



Journal of Educational Sciences

Journal homepage: <https://jes.ejournal.unri.ac.id/index.php/JES>



P-ISSN
2581-1657

E-ISSN
2581-2203

Students' Perspective Towards the Effects of Anxiety in Technology-Based Assessment: A Qualitative Study

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ARTICLE INFO

Article history:

Received: 19 May 2025

Revised: 10 June 2025

Accepted: 11 June 2025

Published online: 05 July 2025

Keywords:

EFL Students,
Technology-Based Assessment,
Test Anxiety

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Article Doi:

<https://doi.org/10.31258/jes.9.4.p.2313-2322>

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ABSTRACT

Test anxiety often appears in EFL students, especially in online assessments. The difficulties and anxiety associated with online testing must be taken into account when examining the impact of anxiety in technology-based assessments on EFL students. The purpose of this study is to explore the effects of anxiety in technology-based assessment on EFL students. This study also explores the students' perspective on the connection between the uses of technology in assessment and anxiety. The researchers use qualitative research as the method of the research. This research was conducted at one of the universities in Yogyakarta. The interviews were conducted with four students from the second semester in-depth interview. In general, it is found that students tend to view online tests positively, perceiving them as a flexible and practical method of assessment. However, the findings also indicate that online test anxiety has a negative impact on the academic performance of EFL students and contributes to their perception of online assessments. It has been established that students experiencing high levels of anxiety may impair their reasoning and abstract thinking abilities, which can have a significant effect on the students' academic performance.

1. Introduction

Technology has developed rapidly, especially in the world of education and in the learning process. Technology-based assessment has a vital role in how a test is conducted. Even though the use of technology in the teaching and learning environment has been around for millennia, its importance has increased due to the recent rapid growth of information and communication technologies (Woldeab & Brothen, 2019). The education sector must constantly adapt to technological advancements to meet global expectations. This includes modifying how technology is used in education, including during learning. The use of technology-based assessment nowadays has developed rapidly. The utilization of technology in assessment plays a crucial part in the administration of tests.

The use of online tests will vary in the future. Many platforms are used in various institutions and schools to administer exams for both summative and formative assessments. Technology in education, especially in learning a language, can be used in teaching, learning, and assessing. Test anxiety often appears in EFL students, especially in assessments. Anxiety about exams is also a thing that affects student achievement (Dikmen, 2023; Jerrim, 2023). Various factors, such as the length of the exam, the number of questions, the testing method, instructions, and the testing environment can trigger test anxiety

Furthermore, it is crucial to ensure that the online nature of the testing process itself does not affect the actual performance. Another concern frequently raised by instructors contemplating online summative assessment is that online testing may induce heightened levels of anxiety, leading to performance levels that underestimate true ability (Cassady & Gridley, 2014; Dikmen, 2023; Jerrim, 2023). It can be concluded that, test anxiety can occur for two reasons. Students may express anxiety due to their lack of proficiency in using the tools, while others attributed their concern to their limited mastery of the English subject material.

Therefore, online test anxiety was linked to worry over whether the test had been turned in or if the answers had been modified as a result of technological issues. The necessity for greater clicker practice was emphasized by students, just as it was with prior technological adoptions. There were mixed opinions on instant automated feedback following an exam (Khan & Khan, 2019). It can be concluded that some students were relieved to know how they performed immediately after completing online assessments.

Experiencing high levels of anxiety can disrupt reasoning and abstract thinking skills, which can negatively affect academic performance. In addition to these, test anxiety may affect one's cognitive structure by creating failure and disappointment, it observed through embarrassment, hypersensitivity, and memory problems. Some students exhibit test anxiety levels that exceed the average, which may negatively impact their performance on examinations (Rehab, 2021). Test anxiety can affect an individual's cognitive structure by causing feelings of failure and disappointment, which can manifest as embarrassment, hypersensitivity, and memory issues. Initially, test anxiety was thought to be one-dimensional but later research revealed it to be two-dimensional and even multidimensional.

It is important to explore the perspectives of the students related to the effects of technology-based assessment and anxiety. A few researchers focused on the research of anxiety in online assessment. There have been limited studies concerned with anxiety in technology-based assessment. Therefore, this research focuses on the EFL students' perspective related to the effects of anxiety in technology-based assessment. The research questions are as follows:

- (1) How do the EFL students perceive the anxiety in technology-based assessment?
 - (2) How do the effects of anxiety in technology-based assessment on EFL students?
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2. Methodology

This study has employed the qualitative approach. Qualitative researchers employ an evolving qualitative methodology. In this study, the qualitative research method enables the researcher to explore the effects of EFL students in conducting the online test. The purpose of this research is to explore the effects of technology-based assessment on EFL students. A narrative inquiry is presented to analyze the data in this study. There are four participants which are EFL students that have been selected to be the participants in this study (4 females). The students are active in the second semester of the Master of English Education Department at one of the universities in Yogyakarta. The selection of the participant has been chosen by purposive sampling. Purposive sampling is a non-probability sampling technique in which the researcher selects only those subjects who meet the objectives of the study based on the researcher's beliefs (Obilor, 2023). The participants were asked that the students that they ever took the online test at least once in every types of LMS or platform that they ever used. The qualitative method has been used in this study to collect the data. Semi-structured interview has been conducted in this research. In-depth interviews with six students were used to explore the effects of anxiety in technology-based assessment on EFL students in face-to-face interviews.

3. Results and Discussion

This study aims to explore the students' perspective and the effect of anxiety in technology-based assessment. Based on the data of this study, it is found that the participants have felt the effect of online test anxiety. The effect of online test anxiety is related to academic performance. This study identified two themes that have been created based on the result of the data: Online test anxiety affects students' academic performance and technology-caused test anxiety. The result shown in Table 2 is related to the themes and bench of codes of the data. This section of findings presents the interview analysis in each narrative of the participants.

P01's narratives

P01 is one of the English master's students in Yogyakarta who has been living in Lombok and moved to Yogyakarta for 2 years. In the interview, P01 stated that she had conducted an online assessment before which was in the TOEFL test. It added that she is not an expert in the aspects of technology and she just has the standard ability in technology use. She perceived that technology-based assessment offered the flexibility to conduct the test as beneficial and had positive advantages. The narratives are explained in the interview:

I have never taken an online assessment before. When I took the TOEFL test last month. For technology-based assessment, I think overall it related to the assessment that offered the convenience of flexibility in terms of timing and locations.

Besides her experiences and the advantages of technology that she perceived, P01 also encountered troubles and made this the disadvantages of technology-based assessment. She added that when the troubles come, she faces anxiety which can make her feel uncomfortable. She narrated that:

Sometimes we faced limited access to technology or the internet resources. In academic performance, of course, I worry about my performance and may difficult to recall information and of course, it makes us spend very much time during it. I'm afraid to miss typing there and the countdown timer at that time is too complicated. I felt sweating, not focus, stomachache.

From that, P01 felt she was disadvantaged by the anxiety that she felt. She added that technology-based assessment also causes anxiety and it can be caused by effects one of which is related to the students' academic performance. She stated that:

The device is not compatible with the headset that is used and the question cannot be repeatable. My score was higher when I took the paper and it is because of the timer of the online test that made me feel anxious and got my score down.

The narrative from P01 points out the experiences in technology-based assessment. She also stated some advantages, and disadvantages of technology-based assessment, and also the effect of anxiety related to academic performance.

P02's narratives

P02 is from Pekanbaru and lived in Yogyakarta for 2 years to continue her master's degree at one of the universities in Yogyakarta. She has experience in technology-based assessment by using websites and applications. She also added that she has good competence in using technology, especially in the English education field. She also perceived that technology in the assessment is related to practicality and accessibility. She narrates that:

If I'm not mistaken it happened when I entered Yogyakarta State University to get my master's degree in UNY by using the online test. I think it's quite useful and easy for us to do technology-based assessments because we don't have to get directly to the place. By using online tests we can do the test anywhere and don't need to go directly to the place, flexible and also accessible.

Besides P02 perceived the advantages as practical, she also stated that online assessment has disadvantages related to technical problems. Therefore, P02 narrated that the disadvantages may cause anxiety to come. As P02 stated that:

When we have the online test, we have to fight with signals and internet connection. It kind of distracts the test itself because of the connection. of course, when I want to take the online test the anxiety comes.

P02 also narrated that she felt some effects of anxiety. She felt that the effects of anxiety made her feel disadvantaged. P02 narrated that anxiety does not affect the student's academic performance which is the score of the test. She experienced getting the same score and there were no differences in the scores when she took the online assessment and paper-based assessment. As P02 narrated:

I got sweating, my heart beating so fast and started to feel my stomach ache. I think it would be better if I have a paper-based test because no matter what happens I already in the place of the test I have to go for it. But if I have to take an online test there is much more for the preparation for taking the test.

P02 has much experience in technology-based assessment which makes her advanced in the use of technology especially in the English education field. She perceived that online assessment is beneficial. Besides that, P02 narrated that there are many effects of anxiety in online assessment, but the effects do not influence her academic performance.

P03's narratives

P03 is one of the participants from Madiun. She is continuing her master's program at one of the universities in Yogyakarta. She has much in conducting online assessments which makes her advanced in technology used especially in the English education field. In her narration, she stated that she is at an advanced level of technology use and she added that the advantages of online assessment are effective. P03 said that:

My latest online assessment for BUMN. I need a laptop and download an app. I can say that I'm at an advanced level in using technology. The advantage of online tests is save time because I don't have to go to a place it is flexible and easier to answer questions and don't have to prepare the pen and paper.

Besides that, P03 ever had some bad experiences that make it one of the disadvantages of online assessment. She added that to have a good ambiance to take the test, she needs to be alone during the test when nobody is around. P03 narrated that:

When I have a bad connection and there are some errors when I do the test and then I need to prepare some internet data for that. In my experience, the audio of the listening section is not playing I need to randomly answer the question and it affects my final score.

In facing the disadvantages of online assessment, P03 felt that her anxiety appeared during the test. Her anxiety is related to the materials of the test. She added that the anxiety often comes and makes her feel some physical effect of it. On the other hand, the anxiety felt by P03 is not affecting her final score on the online test that she takes. She narrated that:

Based on my experience, my preparation is always good the errors come from the application that makes my anxiety appear. My body is sweating and

stomach, and I can't focus on the test. There are no significant differences in my score.

P04's narratives

P04 is the participant who comes from Medan. She has been living in Yogyakarta for 2 years to continue her studies in the English education program at one of the universities in Yogyakarta. She has experience in conducting the online assessment to take the TOEFL test by using a computer. P04 added that she is in the advanced level of technology used. Besides that, she adds the advantages of using online assessment as the media that relates to its accessibility and effectiveness. Therefore, she said that:

Recently I took the TOEFL which uses online assessment and is conducted on campus. They provide me with the computer, and link, to submit my identity. It's quite thrilling for me. I'm the type of person that excited about the test, I have to study for the test. I am well-compatible with technology. It's quite efficient and in terms of being accessible everywhere and every time and quite effective I guess it's not time-consuming.

On the other hand, P04 felt the disadvantages of online assessment related to the technical problems. Therefore, she added that she felt anxiety when the limited section of the online assessment. According to P04, some effects appear during the test. She also stated because of the effects of anxiety in online assessment, she gets disadvantaged by it. Because of this, P04 added that she prefers to have a paper-based assessment than a technology-based assessment. She narrated that:

The server is getting lost and makes me panic. The most important is I must be calm and contact the committee and they will solve the problem by giving me the new link and others. In academic performance, it would decrease my score and I have to study harder to overcome the anxiety. I get a low score. My TOEFL score is not enough for the target is 550 score and my score is not reachable because of anxiety.

Based on the narrated by P04, it is found that she has a very good level of technology use especially in technology-based assessment. P04 stated that she has some perspectives on online assessment that relate to the advantages and disadvantages that cause anxiety in online assessment. P04 stated that she prefers to have a paper-based assessment than a technology-based assessment because of the disadvantage of anxiety in an online assessment that she has experienced.

By applying the narrative inquiry in this study, as narrated in the findings, the students perceive the technology and anxiety in online assessment based on their experiences. As the findings above, it is found that students efficiently do online tests. The views given by the students are positively related to the use of online tests. The positive view is related to the practicality of the test. A test must fulfill a practical rule. This is in line with the statement that one of the principles of assessment is practicality. As stated by Brown (2019), The term "practicality" is

used to describe the logistical, down-to-earth, and administrative issues involved in the creation, administration, and scoring of an assessment instrument.

Practicality is related to the advantages of online tests. This is in line with the advantages of online tests' technical use and the statement that the system can save costs and energy in printing and distributing question-and-answer sheets. In order to utilize online technology to reduce the workload of staff, it is first necessary to transition from a paper-based to a digital approach to pedagogy and learning. This is a time-consuming and costly process, particularly at the early stage of implementation (Hilliard et al., 2020; Shraim, 2019). Students tend to prefer e-assessment, as it affords them greater control, more user-friendly interfaces, and the opportunity to engage with tests in a manner that resembles both learning environments and recreational activities.

Online test anxiety affects students' academic performance. As the findings above, it is found that when students experience high levels of anxiety can disrupt reasoning and abstract thinking skills, which can negatively affect academic performance. Test anxiety can also impact cognitive structure by creating feelings of failure and disappointment, which can manifest as embarrassment, hypersensitivity, and memory problems (Huberty & Dick, 2006 in Dikmen, (2023). Students with effective study skills, who are therefore better prepared, may experience less anxiety (and thus more attention to the test-taking task) in the testing situation (Culler & Holahan, 1980). Students may experience underachievement, rather than lacking the requisite abilities, due to anxiety. This is also related to the degree of motivation exhibited by learners is contingent upon their perception of their ability to complete the task at hand. When learners have a positive self-perception and believe in their abilities, they are more likely to be motivated and to perform well. On the other hand, when learners lack confidence in their competencies, their motivation tends to be lower (Maier et al., 2021). The relationship between anxiety and academic performance is more intricate. Those who performed poorly on past examinations may be at an increased risk of perceiving forthcoming tests as anxiety-provoking. Alternatively, anxiety could also result in poor performance (Jamil et al., 2022).

The factors influencing the increase of anxiety in bachelor's students also correlate with other findings that indicate a clear link between student performance and stress. Students' inability to enhance their learning contributes to a higher stress level (Khan & Khan, 2019; Maier et al., 2021). The factors influencing a decrease in anxiety levels in Master's students include increased confidence, developing learning skills, positive evaluations in exams, and greater knowledge gained from instructors in exams and evaluation methods.

E-assessment provides immediate feedback, which can be compared with that of a paper test. This feedback can be used to improve the learning level. It enables students in remote areas to learn and assess in their locations, and it can be accessed at any time, which provides flexibility for students to take their exams (Alruwais et al., 2018). In addition, the main advantages of using online tests are providing direct immediate feedback for the students, improving student performance,

reducing the time and effort of the teacher, decreasing the cost for the institution, and encouraging higher-order thinking.

The efficacy of online learning is contingent upon a multitude of variables. Some of these variables act as impediments to online learning, including administrative concerns, social interaction, academic proficiency, technical aptitude, learner motivation, temporal constraints, academic support, technical issues, financial considerations, and internet accessibility (Pei & Wu, 2019). A test is practical if the test starts from the cost of administering. It is not too expensive, does not take up time, and is easy to implement. Mobile devices offer portability, connectivity, convenience, practicality, immediacy, accessibility, individuality, and interactivity.

4. Conclusion

Students accept that online test is practical, efficient to use, and flexible. It is found that students experiencing high levels of anxiety can impair reasoning and abstract thinking abilities, which can negatively impact academic performance. Moreover, the correlation between test anxiety and exam performance was found to be less pronounced in an online setting than in a traditional classroom setting. The advent of online testing has introduced a two-sided effect on the educational landscape, with potential benefits for certain students and negative consequences for others. The current evidence suggests that not all students are adequately prepared or willing to embrace online testing without issues. It is recommended that instructors consider the potential impact of these findings when determining whether to offer examinations online.

Acknowledgement

The researchers would like to express their deepest appreciation to the lecturers who provided helpful advice and suggestions in completing this manuscript and special thanks to the participants who assisted with data collection.

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How to cite this article:

Putri, N. I., & Basikin. (2025). Students' Perspective Towards the Effects of Anxiety in Technology-Based Assessment: A Qualitative Study. *Journal of Educational Sciences*, 9(4), 2313-2322.
