#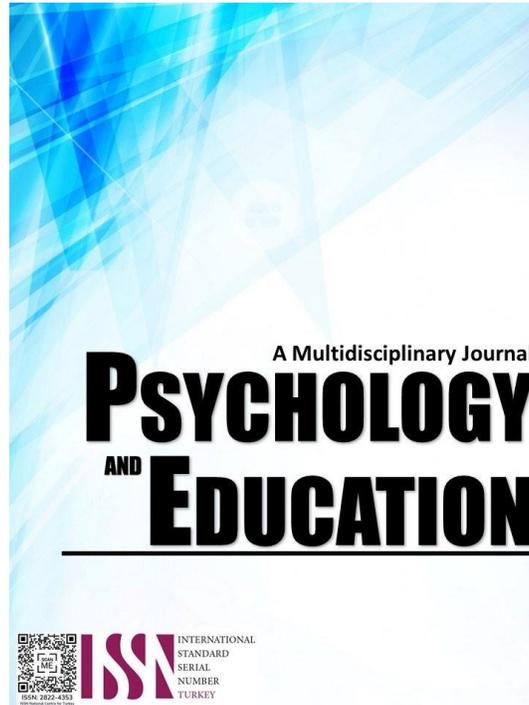 RELIABILITY, USEFULNESS, AND FEASIBILITY OF ONLINE QUIZZES AS AN ASSESSMENT TOOL IN THE 21ST CENTURY LEARNING: BASIS FOR PROGRAM DEVELOPMENT

Reliability, Usefulness, and Feasibility of Online Quizzes as an Assessment Tool in the 21st Century Learning: Basis for Program Development

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Abstract

Online quizzes have become a widely used assessment tool in higher education, offering flexibility, instant feedback, and improved student engagement. They support active learning and provide insights into student performance, meeting the demands of 21st-century education. However, perceptions of their reliability, usefulness, and feasibility may vary across students and instructors. This study investigated these perceptions among students and instructors in a higher education institution during the academic year 2023-2024. It also examined the relationship between these perceptions and variables such as age, sex, economic status, and gadget availability. Guided by the E-Learning Theory, the study employed a quantitative descriptive correlational design. Self-made structured questionnaires, validated and tested for reliability, were distributed to 263 students and 30 instructors using purposive convenience sampling. Participants were selected based on their use of online quizzes during the current semester. Statistical methods were applied to analyze the data. Findings revealed generally positive perceptions of online quizzes among both groups. Students rated reliability at 3.69, usefulness at 3.80, and feasibility at 3.84, with an overall mean of 3.78 interpreted as High. Instructors rated reliability at 3.33, usefulness at 3.86, and feasibility at 3.89, with an overall mean of 3.69, also interpreted as High. For students, no significant differences in perception were observed based on age (p = 0.740), sex (p = 0.658), economic status (p = 0.228), or gadget availability (p = 0.082). Similarly, no significant relationships were found between their perceptions and demographic profiles. In contrast, instructors' perceptions varied significantly by age (p = 0.047) and economic status (p = 0.025). Those aged 45-54 and lower-middle-income instructors demonstrated more favorable views. However, no significant differences were found based on sex (p = 0.647) or gadget availability (p = 0.663). The study concluded that online quizzes are effective assessment tools but emphasized the importance of equitable access to technology. Continuous evaluation and adaptation are essential to address diverse educational needs and enhance learning outcomes in the 21st century.

Keywords: *online quizzes, reliability, usefulness, feasibility, perception*

Introduction

The rapid advancement of technology has significantly transformed the educational landscape, making online tools an integral part of teaching and learning. Among these innovations, online quizzes have become a widely used assessment tool, offering educators an efficient and dynamic method for evaluating students' knowledge and understanding. By providing immediate feedback, promoting active learning, and enhancing engagement, online quizzes support both students and instructors in achieving educational goals. However, perceptions of their reliability, usefulness, and feasibility can vary depending on individual experiences, access to resources, and technological familiarity, highlighting the need to explore these perspectives in depth.

Previous studies have provided a framework to support this present study. To achieve this, classrooms must be opened to engage in connected learning and exploration outside of the school, and technology must be integrated into the curriculum to support flexible and varied content delivery (Taylor, Fudge, Mirriahi, & de Laat, 2021).

Online quizzes are now popular as they provide a flexible, efficient, and engaging way to assess student understanding (Mavrommatis, 2021). Additionally, online quizzes are highly practical as they can be administered and taken anywhere with internet access, making them valuable in today's increasingly digital and remote learning environments. The benefits of online quizzes include inspiring and motivating active learning, enhancing performance and feedback, and improving learning outcomes compared to traditional pen-and-paper assessments, as suggested by meta-analyses (Brown & Krzic, 2022).

Moreover, online quizzes offer a cost-effective and objective approach to formative assessment in universities. However, closed-ended questions have faced criticism for encouraging surface-level learning, which can often lead to suboptimal learning outcomes. These disadvantages can be overcome by embedding closed questions in effective instructional designs involving feedback (Enders, Gaschler, & Kubik, 2021). Additionally, understanding the perspectives of students regarding the fairness, usefulness, and effectiveness of online quizzes is crucial for optimizing their implementation (Nguyen & Patel, 2019)

In higher education, challenges and opportunities have been identified regarding the use of online quizzes. The future challenge is in the design of learning and assessment tasks which should consider sustainability in teaching plans and ask students to apply, solve or make decisions considering environmental, social or economic sustainability (García & Molins, 2022).

Even though online tests are increasingly being recognized as an effective assessment tool in modern education, little is known about how well they work together. Few studies have examined how the perceptions of students in using computers, tablets, and smartphones

for online tests impact their perceptions of utilizing the same devices for ongoing evaluation (Di Meo & Marti- Ballester, 2020).

In one of the local colleges in Negros Occidental, the adoption of online quizzes became a prevalent practice during the onset of the pandemic as a primary assessment tool for evaluating student understanding and progress. Even with the return to physical classrooms, online quizzes remained in use due to their advantages, such as providing instant feedback, supporting self-paced learning, and catering to diverse student needs in today's changing educational setting. Therefore, this study aims to investigate the reliability, usefulness, and feasibility of online quizzes as an assessment tool among college students, and instructors and to examine their relationship with selected variables, such as age, sex, economic status, and gadget availability.

Research Questions

The purpose of this quantitative study was to perceive the reliability, usefulness, and feasibility of online quizzes as an assessment tool in the 21st-century learning of the students and instructors in one of the local colleges in Negros Occidental for A.Y 2023-2024. Specifically, it aimed to answer the following questions:

1. What is the profile of the respondents in terms of the following variables:
    1.1. sex;
    1.2. age;
    1.3. economic status; and
    1.4. gadget availability?
2. What is the level of the perception of the students to online quizzes as an assessment tool for 21st-century learning when taken as a whole and when grouped in terms of:
    2.1. reliability;
    2.2. usefulness; and
    2.3. feasibility?
3. What is the level of the perception of the instructors to online quizzes as an assessment tool for 21st-century learning when taken as a whole and when grouped in terms of:
    3.1. reliability;
    3.2. usefulness; and
    3.3. feasibility?
4. Is there a significant difference in the level of the perception of the students to the online quizzes as an assessment tool for 21st-century learning when taken as a whole and when grouped according to:
    4.1. sex;
    4.2. age;
    4.3. economic status; and
    4.4. gadget availability?
5. Is there a significant difference in the level of the perception of the instructors to the online quizzes as an assessment tool for 21st-century learning when taken as a whole and when grouped according to:
    5.1. sex;
    5.2. age;
    5.3. economic status; and
    5.4. gadget availability?
6. Is there a significant relationship between the level of the perception of the students to online quizzes as an assessment tool and the profile?
7. Is there a significant relationship between the level of the perception of the instructors to online quizzes as an assessment tool and the profile?

Literature Review

The research conducted by Elmehdi and Ibrahem, (2019) at the University of Sharjah (UOS) investigated the impact of online exams on student performance and their attitudes towards online assessment versus traditional in-class exams. The study involved 1493 participants and examined various aspects such as time management, preparation, reliability, fairness, security, grading, prompt feedback, and potential effects on student performance. The findings indicated no significant improvement in overall class GPA or passing percentage. Students' opinions on online assessment were divided, with over half expressing a preference for online exams. There was strong student support for online exams in terms of logistical aspects and improving teaching and learning. The study found no age or gender biases in the areas investigated and supported UOS's initiatives to incorporate online summative assessments for enhancing education quality. It is recommended that the university focuses on educating both staff and students about the benefits of online testing.

Based on Basilaia and Kvavadze (2020), teachers perceive online quizzes as highly reliable for assessment, offering flexibility across different devices, which ensures fair and consistent evaluation within a structured framework. Additionally, the adaptability of these tools across various subjects and topics enhances their feasibility, as they support differentiated learning experiences and allow for

tailored teaching to cater to diverse student needs (Sustainability Journal, 2021).

The investigation carried out by Mwalongo (2018) compared the views of male and female students with respect to the use of asynchronous discussion forums and quizzes to foster critical thinking skills. The findings showed that, in comparison to male students, female students exhibited higher levels of critical thinking tendencies connected to open-mindedness and curiosity. On the other hand, no statistically significant difference was found in other critical thinking tendencies between male and female students. The study explores the ramifications for instructional strategies as well and recommends further investigation with a wider range of participants in the future.

Patel (2023) highlighted the exacerbation of economic inequalities in online education during the COVID-19 pandemic, particularly noting the disproportionate disadvantage faced by lower economic students. These studies collectively stress the importance of policy changes and targeted interventions to ensure equitable access to digital learning resources for all students.

Singh (2022) explored the impact of device availability on the perceived usefulness and effectiveness of online quizzes. The study found that students who could use both mobile phones and laptops/desktops tended to have a more positive perception of the effectiveness and utility of online quizzes as an assessment tool. This access contributed to a smoother and more efficient online learning experience, leading to improved academic outcomes.

The research by Brown and Green (2018) suggests that having access to various devices, such as smartphones, tablets, and computers, can improve students' engagement with online quizzes, offering them more flexibility and convenience. Their study revealed that students who had access to a range of devices performed better and showed higher levels of engagement in online assessments compared to those with limited device access.

Brown and Taylor (2020) investigated how different age groups adapted to online learning resources like quizzes. Their findings revealed that older students faced a steeper learning curve, while younger students adapted more quickly and often performed better. The study emphasized the need for additional support and instruction for older students to bridge the digital divide and improve their performance on online assessments.

Schmid and Petko (2019) found that while gender may influence students' opinions on online tests, factors such as the quality of technology and the classroom environment have a more significant impact. It highlights that the technological infrastructure and the learning environment largely determine the effectiveness of educational technology. This suggests that improving these elements can lead to better student outcomes and positive perceptions of online assessments.

Almusharraf and Bailey (2021) found that students from different economic backgrounds generally share similar views on the value of online quizzes for learning and assessment, indicating that factors like the quality of online content and students' engagement play a more critical role in shaping their perceptions.

Hew et al. (2020) conducted a comprehensive evaluation of educational technology research, examining students' perceptions of online learning tools, including quizzes. Their findings support the conclusion that students' views on the effectiveness and utility of online quizzes for learning and assessment are generally consistent, regardless of the device used (e.g., computers, tablets, or mobile phones). This indicates that factors such as quiz design and pedagogical approach play a more crucial role in shaping students' perceptions of online assessments than the specific device utilized. These insights underscore the importance of focusing on the quality of educational content and instructional methods to enhance the online learning experience.

Wong (2020) investigated how various demographic factors, such as age, influenced the perceptions of instructors and students regarding online learning resources. The study revealed that teachers view online assessments as more beneficial and efficient than their younger counterparts. This age group appreciates the structured nature of online quizzes and the immediate feedback they provide, as these elements align well with their teaching practices and professional experiences.

Gender does not significantly influence instructors' opinions on the usefulness and efficacy of online tests. Both male and female educators generally share similar views regarding online tests as evaluation tools. They emphasize that factors such as prior experience with digital devices and instructional strategies have a greater impact on shaping these opinions. This suggests that enhancing digital literacy and refining teaching methodologies could further improve the adoption and perception of online assessments among educators (Chou and Chang, 2021).

Martin and Bolliger (2019) observed that teachers and students from lower middle-income backgrounds often place a higher value on the effectiveness and utility of online quizzes, emphasizing their role in bridging gaps caused by economic disparities. Additionally, Patel (2023) highlighted the exacerbation of economic inequalities in online education during the COVID-19 pandemic, particularly noting the disproportionate disadvantage faced by lower economic students. These studies collectively stress the importance of policy changes and targeted interventions to ensure equitable access to digital learning resources for all students.

Teachers with access to a laptop or desktop computer and a mobile device tend to have a more positive opinion about the usefulness and efficacy of online quizzes as an evaluation tool. These teachers find online quizzes more useful, effective, and beneficial for student learning and assessment. Their comfort level and appreciation for technology-enhanced assessments increase when they can use

multiple devices, highlighting the significant influence of gadget availability on their perspectives (González-Gómez et al., 2020).

Methodology

Research Design

This research adopted a quantitative descriptive correlational design to determine the reliability, usefulness, and feasibility of online quizzes as an assessment tool in the context of 21st-century learning. Descriptive correlational research design describes the variables and measures the extent of the relationships that occur between and among the variables. The inferential objective was made use of correlational approach as correlational research is a type of non-experimental research in which the researcher measures two variables binary or continuous and assesses the statistical relationship between them with little or no effort to control extraneous variables (Jhangiani et al., 2019).

Respondents

This study employed dual subject and respondents. The subject and the respondents of this study were the college students and instructors from a local higher educational institution under the Bachelor of Arts Department in the second semester of the academic year 2023-2024. For the students, the respondents were purposefully selected using the criteria set for the study. These were students who were currently using online quizzes as part of their assessment in their presently enrolled subjects. The other respondents were the instructors in the same department who were using online quizzes as the mode of their assessment tool. The instructors had administered these online quizzes with consistency to more than one class they were handling.

Instrument

To determine the Reliability, Usefulness, and Feasibility of Online Quizzes as an Assessment Tool in 21st-century learning, the researcher created a self-made questionnaire after comprehensively studying and reviewing published studies and literature used in the present study. The researcher made two sets of questionnaires designed separately for instructors and students. Both the questionnaires were structured into two parts.

The first section aimed to gather the demographic profile of the respondents, capturing information such as sex, age, economic status, and gadget availability.

The second section of the questionnaire focused on determining the perceptions of students and instructors to online quizzes regarding their perceived reliability, usefulness, and feasibility. The study delineated these areas to gauge viewpoints of students and instructors. A five-point Likert scale was utilized encompassing the following options: (5) Strongly Agree, which means they have a high degree of confidence in the accuracy of the statement, (4) Agree, they believe the statement holds true for the most part, (3) Neutral, they are neither convinced nor unconvinced by the statement, (2) Disagree, they believe the statement doesn't accurately reflect your experiences or beliefs, and (1) Strongly Disagree, they have a high level of conviction that the statement is not true or accurate. Respondents rated their perceptions within these parameters that provided insights into their views on online quizzes as an assessment tool.

Procedure

The researcher initiated communication with the chosen higher educational institution and requested permission and cooperation for the study. This was done through a formal letter addressed to the college administrator, and college department head, sought permission to conduct the study to the necessary respondents, and ensured adherence to ethical standards and data protection protocols.

Following approval, the researcher distributed the questionnaire to a selected sample of students and instructors using printed copies. The respondents received clear instructions outlining the study's objectives, the confidentiality of their responses, and any pertinent information required.

A reasonable timeframe was provided to allow respondents to complete the questionnaire. Subsequently, the collected data was organized and tabulated by the researcher which was submitted to the statistician for statistical analysis purposes.

Data Analysis

After the data collection, the data were tallied, tabulated, and analyzed using appropriate statistical tools. To answer the statement of problem 1 which stated, what is the profile of the respondents in terms of the following variables age, sex, economic status, and gadget availability, frequency, and percentage distribution were used.

To answer the statement of problems 2 and 3 which stated, what is the level of the perception of the students and teachers of the online quizzes as an assessment tool for 21st-century learning when taken as a whole and when grouped in terms of reliability, usefulness, and feasibility, mean was used with the formula $\bar{x}=\Sigma fx/n$.

To answer the statement of problems 4 and 5 which stated on the significant difference in the level of the perception of the students and instructors of the online quizzes as an assessment tool for 21st-century learning when taken as a whole and when grouped according to age, sex, economic status, and gadget availability non-parametric tools like Kruskal Wallis H formula and Mann-Whitney (U) Test

formula were used.

To answer statements of problems 6 and 7 which stated on the significant relationship between the level of students' and teachers' perception of online quizzes as an assessment tool and the profile, Gamma Coefficient formula and Chi-Square Test formula were used.

Ethical Considerations

The researcher strongly committed to ethical standards by prioritizing respondents' confidentiality and data privacy. Access to survey data was strictly limited to the researcher and thesis adviser, ensuring sensitive information remained secure. Respondents' names were also deliberately omitted from the final report to maintain anonymity. This approach highlights the researcher's dedication to upholding ethical research practices, safeguarding participant identities, and fostering a trustworthy research environment. Such measures underscore the importance of respecting and protecting the rights and privacy of all participants involved.

Results and Discussion

Profile of the Respondents

Table 1.1 presents the demographic profile of the students in terms of age, sex, economic status, and gadget availability.

Table 1.1. *The Demographic Profile of the Students*

Profile		*Frequency Distribution*	*Percentage (%)*
Age	18 – 24	226	85.90
	25 – 34	36	13.70
	35 – 44	1	.4.00
	Total	263	100.00
Sex	Female	184	70.00
	Male	79	30.00
	Total	263	100.00
Economic Status	Poor: Below P10,957.00	66	25.10
	Lower-income but not poor: P10,967.00 to P21,914.00	155	58.90
	Lower-middle: P21,915.00 to P43, 828.00	37	14.10
	Middle: P43, 829.00 to P76,669.00	5	1.90
	Total	263	100.0
Gadget Availability	Laptop/Desktop	3	1.1
	Mobile Phone	195	74.1
	Mobile Phone & Laptop	54	20.5
	Mobile Phone & Tablet	11	4.2
	Total	263	100.0

Table 1.1 reveals the demographic and economic characteristics of the student sample, organized from highest to lowest. The majority of students fall within the age group of 18-24 years, comprising 226 individuals (85.9%). This is followed by the 25-34 age group with 36 students (13.7%) and a minimal representation of 1 student (0.4%) aged 35-44 years. In terms of sex, females constitute a large portion of the sample, accounting for 184 students (70%), while males make up the remaining 79 students (30%). Economically, the largest group of students, 155 (58.9%), are classified as low-income but not poor, with annual income between P10,957 and P21,914. Meanwhile, 66 students (25.1%) fall below the poverty line, earning less than P10,957 annually. Additionally, 37 students (14.1%) belong to the lower middle-income group with annual income ranging from P21,915 to P43,828, and a small fraction of 5 students (1.9%) are in the middle-income bracket. Regarding gadget availability, most students, 195 (74.1%), rely solely on mobile phones for their technological needs. A smaller group of 54 students (20.5%) have access to both a mobile phone and a laptop, indicating greater access to resources. A very small number have either only a laptop or desktop (3 students, 1.1%) or a combination of a mobile phone and tablet (11 students, 4.2%).

Table 1.2 shows the age distribution, sex, economic status, and gadget availability of the respondents from highest to lowest values. In terms of age, the 25-44 group holds the majority, with 20 respondents (66.7%) falling within this range. This is followed by the 45-54 age group, which includes 6 respondents (20%). A smaller proportion is aged 55-64, with 3 respondents (10%), and the least represented is the 18-24 age group, comprising only 1 respondent (3.33%). The sample is predominantly female, with 17 respondents (56.7%), while males make up 13 respondents (43.3%). For economic status, half of the respondents (15 or 50.0%) belong to the lower-middle-income bracket, with annual income between P21,915 and P43,828. The lower-income but not poor group, earning between P10,967 and P21,915, constitutes 11 respondents (36.7%). The middle-income group, earning between P43,829 and P76,669, is represented by 4 respondents (13.3%). Regarding gadget availability, a combination of mobile phones and laptops/desktops is the most common setup, used by 12 respondents (40.0%). Mobile phones alone are the next most common, with 9 respondents (30%). A combination of mobile

phones, tablets, and laptops/desktops is used by 3 respondents (10%), while 4 respondents (13.33%) rely solely on laptops/desktops. Tablets alone are the least common, owned by 2 respondents (6.7%).

Table 1.2. *The Demographic Profile of the Instructors*

Profile		Frequency Distribution	Percentage (%)
Age	18 – 24	1	3.30
	25 – 44	20	66.70
	45-54	6	20.00
	55-64	3	10.00
	Total	30	100.00
Sex	Female	17	56.70
	Male	13	43.30
	Total	30	100.00
Economic Status	Lower-income but not poor: P10,967.00 To P21,914.00	11	36.70
	Lower-middle: P21,915.00 to P43, 828.00	15	50.00
	Middle: P43, 829.00 to P76,669.00	4	13.30
	Total	30	100.00
Gadget Availability	Mobile Phone	9	30.00
	Laptop/Desktop	4	13.33
	Tablet	2	6.70
	Mobile Phone; Laptop/Desktop	12	40.00
	Mobile Phone; Tablet; Laptop/Desktop	3	10.00
	Total	30	100.00

Level of Perception of Students to Online Quizzes When Taken as a Whole and Grouped in terms of Selected Variables

Table 2 on the presents the level of perception of online quizzes in terms of reliability, usefulness, and feasibility.

Table 2 reveals that students rated the reliability of online quizzes with a mean score of 3.69, indicating a high level of trust in their dependability. The usefulness of the quizzes was rated even higher, with a mean score of 3.80, suggesting that students find them to be highly valuable for their learning. The feasibility of the quizzes received the highest mean score of 3.84, reflecting that students view them as highly practical and easy to use.

When considering the overall perception of online quizzes, the mean score was 3.78, indicating a generally high level of positive perception. Thus, students have a consistently high regard for online quizzes, appreciating their reliability, usefulness, and feasibility.

Table 2. *Perception of Students to Online Quizzes when taken as a whole and when grouped according to Reliability, Usefulness, and Feasibility*

Perception of Students to Online Quizzes	Population (n)	Mean	Verbal Interpretation
Reliability	263	3.69	High
Usefulness	263	3.80	High
Feasibility	263	3.84	High
As a whole	263	3.78	High

Legend: Very High= 4.21-5.00; High= 3.41-4.20; Moderate= 2.61-2.40; Low= 1.81-2.60; Very Low=1.00-1.80

The study carried out by Elmehdi & Ibrahem, (2019) supports this outcome that examines the results of a study done at the University of Sharjah (UOS) to determine how online tests affect student performance and to find out how students feel about online assessments compared to regular in-class exams. There were differing views among the students on online assessment; more than half of the participants said they preferred online tests to those that were conducted on paper.

Level of Perception of Instructors to OnlineQuizzes When Taken as a Whole and Grouped in terms of Selected Variables

Table 3 presents the level of perception of instructors to online quizzes when taken as a whole and when grouped in terms of reliability, usefulness, and feasibility.

Table 3. *Level of Perception of the Instructors to Online Quizzes when taken as a whole and grouped according to Reliability, Usefulness, and Feasibility*

Perception of Teachers to Online Quizzes	Population (n)	Mean	Verbal Interpretation
Reliability	30	3.33	High
Usefulness	30	3.86	High
Feasibility	30	3.89	High
As a whole	30	3.69	High

Legend: Very High= 4.21-5.00; High= 3.41-4.20; Moderate= 2.61-2.40; Low= 1.81-2.60; Very Low=1.00-1.80

Table 3 outlines the perceptions of instructors to online quizzes, as a whole and in terms of reliability, usefulness, and feasibility. The data indicates that teachers rated the reliability of online quizzes with a mean score of 3.33, reflecting a high level of confidence in their dependability. The usefulness of the quizzes was rated more positively, with a mean score of 3.86, demonstrating that teachers find them to be highly beneficial for their teaching. The feasibility of the quizzes received the highest mean score of 3.89, suggesting that teachers view them as highly practical and manageable. Overall, the mean score for the online quizzes is 3.69, indicating a generally high level of positive perception. The result implies that teachers have a strong appreciation for online quizzes, valuing their reliability, usefulness, and feasibility.

This study is supported by Basilaia & Kvavadze (2020) who posited that teachers view online quizzes as highly reliable for assessment purposes, as they allow for flexible implementation across different devices, promoting fair and consistent evaluation in a structured environment. Furthermore, the adaptability of these tools for various subjects and topics enhances their perceived feasibility, as they support differentiated learning experiences and help tailor teaching to meet diverse student needs (Sustainability Journal, 2021).

Difference in the Level of the Perception of Students to Online Quizzes as an Assessment Tool When Grouped in terms of Age

Table 4.1 presents the difference in the perception of students to online quizzes as an assessment tool in terms of age.

Table 4.1. *Difference in the Perception of the Students to Online Quizzes as an Assessment Tool in terms of Age*

Age	n	Mean rank	H	P-value	Decision @ 0.05
18 – 24 years old	226	133.29			
25 – 34 years old	36	123.90	0.60	0.740	Accept Ho
35-44 years old	1	131.50			
Total	263				

Table 4.1 shows no significant difference in the perception of online quizzes among different age groups, as indicated by computed (H) value of 0.60 and a p-value of 0.740. This lack of significance is reinforced by the similarity in mean ranks across age groups, suggesting a consistent perception of online quizzes regardless of age. The age group 18-24 has the highest mean rank at 133.29, while the age group 25-34 has the lowest mean rank at 123.90. These results imply that age does not significantly impact the perceptions of students to online quizzes as an assessment tool, reflecting a generally uniform attitude toward this evaluation method across various age demographics, thereby supporting the null hypothesis.

This is supported by the research of Domínguez-Figaredo et al. (2021) that highlights that the learning environment and the digital format of online quizzes are seen as fair and effective across age groups, due in part to the user-friendly nature of many online assessment platforms, which caters well to both younger and older students. Additionally, Hylton et al. (2016) found that factors like access to technology and the format of online assessments play a larger role in shaping student perceptions than age.

Difference in the Level of the Perception of Students to Online Quizzes as an Assessment Tool When Grouped in terms of Sex

Table 4.2 presents the difference in the perception of students to online quizzes as an assessment tool in terms of sex.

Table 4.2. *Difference in the Perception of the Students to Online Quizzes as an Assessment Tool in terms of Sex*

Sex	n	Mean rank	U	P-value	Decision @ 0.05
Female	184	130.80			
Male	79	134.80	7046.500	0.658	Accept Ho
Total	263				

Table 4.2 reveals no significant difference in the perception of online quizzes between male and female students, with a computed (U) value of 7046.500 and p-value of 0.658, thus the null hypothesis is accepted. This finding is reinforced by the mean ranks, which show minimal variation between females (130.80) and males (134.80). These closely aligned mean ranks suggest that sex does not have a significant impact on how students perceive online quizzes as an assessment tool.

In other words, both male and female students exhibit similar attitudes and views towards the use of online quizzes for assessment purposes, highlighting a consistency in perception across sexes.

This is consistent with the findings of the study of Mwalongo (2018) which examined how male and female students perceived the usage of asynchronous discussion boards and quizzes to improve critical thinking skills. The results showed that there was no significant difference in other critical thinking dispositions between male and female pupils.

Difference in the Level of the Perception of Students to Online Quizzes as an Assessment Tool When Grouped in terms of Economic Status

Table 4.3 presents the difference in the perception of students to online quizzes as an assessment tool in terms of economic status.

Table 4.3. *Difference in the Perception of the Students to Online Quizzes as an Assessment Tool in terms of Economic Status*

Economic Status	n	Mean Rank	H	P-value	Decision @ 0.05
Poor	66	138.42			
Low-income but not poor	155	133.44			
Lower middle	37	111.96	4.335	0.228	Accept Ho
Middle	5	150.9			
Total	263				

Table 4.3 data reveals variations in perceptions of students to online quizzes as an assessment tool across different economic statuses, organized by mean rank from highest to lowest. Students in the middle-income bracket (P43,829 to P76,669), although representing a small sample size of only 5 individuals, have the highest mean rank at 150.90, indicating the most positive perception of online quizzes among all groups. Following them are students classified as poor (Below P10,957), with a mean rank of 138.42 across 66 individuals, suggesting a relatively favorable view of online quizzes within this group as well.

Next, the low-income but not poor group (P10,957 to P21,914), consisting of 155 students, has a mean rank of 133.44, reflecting a moderate yet positive perception of online quizzes. Finally, students in the lower middle-income bracket (P21,915 to P43,828), with a mean rank of 111.96 across 37 individuals, exhibit the least positive perception of online quizzes. Overall, the mean ranks show slight differences in attitudes toward online quizzes based on economic status, with middle-income students showing the highest favorability and lower middle-income students the lowest.

The result shows that there is no significant difference in the perception of online quizzes across different economic statuses, with computed (H) value of 4.335 and a p-value of 0.228. This suggests that economic status does not exert a significant influence on how individuals perceive online quizzes as an assessment tool, thus the null hypothesis is being accepted. In essence, regardless of economic background, the perception of online quizzes remains relatively consistent among respondents, indicating a uniformity in attitudes towards this form of assessment across different economic strata.

This runs contrary to the study analysis of Patel (2023) which shows how the COVID-19 pandemic made economic disparities in online education worse. His research which focuses primarily on online tests, discovered that pupils from lower economic backgrounds suffered disproportionately from a lack of access to peaceful study areas and the essential technology.

Difference in the Level of Perception of the Students to Online Quizzes as an Assessment Tool When Grouped in terms of Gadget Availability

Table 4.4 presents the difference in the perception of students to online quizzes as an assessment tool in terms of gadget availability.

Table 4.4. *Difference in the Perception of the Students to Online Quizzes as an Assessment Tool in terms of Gadget Availability*

Gadget/Devices Availability	N	Mean Rank	H	P-value	Decision @ 0.05
Laptop/Desktop	3	96.83			
Mobile Phone	195	137.92			
Mobile Phone & Laptop/Desktop	54	112.82	6.695	0.082	Accept Ho
Mobile Phone & Laptop/Desktop/Tablet	11	130.86			
Total	263				

Table 4.4 presents the data on gadget and device availability shows variations in the perceptions of students to online quizzes as an assessment tool, arranged by mean rank from highest to lowest. Students with only a mobile phone—the largest group with 195 individuals—have the highest mean rank at 137.92, suggesting the most positive perception of online quizzes among all device categories. Following this, students with access to a mobile phone, laptop/desktop, and tablet have a mean rank of 130.86, though this group is relatively small with only 11 individuals. Next, students with access to both a mobile phone and laptop/desktop (54 individuals) have a mean rank of 112.82, indicating a moderate perception of online quizzes. Finally, students who only have access to a laptop or desktop (3 individuals) display the lowest mean rank at 96.83, suggesting the least positive perception of online quizzes among the groups. Overall, the data indicates that students primarily using mobile phones have the most favorable perception of online quizzes, while those limited to a laptop or desktop hold the least favorable view.

Overall, this shows no statistical difference in the perception of the students in terms of gadget availability. Result shows a computed (H) value of 6.695 with a p-value of 0.082 which is close to the conventional significance threshold of 0.05 but does not fall below it. This proximity suggests a trend towards significance in the perception of online quizzes based on the access of students to different gadgets, although statistical significance is not reached. However, it is important to note that these differences in perception based on gadget access are not statistically significant, indicating that while there may be a trend, it is not strong enough to be considered a definitive impact on perception, thus accepting the null hypothesis of the study.

This runs contradictory to the study of Singh et al. (2022). According to their study, students who had access to both laptops and

desktop computers as well as mobile phones tended to think more highly of the usefulness and efficacy of online tests as an assessment tool. Better academic results were achieved because of this access, which made online learning easier and more effective

Difference in the Level of Perception of the Instructors to Online Quizzes as an Assessment Tool When Grouped in terms of Age

Table 5.1 presents the difference in the perception of the instructors to online quizzes as an assessment tool in terms of age.

Table 5.1. *Difference in the Perception of the Instructors to Online Quizzes as an Assessment Tool in terms of Age*

Age	N	Mean Rank	H	P-value	Decision @ 0.05
18 – 24 years old	1	13.00			
25-44 years old	20	13.00			
45-54 years old	6	23.42	7.98	0.047	Reject Ho
55-64 years old	3	17.17			
Total	30				

Table 5.1 reveals that the age group of 45-54 exhibits the highest mean rank of 23.42, indicating a more favorable perception compared to other age groups. In contrast, the age groups 18-24 and 25-44 both have a mean rank of 13.00, while the 55-64 age group has a mean rank of 17.17. It also shows a significant difference in the perception of online quizzes among different age groups having a computed (H) value of 7.98 with p-value of 0.047, thus rejecting the null hypothesis of the study. These finding suggest that instructors aged 45-54 may view online quizzes as a more positive and effective assessment tool compared to their younger and older counterparts,

This is consistent with the research conducted by Nistor et al. (2020) which examined the perceptions and usage of digital learning tools by various age groups in higher education. According to their research, middle-aged people have the most positive opinions about these products since they are technologically savvy and have a good mix of experience. Younger age groups, on the other hand, have moderate views that are influenced by their level of technological knowledge.

Difference in the Level of Perception of Instructors to Online Quizzes as an Assessment Tool When Grouped in terms of Sex

Table 5.2 presents the significant difference in the perception of the instructors to online quizzes as an assessment tool in terms of sex.

Table 5.2. *Difference in the Perception of the Instructors to Online quizzes as an Assessment Tool in terms of Sex*

Sex	n	Mean rank	U	P-value	Decision @ 0.05
Female	17	14.91			
Male	13	16.27	100.50	0.647	Accept Ho
Total	30				

Table 5.2 data on perceptions of students to online quizzes based on sex shows slight differences in mean ranks. Male students (13 individuals) have a slightly higher mean rank of 16.27, indicating a marginally more favorable perception of online quizzes as an assessment tool compared to their female counterparts. Female students (17 individuals) have a mean rank of 14.91, suggesting a slightly less favorable view.

The results show no significant difference with computed (U) value of 100.50 and p-value of 0.647 among male and female teachers. This finding suggests that gender does not have a substantial impact on how teachers perceive online quizzes, accepting the hypothesis of the study. The mean ranks for females (14.91) and males (16.27) were relatively close, further supporting the conclusion that gender does not significantly influence teachers' views toward online quizzes.

Difference in the Level of Perception of Instructors to Online Quizzes as an Assessment Tool When Grouped in terms of Economic Status

Table 5.3 presents the difference in the perception of the instructors to online quizzes as an assessment tool in terms of economic status.

Table 5.3. *Difference in the Perception of the Instructors to Online Quizzes as an Assessment Tool in terms of Economic Status*

Economic Status	n	Mean Rank	H	P-value	Decision @ 0.05
Low-income but not poor	11	11.64			
Lower middle	15	17.33	4.19	0.123	Accept Ho
Middle	4	19.25			
Total	30				

Table 5.3 indicates no significant difference in perceptions of online quizzes across various economic statuses with a computed (H) value of 4.19 and p-value of 0.123. Although mean ranks vary among groups, the middle-income group (P43,828 to P76,669) shows

the highest mean rank at 19.25, followed by the lower middle-income group (P21,914 to P43,828) with a mean rank of 17.33. The low-income group (P10,957 to P21,914) has the lowest mean rank at 11.64. Despite these observed differences in mean ranks, they are not statistically significant, suggesting that economic status does not have a substantial effect on individuals' perceptions of online quizzes. Thus, the null hypothesis is accepted, indicating a consistent perception of online quizzes across economic statuses.

This is consistent with the study done by Nistor et al. (2020) which looked at how different age groups in higher education perceived and used digital learning resources. Their research indicates that because they are well-versed in technology and have a diverse range of experiences, middle-aged consumers have the most favorable evaluations regarding these items. Conversely, younger age groups hold moderate opinions that are shaped by their familiarity with technology.

Difference in the Level of the Perception of Instructors to Online Quizzes as an Assessment Tool When Grouped in terms of Gadget Availability

Table 5.4 presents the difference in the perception of the teachers to online quizzes as an assessment tool in terms of gadget availability.

Table 5.4. *Difference in the Perception of the Instructors to Online Quizzes as an Assessment Tool in terms of Gadget Availability*

Gadget/Devices Availability	N	Mean Rank	H	P-value	Decision @ 0.05
Laptop/Desktop	4	19.25			
Mobile Phone	9	12.72			
Mobile Phone & Laptop/Desktop	12	16.33	2.40	0.663	Accept Ho
Mobile Phone & Laptop/Desktop/Tablet	3	17.17			
Tablet	2	13.00			

Table 5.4 indicates that there is no significant difference in the perception of online quizzes based on gadget availability having a computed (H) value of 2.40 with p-value of 0.663. This finding suggests that the type of gadget teachers have access to, whether it's only a laptop/desktop or only a mobile phone, does not significantly impact their perception of online quizzes. The mean ranks do show some variation, with teachers having only a laptop/desktop scoring the highest mean rank (19.25), while those with only a mobile phone scored the lowest mean rank (12.72). However, despite these differences in mean ranks, they were not significant enough to conclude that gadget availability plays a significant role in shaping the perceptions of teachers to online quizzes, this results to accepting the hypothesis made.

This contrasts to the findings of Brown and Green (2018) study which showed that having access to a variety of gadgets—including PCs, tablets, and smartphones—improves students' capacity to participate in online tests successfully by offering convenience and flexibility. According to this study, students who had more access to a range of devices performed better and showed greater levels of interest in online assessments than students who had less access to devices.

Relationship Between the Level of the Perception of Students to Online Quizzes and Age

Table 6.1 presents the relationship between the level of perception of students to online quizzes as an assessment tool and the age.

Table 6.1. *Relationship Between the Level of Perception of Students to Online quizzes and Age*

Age	Level of the Students perception of the online quizzes as an assessment tool					
	Very High	High	Moderate	Low	Very Low	Total
18-24 years old	46	130	44	4	2	226
25-34 years old	8	23	3	1	1	36
35-44 years old	0	1	0	0	0	1
Total	54	154	47	5	3	263

Computed Value (G):-0.12
P- Value:0.421
Decision:Accept Ho
Interpretation: Not Significant at 5% level of significance

Table 6.1 shows the distribution of perceptions of students to online quizzes across different age groups. The majority of students in the 18-24 age group rated their perception as High (130 out of 263). The computed (G) value of -0.122 indicates a weak negative association between age and perception, but this association is not statistically significant with a p-value 0.421. These results suggest that age does not significantly impact the perception of students to online quizzes as an assessment tool. This means that there is no significant relationship between age and the students' perception of online quizzes, thus the hypothesis is being accepted.

The findings of the study run counter to those of Brown and Taylor (2020) who examined how well various age groups adapted to online learning resources like quizzes. Their findings showed that older students experienced a steeper learning curve, whereas younger pupils adjusted to online quizzes more quickly and frequently did better. The study underlined the necessity of providing older students with more assistance and instruction in order to close the digital gap and enhance their performance on online tests.

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Relationship Between the Level of the Perception of Students to Online Quizzes and Sex

Table 6.2 presents the relationship between the level of perception of students to online quizzes as an assessment tool and the sex.

Table 6.2. *Relationship Between the Level of the Perception of the Students to Online Quizzes and Sex*

Sex	Level of the Students perception of the online quizzes as an assessment tool					
	Very High	*High*	*Moderate*	*Low*	*Very Low*	*Total*
Female	35	116	26	4	3	184
Male	19	38	21	1	0	79
Total	54	154	47	5	3	263

Computed Value (x^2): 9.11
P- Value: 0.058
Decision: Accept Ho
Interpretation: Not Significant at 5% level of significance

Table 6.2 shows that female students generally have a higher perception of online quizzes compared to their male counterparts. Among female students, 116 rated their perception as high, 35 as very high, 26 as moderate, 4 as low, and 3 as very low. In contrast, among male students, 38 rated their perception as high, 19 as very high, 21 as moderate, 1 as low, and none as very low. The Pearson Chi-Square value of 9.111 with a p-value of 0.058 is marginally above the typical significance level of 0.05 suggesting a weak relationship between sex and students' perception of online quizzes. This suggests that sex does not have a significant relationship with the student's perception of online quizzes, thus accepting the hypothesis formulated. The findings suggest that sex does not significantly influence students' perceptions of online quizzes as an assessment tool. Both male and female students generally hold similar, positive perceptions towards this mode of assessment, which implies that online quizzes are well-received across genders.

This result is in accordance with a study by Schmid and Petko (2019) which discovered that although sex may influence students' opinions on online tests, other elements like the caliber of the technology and the classroom setting have a greater impact.

Relationship Between the Level of the Perception of Students to Online Quizzes and Economic Status

Table 6.3 presents the relationship between the level of perception of students to online quizzes as an assessment tool and the economic status.

Table 6.3. *Relationship Between the Level of the Perception of Students to Online Quizzes and Economic Status*

Economic Status	Level of the Students perception of the online quizzes as an assessment tool					
	Very High	*High*	*Moderate*	*Low*	*Very Low*	*Total*
Poor	9	44	10	1	2	66
Low-income but not poor	31	90	30	3	1	155
Lower middle	13	18	5	1	0	37
Middle	1	2	2	0	0	5
Total	54	154	47	5	3	263

Computed Value (G): -0.14
P- Value: 0.147
Decision: Accept Ho
Interpretation: Not Significant at 5% level of significance

Table 6.3 shows that students from different economic backgrounds also showed varied perceptions of online quizzes. Students classified as poor (below P10,957) had 44 rating their perception was high, 9 as very high, 10 as moderate, 1 as low, and 2 as very low. Those classified as low-income but not poor (P10,957 to P21,914) had 90 rating their perception as high, 31 as very high, 30 as moderate, 3 as low, and 1 as very low. Among the lower middle class (P21,915 to P43,828), 18 students rated their perception as high, 13 as very high, 5 as moderate, 1 as low, and none as very low. In the middle class (P43,829 to P76,669), 2 students rated their perception as high, 1 as very high, 2 as moderate, and none as low or very low. The computed Gamma value of -0.14 suggests a weak negative relationship between economic status and perception, but the approximate significance value of 0.147 indicates that this relationship is not statistically significant. Therefore, economic status does not have a significant impact on students' perceptions of online quizzes, accepting the hypothesis formulated.

This is corroborated by research by Almusharraf and Bailey (2021) who investigated a number of variables affecting how engaged students were with and how they perceived online learning resources, such as quizzes, during the COVID-19 epidemic. Their research revealed that students' opinions on the usefulness and efficacy of online quizzes are not much impacted by their economic status. Pupils with varying economic statuses often had similar opinions about the usefulness of online tests for education and evaluation. This suggests that other elements—like the caliber of the online learning environment and the students' interaction with the subject matter—have a greater influence on how the students perceive the world.

Relationship Between the Level of the Perception of Students to Online Quizzes and Gadget Availability

Table 6.4 presents the relationship between the level of perception of students to online quizzes as an assessment tool and the gadget

availability.

Table 6.4. *Relationship Between the Level of the Perception of Students to Online Quizzes and Gadget Availability*

Gadget/Devices Availability	Level of the Students perception of the online quizzes as an assessment tool					
	Very High	High	Moderate	Low	Very Low	Total
Laptop/Desktop	1	2	0	0	0	3
Mobile Phone	34	115	40	4	2	195
Mobile Phone & Laptop/Desktop	17	30	5	1	1	54
Mobile Phone & Tablet	2	7	2	0	0	11
Total	54	154	47	5	3	263

Computed Value (x^2): 8.76
P- Value: 0.724
Decision: Accept Ho
Interpretation: Not Significant at 5% level of significance

Table 6.4 shows the analysis of gadget availability which indicates that the majority of students use mobile phones or a combination of devices. Specifically, among students using only laptops/desktops, 2 rated their perception as high, and 1 as very high. For those using only mobile phones, 115 rated their perception as high, 34 as very high, 40 as moderate, 4 as low, and 2 as very low. Students using both mobile phones and laptops/desktops had 30 rating their perception as high, 17 as very high, 5 as moderate, 1 as low, and 1 as very low. Among those using mobile phones and tablets, 7 rated their perception as high, 2 as very high, 2 as moderate, and none as low or very low. The Chi-Square value of 8.76 with a p-value of 0.724, indicate no significant relationship between gadget availability and students' perception of online quizzes, thus the null hypothesis is accepted.

This conclusion is supported by Hew et al. (2020), who carried out an extensive evaluation of educational technology research, including studies on students' impressions of online learning aids like quizzes, which lend credence to this conclusion. Their findings show that the opinions of students about the usefulness and efficacy of online quizzes for learning and assessment are largely consistent, irrespective of the device utilized (e.g., computers, tablets, or mobile phones). This shows that rather than the particular device they utilize, things like quiz design and pedagogical approach have a greater impact on how students perceive online exams.

Relationship Between the Level of Perception of the Instructors to Online Quizzes and Age

Table 7.1 presents the relationship between the level of the perception of instructors to online quizzes as an assessment tool and the age.

Table 7.1. *Relationship Between the Level of the Perception of Instructors to Online Quizzes and Age*

Age	Level of the perception of the instructors to online quizzes as an assessment tool			
	Very High	High	Moderate	Total
18-24 years old	0	1	0	1
25-44 years old	5	11	4	20
45-54 years old	0	1	5	6
55-64 years old	0	2	1	3
Total	5	15	10	30

Computed Value (G): 0.64
P- Value: 0.003
Decision: Reject Ho
Interpretation: Significant at 5% level of significance

Table 7.1 shows that instructors in the 25-44 age range exhibit the highest perception of online quizzes as an assessment tool, followed by decreasing enthusiasm in the 45-54 and 55-64 age groups, with minimal data from the 18-24 group. The Gamma value of 0.64 indicates a moderate positive association between age and perception, which is statistically significant (p = 0.003). This finding suggests that age significantly influences the perception of instructors to online quizzes, thus rejecting the hypothesis made. This explains that teachers with older age groups, particularly those aged 25-44, tending to have a more favorable view of online quizzes.

This result is supported by Wong (2020) who looked at how different demographic parameters, such as age, affected how instructors and students felt about online learning resources. According to Wong's research, teachers view online assessments as more beneficial and efficient than their younger colleagues. This age group appreciates online the structured nature of online quizzes and instantaneous feedback since they fit well with their teaching practices and professional experiences.

Relationship Between the Level of Perception of the Instructors to Online Quizzes and Sex

Table 7.2 presents the relationship between the level of the perception of instructors to online quizzes as an assessment tool and the sex.

Table 7.2 reveals the distribution of perceptions of instructors to the online quizzes by sex. The majority of both female (9 out of 17) and male (6 out of 13) instructors rated their perception as high. The Chi-Square test indicates no statistically significant association

between sex and perception (p = 0.873). This finding suggests that sex does not significantly impact the perceptions of instructors to online quizzes as an assessment tool, indicating that both male and female teachers generally hold similar views on the effectiveness and utility of online quizzes, thus accepting the hypothesis of the study.

Table 7.2. *Relationship Between the Level of the Perception of Instructors to Online Quizzes and Sex*

Sex	Level of the perception of the instructors to online quizzes as an assessment tool			
	Very High	High	Moderate	Total
Female	3	9	5	17
Male	2	6	5	13
Total	5	15	10	30

Computed Value (x²): 0.27
P- Value: 0.873
Decision: Accept Ho
Interpretation: Not Significant at 5% level of significance

This result confirms the findings of Chou and Chang (2021) who looked into how attitudes toward e-learning were influenced by gender and the use of digital devices. According to their findings, instructors' opinions regarding the usefulness and efficacy of online tests are not much influenced by their gender. Regarding the use of online tests as a tool for evaluation, male and female educators often have similar opinions, arguing that other elements—like prior experience with digital devices and instructional strategies—have a greater impact on forming these views.

Relationship Between the Level of Perception of the Instructors to Online Quizzes and Economic Status

Table 7.3 presents the relationship between the level of the perception of instructors to online quizzes as an assessment tool and the economic status.

Table 7.3. *Relationship Between the Level of the Perception of Instructors to Online Quizzes and Economic Status*

Economic Status	Level of the perceptions of instructors to the online quizzes as an assessment tool			
	Very High	High	Moderate	Total
Low-income but not poor	4	5	2	11
Lower middle	1	8	6	15
Middle	0	2	2	4
Total	5	15	10	30

Computed Value (G): 0.544
P- Value: 0.025
Decision: Reject Ho
Interpretation: Significant at 5% level of significance

Table 7.3 presents that instructors from the low-income but not poor group display the most favorable perception of online quizzes, followed by the lower middle-income group with more mixed views, while the middle-income group reflects the most moderate perception overall. The Gamma value of 0.544 indicates a moderate positive association between economic status and perception, which is statistically significant (p = 0.025). These findings suggest that economic status significantly impacts the perceptions of instructors to online quizzes. This means that there is a significant relationship between economic status and the perception of instructors to online quizzes, rejecting the hypothesis formulated, with those in the lower middle-income group tending to hold a higher perception of the effectiveness and utility of online quizzes as an assessment tool.

This is supported by Martin and Bolliger (2019) who discovered that educators and learners from lower-middle-class backgrounds frequently place a higher importance on the efficacy and usefulness of online quizzes. This is probably because these instruments offer accessible and reasonably priced methods of evaluation, which are especially helpful in settings with limited resources. According to their research, people see online tests as useful teaching resources that close the gaps created by economic inequalities.

Relationship Between the Level of Perception of the Instructors to Online Quizzes and Gadget Availability

Table 7.4 presents the relationship between the level of the perception of teachers to online quizzes as an assessment tool and gadget availability.

Table 7.4 reveals the distribution of the perceptions of instructors to online quizzes by gadget availability. The majority of instructors with access to both a mobile phone and a laptop/desktop rated their perception as high. The Chi-square test value of 0.54 indicates a moderate positive association between gadget availability and perception, which is statistically significant (p = 0.025). This means that there is a significant relationship between gadget availability and the perception of instructors to online quizzes, which means that the hypothesis is being rejected. This finding suggests that the availability of multiple gadgets significantly influences the perceptions of teachers to online quizzes, with those having access to both a mobile phone and a laptop/desktop tending to hold a higher perception of the effectiveness and utility of online quizzes as an assessment tool.

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Table 7.4. *Relationship Between the Level of Perception of the Instructors to Online Quizzes and Gadget Availability*

Gadget/Devices Availability	Level of the perception of the instructors to online quizzes as an assessment tool			
	Very High	*High*	*Moderate*	*Total*
Laptop/Desktop	0	2	2	4
Mobile Phone	4	2	3	9
Mobile Phone & Laptop/Desktop	1	7	4	12
Mobile Phone, Laptop/Desktop, Tablet	0	2	1	3
Tablet	0	2	0	2
Total	5	15	10	30

Computed Value (x^2): 0.54
P- Value: 0.025
Decision: Reject Ho
Interpretation: Significant at 5% level of significance

The outcome is consistent with the research of González-Gómez et al. (2020) which emphasizes that teachers who have access to a laptop or desktop computer in addition to a mobile device typically have a more positive opinion of the usefulness and efficacy of online quizzes as an evaluation tool. Online quizzes are more useful, effective, and advantageous for student learning and assessment, according to these teachers. Their comfort level and appreciation of technology-enhanced assessments are increased when they can utilize many gadgets, indicating the substantial influence of gadget availability on their perspectives.

Conclusions

The study revealed distinct profiles among the respondents, with a generational difference between students and instructors. The majority of students were within the 18-24 age range, making up 85.9% of the sample, while instructors were predominantly in the 25-44 age range, constituting 66.7% of the instructor group. In terms of gender, females represented 70% of the students, whereas the gender distribution among instructors was more balanced. Regarding economic status, most students fell into the low-income category (58.9%), while instructors displayed a broader economic diversity. Gadget availability also varied, with mobile phones being the primary device among both students (74.1%) and instructors (40.0% owning both mobile phones and laptops/desktops). When examining the perceptions of students towards online quizzes as an assessment tool for 21st-century learning, the students expressed a positive outlook. They rated the reliability of online quizzes at 3.69, usefulness at 3.80, and feasibility at 3.84, resulting in an overall mean score of 3.78, indicating a high level of satisfaction. Similarly, instructors shared a positive perception, with reliability rated at 3.33, usefulness at 3.86, and feasibility at 3.89, leading to an overall mean score of 3.69. However, the study found no statistically significant differences in students' perceptions of online quizzes across various age groups (p = 0.740), sex (p = 0.658), economic status (p = 0.228), or gadget availability (p = 0.082), suggesting a generally uniform positive attitude among students, regardless of demographic factors. On the other hand, instructors' perceptions of online quizzes did show significant differences based on age groups (p = 0.047), with instructors aged 45-54 exhibiting a more positive perception compared to other age groups. No significant differences were found among instructors based on sex (p = 0.647), economic status (p = 0.123), or gadget availability (p = 0.663). Additionally, the analysis revealed no significant relationship between students' perceptions of online quizzes and their demographic profiles, including age, sex, economic status, and gadget availability. This suggests that these demographic factors did not significantly influence how students perceived online quizzes. In contrast, a significant relationship was found between instructors' perceptions of online quizzes and their age groups (p = 0.003) and economic status (p = 0.025). Specifically, age played a role in shaping instructors' views, with those in the 25-44 age group expressing a more positive outlook, while lower-middle-income instructors tended to rate the quizzes more favorably. However, no significant relationship was observed between instructors' perceptions and their sex or gadget availability.

Higher educational institutions should implement digital literacy training, especially for students from low-income backgrounds, to bridge generational and economic gaps in accessing online quizzes and other digital tools. Schools should continue promoting online quizzes as effective assessment tools, enhancing engagement through interactive elements, feedback, and gamification. To boost instructors' confidence in quiz reliability, schools could offer training on quiz design and integration within learning management systems (LMS). Expanding the use of online quizzes across subjects and academic levels would help normalize them as standard assessment tools, ensuring consistency for all students. Given that older instructors generally have a more positive view of online quizzes, peer mentoring programs could allow experienced educators to share best practices with younger teachers, fostering a broader positive perception. Students should leverage available resources to become proficient in mobile-friendly quiz platforms, seek assistance when needed, and request institutional support for gadgets or internet access. For instructors, targeted professional development could address the unique needs of younger and lower-middle-income educators, enhancing their use of online quizzes. Future research should focus on the long-term impact of online quizzes on learning outcomes and teacher effectiveness, exploring how they perform in various educational settings and assessing efforts to bridge the technological gap for low-income groups.

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