigation, system speed, security, and technical support. Employing a quantitative survey method, data were collected through structured questionnaires and analyzed descriptively. The findings indicate that most students expressed positive perceptions, particularly regarding the user-friendly interface, ease of navigation, and time efficiency. Nevertheless, system performance stability and the responsiveness of technical support were identified as key areas that require improvement. Overall, CBT demonstrates strong potential as an effective and credible assessment system, provided that it is supported by reliable infrastructure and responsive technical assistance. The results of this study are expected to contribute valuable insights for schools and policymakers in enhancing digital readiness and improving user experience in future CBT implementations.

Keywords: CBT, Educational Evaluation, Student Perception, Computer Based Test

INTRODUCTION

Advances in information and communication technology have had a broad impact on the education system, including the learning evaluation process. One widely implemented innovation is the computer-based test (CBT). This testing model is considered capable of increasing the efficiency and effectiveness of exam administration by automating the assessment process and reducing paper use (Kaur & Singh, 2020). Furthermore, CBT is also considered to support the implementation of digital education that is adaptive to current developments (Rahman, 2021). Student acceptance of this technology is key to its successful implementation. A theoretical framework often used to analyze this is the Technology Acceptance Model (TAM), introduced by Davis (1989). This model states that a person's intention to use a technology is determined by two main factors: perceived usefulness and perceived ease of use. In the context of CBT, if students perceive an online testing system as useful for the evaluation process and easy to operate, they usually display a more encouraging attitude and accept the technology (Sayekti & Putarta, 2016). Therefore, analyzing student perceptions not only measures satisfaction but also validates the system's effectiveness from the end-user perspective. However, the implementation of computer-based exams in schools still faces several challenges, particularly related to the digital divide. These challenges relate to infrastructure readiness, network stability, and participants' digital skills (Nugroho & Setyawan, 2022). Differences in device quality and internet access across regions can lead to inconsistent experiences for each student, ultimately impacting their perceptions of the system's speed and reliability (Sukron, 2021). These challenges emphasize that the success of CBT cannot be generalized but is highly dependent on the context and readiness of the digital ecosystem at each educational institution. In a high-pressure exam environment, user interface design and user experience become even more crucial. Successful CBT implementation is determined not only by

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Manahil Raiqamahin br Sebayang et al

technical readiness, but also by intuitive interface design, clear question navigation, and the quality of technical support provided (Fatimah et al., 2021). As emphasized by Prasetya (2019), smooth transitions between questions and the speed of the system in loading questions significantly impact comfort, as pauses or lag can cause anxiety and reduce student concentration. A confusing interface or unresponsive navigation can be a source of frustration that can potentially impair test taker performance (Sholikhah & Firdaus, 2022). In addition to technical factors and user experience, system security is also a crucial concern. A system without adequate monitoring mechanisms can increase the potential for cheating and reduce the validity of exam results. This is in line with research by İliç et al. (2017), which found that despite the flexibility of online exams, users expressed doubts about their ability to prevent cheating compared to face-to-face exams. Therefore, understanding student perceptions is a crucial step in evaluating the effectiveness of CBT implementation in schools (Suryani, 2020). Drawing from the issues described above, this study is designed to analyze in-depth the perceptions of 12th-grade students regarding the implementation of computer-based exams in schools. The analysis focuses on key aspects such as interface display, question navigation, system speed, security, device comfort, technical support, and time efficiency. The results are expected to provide input for the development of a more effective, fair, and user-friendly computer-based exam system, thereby improving the experience and satisfaction of exam participants.

METHOD

The study adopts a quantitative descriptive approach through the use of survey techniques to obtain an empirical picture of the perceptions of grade XII students towards the implementation of Computer Based Tests (CBT). Data were collected through a structured questionnaire compiled using a five-point Likert scale (1–5), with categories that range from complete disagreement to complete agreement. The research instrument included several indicators that measured students' perceptions of aspects of the interface display, ease of question navigation, system speed, and time efficiency during the CBT implementation. The data obtained were and subsequently processed with descriptive statistical techniques by calculating the percentage value, average, and frequency distribution for each statement item. The results of the analysis are presented in tabular form to provide a clear and systematic picture of the tendency of students' perceptions towards the implementation of CBT.

DISCUSSION

Based on the results of a survey conducted on 12th-grade students regarding the appearance of the computer-based exam interface, it was found that the majority of students considered the exam interface to be in the fairly good category (46.8%), followed by good (29%) and very good (21%). These results indicate that the exam system interface is categorized as user-friendly and quite easy to understand by participants. However, there is still room for improvement to reach the "very good" level for the majority of users. Based on the results of the survey on the question navigation attribute, it was found that 38.1% of students thought the question navigation was quite good, 34.9% considered it good, and 22.2% stated it was very good. This condition indicates that the navigation system or transition between questions has run smoothly, although it is not yet completely considered very good by the majority of 12th-grade students.

For the system speed attribute, the survey results showed a relatively even distribution of ratings, with 27% of students rating it as good, 27% as very good, 20.6% as good, and 25.4% as inadequate. This variation in ratings can be caused by several factors, such as differences in internet speed, device specifications, the number of concurrent users, and server disruptions that occurred during the exam. Therefore, each student's experience with system speed is likely to vary. To minimize this variation, improving the availability of technical instructions before the exam is essential to better prepare participants for potential technical issues. The survey results for this attribute indicate that ratings of the technical instructions were positive, with 38.1% rating them as good, 28.6% as good, and 23.8% as very good. This indicates that most students received adequate information before the exam, although improvements in the delivery of technical instructions are still needed to ensure a comprehensive understanding of the procedures.

A survey of the system's security attributes in preventing cheating revealed relatively balanced student perceptions, with 30.2% of students rating it as fair, 27% as good, and 27% as poor. This finding suggests that while the system is considered quite capable of reducing the potential for cheating, students remain skeptical about the effectiveness of the implemented monitoring mechanisms. These findings align with research by İliç et al. (2017), which states that while online exams offer flexibility in their implementation, users remain skeptical about the system's ability to prevent cheating compared to face-to-face exams. Based on the survey results on the comfort attribute of computer or laptop

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Manahil Raiqamahin br Sebayang et al

devices, a fairly positive assessment was obtained, where 44% of students stated it was good, 25.4% said it was quite good, and 25.4% said it was very good. These results indicate that the devices used were generally in good condition and supported the smooth implementation of the exam. Meanwhile, regarding the attribute of technical support when problems occurred, as many as 38.1% of students thought technical support was good, 34.9% said it was quite good, and 17.5% said it was very good. This indicates that technical assistance services are available, but the effectiveness and speed of response still need to be improved to be more rapid, responsive, and solution-oriented in handling problems that arise during the exam. The survey results regarding the suitability of computer-based exams to participant needs also showed a positive trend. 39.7% of students rated them as good, 28.6% as fair, and 27% as very good. This indicates that computer-based exams are generally considered to meet student needs, both in terms of ease of use and the system's relevance to the participant's situation. Furthermore, the survey results regarding time efficiency showed that most students considered the exam time to be well-managed, with 38.1% rating it as good, 31.7% as fair, and 20.6% as very good. However, a small number of participants still felt that time adjustments were needed to make the exam more ideal.

Table 1. Students' Perceptions of Computer-Based Examinations (CBT)

SURVEY	POOR	FAIR	GOOD	VERY GOOD
The computer-based exam interface is easy to understand.	3.2%	46.8%	29%	21%
Question navigation (moving between questions) in the computer-based examination system runs smoothly.	4.8%	38.1%	34.9%	22.2%
Speed of computer-based examination systems (processing, storing answers)	25.4%	27%	20.6%	27%
Availability of technical instructions before the computer-based exam begins.	9.5%	28.6%	38.1%	23.8%
System security (cheating prevention) in computer-based exams.	27%	30.2%	27%	15.8%
The convenience of the device used (computer or laptop) during computer-based exams.	5.2%	25.4%	44%	25.4%
Technical support when problems occur during computer-based exams.	9.5%	34.9%	38.1%	17.5%
Suitability of computer-based exams to the needs of exam participants.	4.7%	28.6%	39.7%	27%
Efficiency of time given in computer-based exams.	9.6%	31.7%	38.1%	20.6%
Overall experience in taking computer-based exams.	3.2%	34.9%	41.3%	20.6%

Based on the table in Figure 1, the overall survey results regarding students' experiences taking computer-based exams were positive. Most students stated their experience was good (41.3%), fairly good (34.9%), and very good (20.6%). These findings confirm that the computer-based exams were well-implemented and positively received by participants. However, several aspects, such as system speed stability and device performance uniformity, still need to be addressed to ensure more effective and optimal exam implementation in the future. According to Astuti et al. (2022), factors such as attractive interface design, ease of navigation, and efficiency of processing time are important elements that influence user satisfaction levels in computer-based exams. This statement is supported by Prasetya (2019), who

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Manahil Raiqamahin br Sebayang et al

explains that smooth navigation between questions and the speed of the system in loading subsequent questions significantly impact test-taker comfort. Delays or lags when the system loads questions can cause anxiety and reduce participant concentration, making them a crucial variable in user experience. Therefore, improving technical infrastructure to ensure system stability is a top priority in CBT development. Ensuring stable and equitable system performance not only impacts participant comfort but is also a crucial factor in maintaining the validity and fairness of the learning evaluation process in the digital era.

CONCLUSION

The outcomes of this study demonstrate that the Computer-Based Test (CBT) implementation has generally gone well and received positive feedback from students, particularly regarding the interface, question navigation, and time efficiency. These findings indicate that the CBT system is considered user-friendly and meets the needs of participants in supporting a more modern and efficient learning evaluation process. However, several aspects still require attention and improvement. The stability of the system's speed and the responsiveness of technical support are crucial factors influencing students' perceptions of fairness, reliability, and comfort during the exam. This situation emphasizes the importance of improving the quality of network infrastructure, standardizing exam equipment, and preparing technical resources to ensure an equitable and consistent exam experience for all participants. Overall, the results of this study confirm that CBT has great potential as an effective, efficient, and credible evaluation system in the digital era. Strengthening technological infrastructure and institutional readiness are essential prerequisites for ensuring the sustainability and quality of its implementation. For further research, a comparative analysis between CBT and paper-based exams (PBT) is recommended to gain a more well-rounded comprehension of the advantages, limitations, and pedagogical implications of both evaluation models.

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