

Awareness and Perceived Adoption of Computer-Based Testing and Google Forms for Study Habits among Islamic Studies Students in Colleges of Education in North-West Nigeria

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Abstract

The study examined students' awareness of and perceived adoption of Computer-Based Testing (CBT) and Google Forms, and their perceptions of the usefulness of these tools in supporting study habits, among NCE II Islamic Studies students in Colleges of Education in North-West Nigeria. A descriptive survey design was used. The researcher sampled 291 of the 1,175 NCE II Islamic Studies students using purposive sampling, selecting intact classes from five Colleges of Education. In this study, "awareness" refers to students' reported knowledge and familiarity with the tools, while "adoption" refers to students' perception that their lecturers use the tools in teaching and assessment. Data were collected with the researcher-developed Digital Evaluation Tools for Study Habits Questionnaire (DETS HQ), a 20-item instrument on a four-point scale with an internal consistency coefficient of 0.82. Means and standard deviations were analysed against a criterion mean of 2.50. Students reported awareness of CBT and Google Forms and of how they support study habits (cumulative $M = 2.80$, $SD = 1.13$), and reported that the tools have been adopted by their lecturers and that this supports their study habits (cumulative $M = 2.95$, $SD = 1.11$), both above the criterion mean; because all item means fell between 2.55 and 3.11, the results indicate moderate rather than strong agreement. The study was descriptive and based on self-reported perceptions, so the results reflect students' perceptions and do not show statistical relationships or causal effects. The researchers recommend strengthened orientation and awareness programmes on CBT and Google Forms at the Colleges of Education, and more frequent lecturer use of the tools to support students' study habits.

Keywords: Computer-Based Testing, Google Forms, Study Habits, Technology Acceptance Model, Teacher Education, Nigeria.

Introduction

Digital technologies have become increasingly integral to teaching, learning, and assessment in education (Nguyen et al., 2017; Rienties & Toetenel, 2016). Digital assessment is one element of this transformation, involving the use of electronic technologies for assessment, student response, feedback, and tracking of learning. The flexibility of assessment, instant feedback, and repeated practice that Computer-Based Testing (CBT), online quizzes, and web-based assessment platforms such as Google Forms

provide are pertinent. Studies conducted in Nigeria have revealed that students are increasingly exposed to and accepting of computer-based assessment: Okocha (2022) documented that the majority of undergraduate students in Kwara State preferred CBT to paper-based assessment, while Oyetola et al. (2022) found a generally positive perception of CBT among students in a Nigerian university of technology. Likewise, Ugboaja et al. (2021) found that Google Forms has the potential to enhance continuous assessment by improving time and cost efficiency, providing detailed results, and reducing lecturers' workload. These characteristics can also affect the organization and regulation of students' learning activities.

Digital evaluation is especially pertinent to teacher education, as Colleges of Education train prospective teachers for an increasingly technology-infused educational landscape. Digital tools for assessment can create opportunities for NCE students to practise test-taking, to self-assess, to revise, and to access additional learning resources when studying Islamic Studies. Islamic Studies was selected as a representative NCE programme for this inquiry; the tools examined are not discipline-specific, and the study is accordingly framed as a teacher-education study rather than a discipline-specific one. The evidence from Nigeria shows that students' digital experiences are relevant to their involvement in e-assessment. For example, Ibrahim et al. (2023) linked the digital behaviours and experiences of undergraduate students to their attitudes towards digital assessment practices. Likewise, Agbo and Ugbe (2022) found that students' attitudes towards CBT differed significantly across selected demographic characteristics, suggesting that students' experiences of digital assessment may vary across learner groups. If students are already familiar with digital assessment platforms, they may feel more at ease engaging in technology-supported learning activities and planning their academic work. But the value of these tools partly depends on students' familiarity with them and their opportunity to use them.

Students' study habits are the consistent behaviours by which students arrange, plan, and organize their studies (Credé & Kuncel, 2008; Zimmerman, 2002). These behaviours can involve scheduling study time, managing time, reflecting on learning, taking notes, working through questions, preparing for examinations, and finding other learning resources. Good study habits matter because when students plan their learning systematically, they are better positioned to engage in regular study (Robbins et al., 2004); conversely, poorly organized study activity can lead to irregular study habits, procrastination, and insufficient preparation for tests.

Digital assessments are becoming more prevalent and can facilitate several aspects of good study practice. For instance, CBT and Google Forms can be used to allow for practice, self-testing, and access to assessment feedback. Students generally liked computer-based examination rather than conventional paper-and-pencil examination (Kareem & Salawu, 2021), and the usefulness of Google Forms as an alternative to creating paper-and-pencil examinations for continuous assessment was identified (Ugboaja et al., 2021). Students can also use digital assessment activities to determine what they found difficult and focus their

revision. Digital assessment can therefore go beyond the assessment of learning outcomes to provide students with opportunities to manage and plan their learning.

A theory that provides a valuable theoretical background for students' acceptance and use of technology is the Technology Acceptance Model (TAM). Davis (1989) suggested that perceived usefulness (PU) and perceived ease of use (PEOU) are key factors affecting users' acceptance of information technology. Venkatesh and Davis (2000) extended the technology acceptance perspective by adding other factors related to acceptance and use. In the present study, students' awareness of CBT and Google Forms is treated as a precursor condition for adoption. TAM is used here to frame awareness and perceived adoption; it is not used to explain study habits as such, and the questionnaire reflects students' perceptions of how the tools help their study habits.

Use of digital technologies for assessment is emerging in the context of the Colleges of Education in North-West Nigeria, where challenges include lack of ICT facilities, poor internet connectivity, unreliable electricity, and varying digital competence (Ibrahim & Iliyasu, 2021; Oyetola et al., 2022). Direct evidence from North-West Colleges of Education specifically is limited; the constraints described above are documented mainly in Nigerian university settings, so the present study treats them as contextual conditions to be examined rather than established facts for this zone. The study by Ugboaja et al. (2021) revealed that internet dependence and technical issues limited Google Forms use for continuous assessment, and studies of CBT in Nigeria also showed that examination facilities matter (Oyetola et al., 2022). These contextual conditions can affect the digital evaluation tools to which students are exposed and how those tools are utilized. It is therefore important to analyse students' awareness and perceived adoption of CBT and Google Forms in relation to study habits among NCE Islamic Studies students.

While digital technologies are increasingly used in education, empirical studies with teacher-education students remain limited, particularly regarding digital evaluation tools and study habits in specific teacher-education contexts. The literature has focused on assessment efficiency, assessment perception, digital experiences, student engagement, and acceptance of digital technology, with little or no attention to the daily study habits of Islamic Studies students in Colleges of Education in North-West Nigeria. The gap, the population it affects, and its consequences are stated explicitly in the Statement of the Problem that follows.

Statement of the Problem

Colleges of Education in North-West Nigeria are expected to prepare prospective teachers for a technology-infused profession, yet there is little documented evidence on how widely digital evaluation tools such as CBT and Google Forms are known to, and perceived to be used by, NCE students, or on how these tools relate to students' daily study habits. Existing Nigerian studies have examined students' perceptions of CBT, their digital experiences, and the operational benefits and constraints of e-assessment, but they have not examined students' awareness and perceived adoption of CBT and Google Forms as support for study

habits in Colleges of Education. The population affected comprises NCE students, including Islamic Studies students, whose study routines may be shaped by the assessment tools their lecturers use. If this gap remains unaddressed, teacher-education programmes may integrate digital assessment without evidence of students' familiarity with the tools or of how lecturers' use of the tools interacts with students' study behaviour, leaving orientation, infrastructure, and pedagogical decisions uninformed. The problem addressed by this study is therefore the lack of empirical evidence on NCE Islamic Studies students' awareness and perceived adoption of CBT and Google Forms as tools that support study habits in Colleges of Education in North-West Nigeria.

Research Objectives

The objectives of the study were to:

- i. determine the extent of students' awareness of Computer-Based Testing (CBT) and Google Forms as tools that support study habits in Islamic Studies in Colleges of Education in North-West Nigeria; and
- ii. determine the extent of students' perceived adoption of Computer-Based Testing (CBT) and Google Forms that is, their perception that lecturers use these tools as tools that support study habits in Islamic Studies in Colleges of Education in North-West Nigeria.

For clarity, "awareness" in this study means students' reported knowledge and familiarity with CBT and Google Forms, while "adoption" means students' perception that their lecturers use these tools in teaching and assessment, because Items 11–20 of the instrument are worded around lecturers' use.

Research Questions

- i. To what extent are students aware of Computer-Based Testing (CBT) and Google Forms as tools that support study habits in Islamic Studies in Colleges of Education in North-West Nigeria?
- ii. To what extent do students perceive Computer-Based Testing (CBT) and Google Forms as having been adopted by their lecturers as tools that support study habits in Islamic Studies in Colleges of Education in North-West Nigeria?

Literature Review

Digital Evaluation Tools in Nigerian Higher Education

Digital evaluation tools are technologies that facilitate the administration, collection, scoring, and feedback of students' learning activities, and they are increasingly relevant in Nigerian education. Ibrahim et al. (2023) revealed that the digital devices and digital spaces students had access to shaped their digital behaviours, which in turn affected their attitudes towards e-assessment at a Nigerian university in Jigawa State. Likewise, Okocha (2022), in a study of undergraduate students in Kwara State universities, reported that the majority preferred computer-based testing (CBT) over paper-based testing, although readiness for

CBT varied across courses of study and computer anxiety affected performance in a few courses. Across these studies, a consistent pattern emerges: students' prior digital access and experience shape their attitudes towards digital assessment, which implies that awareness and familiarity are preconditions for effective use.

Computer-Based Testing

Computer-Based Testing (CBT) is the administration of tests and assessment exercises on a computer or other digital device. CBT involves electronic interaction with test items and may offer automated scoring and relatively timely feedback, which conventional paper-and-pencil assessment cannot easily provide. Across Nigerian tertiary institutions, studies report increasing students' exposure to and acceptance of CBT. Oyetola et al. (2022), in a study of 658 students at Ladoke Akintola University of Technology, reported generally positive ratings of CBT, with 98.8% suggesting that examination centres need improvement. Also, Kareem and Salawu (2021) conducted a CBT pilot with 100 students of Lagos State Polytechnic and found that most students felt CBT was better than paper-and-pencil examinations and could help reduce examination irregularities. Okocha (2022) similarly determined that the majority of undergraduate students in Kwara State preferred CBT over paper-based testing, although willingness to use CBT differed among courses. In another Nigerian study, Agbo and Ugbe (2022), with 426 prospective university students at the University of Calabar, found that gender and age significantly influenced attitudes towards technology-mediated assessment, which means that student characteristics shape the assessment experience. In a recent study, Sulyman (2025) compared the two modes of measurement using Item Response Theory and found CBT to be more accurate in measurement. These results indicate that CBT is now an important aspect of higher education assessment in Nigeria and that its impact depends on students' readiness and the availability of the necessary technological facilities. CBT can offer Islamic Studies students opportunities for regular practice using objective questions, revision, and self-assessment; frequent electronically delivered assessment can prompt students to revisit course material, recognize areas of difficulty, and prepare more regularly for later tests. However, the success of CBT depends partly on awareness of the technology, readiness to use it for academic work, and the availability of reliable facilities and technical support.

Google Forms

Google Forms is a web-based application that allows users to create questionnaires, quizzes, tests, and other electronic assessment forms. It is easily accessible and user-friendly, making it suitable for administering learning content without extensive assessment infrastructure. There are indications of its growing use in educational assessment in Nigeria. Ugboaja et al. (2021), with 89 Nigerian undergraduates, revealed that Google Forms can render continuous assessment more time- and cost-efficient, generate detailed results, and lighten lecturers' workload, but its use depends on internet access and is prone to technical problems. Likewise, Danjuma and Douglas (2025), in their

study of lecturers' use of Google Forms for assessment at Taraba State University, indicated that the application was used for students' assessment and could be used for large classes, but insufficient ICT knowledge, limited access to devices, and other institutional challenges hindered its use. Lecturers can therefore use Google Forms to ask questions, gather students' responses, and organize them electronically, and students can use these activities for practice, revision, and self-evaluation. Research on the testing effect has found that, after reading material, students retain more after taking tests than after simply rereading it (Roediger & Karpicke, 2006). Lecturers' consistent use of Google Forms for practice, revision, and feedback means students regularly complete low-stakes exercises, which may support the development of students' study routines.

Students' Study Habits

Study habits are the routines and actions that students use in preparing for and doing academic work. These include activities such as revision, setting study time, reading course material, doing homework, practising questions, and studying for examinations (Credé & Kuncel, 2008). Students' academic work outside classroom instruction is an essential part of their learning experiences, and effective preparation for assessment depends on effective study habits. Macan et al. (1990) found that college students' time-management behaviours were related to academic performance and stress, and Robbins et al. (2004), in a meta-analysis of psychological determinants of academic performance, identified study habits and skills as consistent correlates of university grades. Students' habits may be shaped by the digital learning and assessment environments, which offer additional opportunities to practise and review course content. The behaviours captured by study habits — planning, revision, and self-testing of one's learning — resemble those Zimmerman (2002) used to describe self-regulated learners. In this study, study habits are discussed in relation to students' perceptions of how digital assessment activities such as CBT and Google Forms support their organization of and participation in academic preparation.

Digital Evaluation Tools and Students' Study Habits

Digital evaluation tools offer opportunities for repeated practice, revision, feedback, and self-assessment that can strengthen students' study habits. Students who are aware of digital assessment tools are more likely to encounter them in their academic preparation, and frequent exposure may create additional chances to practise course content. Davis's (1989) Technology Acceptance Model (TAM) is a useful lens for explaining students' acceptance and use of technology, suggesting that perceived usefulness and perceived ease of use shape attitudes and behaviour towards a technology (Venkatesh & Davis, 2000). Students' awareness of CBT and Google Forms may therefore be an important precursor of their use in the present study. Yet digital assessment systems do not necessarily lead to better study habits; their value depends on students' awareness, access, and readiness to use them, and on lecturers' integration of the tools into teaching and assessment. The

Nigerian studies reviewed above concentrated on students' perceptions, digital experiences, acceptance of digital assessment tools, and the operational benefits or constraints of e-assessment; comparatively little has been related to the awareness and perceived adoption of CBT and Google Forms specifically as supports for students' study habits. This is the gap the present study seeks to fill, and it directly motivates the two research questions stated earlier.

Theoretical Framework

The study is framed by the Technology Acceptance Model (TAM; Davis, 1989), which proposes that perceived usefulness (PU), the degree to which a person believes a technology enhances performance and perceived ease of use (PEOU), the degree to which using the technology is free of effort jointly shape attitudes towards, and subsequent use of, an information system. Later, Venkatesh and Davis (2000) added various social and cognitive factors. Conceptually, the current study suggests the following steps: (1) students' awareness of CBT and Google Forms will come before the students' use of the two tools by the lecturers and (2) students will be able to practise, edit, and self-assess in order to support their study habits.

There are two qualifications that are significant. First, the DETSHQ was not designed to test the causal claims of TAM, but to describe the state of awareness and perceived adoption, and descriptive data cannot test TAM's causal claims. Second, the concept of perceived-usefulness is still present in the wording of the instrument, in which the items are coupled with the awareness or perceived adoption with the study benefits students think that the tools offer to them.

Methodology

Research Design

The design of this study was descriptive survey. The design was suitable since the study sought to describe the reported awareness and perceived adoption of CBT and Google Forms and the perceived support of study habits of NCE II Islamic Studies students in selected Colleges of Education in North-West Nigeria. The results are descriptive since the design was descriptive and the data were self-reported perceptions; therefore, they only describe the sampled students and do not make any inferences about relationships or causal effects.

Population and Sample

The selected target population in this study was 1175 students of NCE II Islamic Studies from selected Colleges of Education in North West Nigeria. Five Colleges of Education (coded A to E) were selected, using purposive sampling, and 291 students were purposively sampled from intact classes. The sample size of 291 is consistent with Krejcie and Morgan's (1970) table which is for a population of 1,175 but this assumes random sampling. The present sample was not random, and was purposive, so the present sample size is appropriate for

describing the sampled intact classes, and the findings are not generalizable outside the present sample of five colleges. No records could be found for the per-college distribution of the sample, and a response rate was not available, both of which are recognized as limitations.

Research Instrument

The Digital Evaluation Tools for Study Habits Questionnaire (DETSHQ) was developed by the researchers. The instrument consisted of three sections, one demographic and two substantive sections with 20 items: 1-10 measured the awareness of students towards CBT and Google Forms, 11-20 measured the perceived use of the tools by lecturers in relation to students' study habits, such as study time, study frequency, study schedule plan, note-taking, practice test, timely completion, peer editing, and digital learning material sourcing. Familiarity of the instrument with researchers and experts was checked for clarity, relevance, adequacy, and consistency of the items with the study objectives and variables, thus the instrument was face and content validated. The answers were written on a 4 point scale (Strongly agree = 4; Agree = 3; Disagree = 2; Strongly disagree = 1). The instrument was preliminary tested with students not involved in the main testing and internal consistency was analyzed by means of Cronbach's alpha. The reliability analysis resulted an overall Cronbach's alpha coefficient equal to 0.82, which represents good internal consistency. The available records did not allow the subscale-level coefficients to be extracted from the records and only the overall coefficient is thus reported, which is recognised as a limitation. There are some items that include more than one idea (eg Item 3 includes note-making and memory-retention; this is recognised as a limitation of the instrument); all items assume that the tools are helpful; this is recognised as a limitation of the instrument.

Data Collection

The questionnaire was administered to the sampled students in the five Colleges of Education, and data were collected over three weeks. The study formed part of a PhD research project conducted under the approval and supervision of the candidate's doctoral supervisors, and the instrument was validated by experts before administration. Students were informed of the purpose of the study, that participation was voluntary, and that their responses would be treated confidentially and reported only in aggregate; completion and return of the questionnaire constituted informed consent. The study was not separately reviewed by an institutional ethics committee; this is acknowledged as a limitation.

Method of Data Analysis

Means and standard deviations were used to analyse the data. To interpret the results, a criterion means of 2.50 (the midpoint of the four-point scale) was used: a mean of 2.50 or higher indicated agreement (awareness or perceived adoption), while a mean below 2.50 indicated disagreement. The cumulative standard deviations reported in Tables 1 and 2 are

averages of the item-level standard deviations; the corresponding standard deviations of respondents' composite scores could not be recomputed because the dataset was unavailable, and this is acknowledged as a limitation. Because all item means lie between 2.55 and 3.11, close to the 2.50 criterion, the results are interpreted as indicating moderate rather than strong agreement.

Results

The answers to the research questions were obtained using means and standard deviations (SD), as shown in Tables 1 and 2. The criterion mean for decision was 2.50.

Research Question One: To what extent are students aware of CBT and Google Forms as tools that support study habits in Islamic Studies in Colleges of Education in North-West Nigeria? The summary of the responses is presented in Table 1.

Table 1: Mean and Standard Deviation of Students' Awareness of CBT and Google Forms as Tools that Support Study Habits

S/N	Item	M	SD
1	I am aware of CBT and Google form digital evaluation tools that increase my study duration, regularity, and frequency	3.08	0.96
2	I am familiar with CBT and Google Form digital evaluation tools that help me select suitable locations, devices, and self-testing	2.80	1.20
3	I am aware of CBT and Google Form digital evaluation tools that improve my note-making, note-taking, practice testing, and memory retention techniques	2.78	1.20
4	I am familiar with CBT and Google Form digital evaluation tools that motivate my curiosity, interest, confidence, and grades	2.89	1.09
5	I am aware of CBT and Google Form digital evaluation tools that make me complete my assignments, tests, and examinations on time	2.55	1.22
6	I am familiar with CBT and Google Form digital evaluation tools that encourage me to ask and respond to a lot of questions without fear of making mistakes	2.73	1.13
7	I am aware of CBT and Google Form digital evaluation tools that challenge me to improve my general performance	2.79	1.16
8	I am aware of CBT and Google Form digital evaluation tools that help me plan and organize my daily study schedules effectively	2.84	1.10
9	I am familiar with CBT and Google Forms digital evaluation tools that enhance my collaborative revision and peer discussion sessions	2.82	1.05
10	I am aware of CBT and Google Forms digital evaluation tools that assist me in sourcing supplementary digital materials for my course topics	2.72	1.14
	Cumulative	2.80	1.13

Note: $N = 291$. Criterion mean = 2.50.

Source: Field survey, 2026.

As shown in Table 1, students' cumulative mean score was 2.80 (SD = 1.13), higher than the criterion mean of 2.50, indicating that students were aware of CBT and Google Forms as tools that support study habits. The mean score for all 10 items were above 2.50, ranging from 2.55 to 3.08 (Item 5: completing assignments, tests, and examinations on time, and Item 1: study duration, regularity, and frequency, respectively). The range of standard deviations (0.96-1.22) shows that students' responses were quite varied.

Research Question Two: To what extent do students perceive CBT and Google Forms as having been adopted by their lecturers as tools that support study habits in Islamic Studies in Colleges of Education in North-West Nigeria? The summary of the responses is presented in Table 2.

Table 2: Mean and Standard Deviation of Students' Perceived Adoption (Lecturers' Use) of CBT and Google Forms as Tools that Support Study Habits

S/N	Item	M	SD
11	Adoption of CBT and Google Form digital evaluation tools by teachers increased students' study duration, regularity, and frequency	2.64	1.17
12	Adoption of CBT and Google Form digital evaluation tools by teachers helps students select suitable study locations, devices, and self-testing	3.01	1.14
13	Adoption of CBT and Google Form digital evaluation tools by teachers improves students' note-taking, note-making, practice testing, and memory retention techniques	3.11	1.07
14	Adoption of CBT and Google Form digital evaluation tools by teachers motivates students' curiosity, interest, confidence, and grades	2.92	1.17
15	Adoption of CBT and Google Form digital evaluation tools by teachers makes students complete their assignments, tests, and examinations on time	3.01	1.02
16	Adoption of CBT and Google Form digital evaluation tools by teachers encourages students to ask and respond to a lot of questions without fear of making mistakes	2.89	1.16
17	Adoption of CBT and Google Form digital evaluation tools by teachers helps in challenging students to improve their general performance	3.07	1.09
18	Adoption of CBT and Google Form digital evaluation tools by teachers guides students to plan and structure their personal study timetables effectively	2.96	1.11
19	Adoption of CBT and Google Form digital evaluation tools by teachers promotes group revision and peer learning among students	2.94	1.08
20	Adoption of CBT and Google Form digital evaluation tools by teachers improves students' capability to search for relevant digital learning materials	2.95	1.12
	Cumulative	2.95	1.11

Note: N = 291. Criterion mean = 2.50.

Source: Field survey, 2026.

Table 2 shows a cumulative mean of 2.95 (SD = 1.11), higher than the criterion mean of 2.50, indicating that students perceived CBT and Google Forms as having been adopted by their lecturers and as supporting their study habits. The mean scores for all 10 items were above 2.50, from 2.64 (Item 11: study duration, regularity, and frequency) to 3.11 (Item 13: note-taking, note-making, practice testing, and memory retention). Standard deviations ranged from 1.02 to 1.17. The cumulative mean for perceived adoption (2.95) was slightly higher than the mean for awareness (2.80); no inferential test was conducted, so this difference is descriptive only.

Discussion of Findings

Students' responses indicate that they were aware of CBT and Google Forms as aids that can enhance their study habits (cumulative M = 2.80). Study duration, regularity, and frequency (Item 1, M = 3.08) attracted the highest agreement, while completing assignments, tests, and examinations on time (Item 5, M = 2.55) attracted the lowest, although still above the criterion mean. This indicates that students were more aware of the tools' influence on the frequency and duration of their study than of their influence on meeting deadlines.

Students also perceived that CBT and Google Forms have been adopted by their lecturers and that this supports their studying (cumulative M = 2.95). The highest-rated adoption item was note-taking, note-making, practice testing, and memory retention (Item 13, M = 3.11), followed by being challenged to improve general performance (Item 17, M = 3.07), while the lowest-rated was study duration, regularity, and frequency (Item 11, M = 2.64). With a focus on practice testing, research indicates that taking tests can enhance later retention (Roediger & Karpicke, 2006). The most poorly rated item on the adoption was the duration, regularity, and frequency of the study (11, M = 2.64), which indicated that students perceive the tools as practice/revision tools rather than as time extenders. The ratings are also based on lecturers' use, since the adoption items are oriented towards teacher use, and thus, on what lecturers use the tools in their courses.

The regularity of study ranks highest at the level of awareness (M = 3.08), and lowest at the level of perceived adoption (M = 2.64), which may be interpreted as students' perception that the tools could be used for regular study, but that they are currently used more for assessment events than for structuring students' daily study routines.

Students also agreed that the tools enable them to plan and organize their learning schedules (Item 8, M = 2.84; Item 18, M = 2.96). This is consistent with planning and managing study time, which is part of effective study behaviour (Macan et al., 1990) and of SRL (Zimmerman, 2002), thus with a wider context on which structures students can organize their preparation with respect to the digital assessment activities.

The results are consistent with previous studies reporting generally positive perceptions of CBT among Nigerian undergraduates (Okocha, 2022; Oyetola et al., 2022) and useful findings of Google Forms for continuous assessment (Ugboaja et al., 2021), but adds a

teacher-education population and presents a study of study habits specifically. There is also a significant variance in responses ($SD > 1.00$ for most items), which is consistent with previous findings that students' digital experiences are not uniform (Agbo & Ugbe, 2022; Ibrahim et al., 2023), and is in line with previous research on how the design and use of assessment activities influences students' behaviour and engagement (Nguyen et al., 2017; Rienties & Toetenel, 2016). The slightly higher mean for perceived adoption than for perceived awareness makes sense when considering the Technology Acceptance Model which states that perceived usefulness makes technology more readily accepted and used (Davis, 1989; Venkatesh & Davis, 2000). However, the present data cannot be used to test the model or the directionality of the awareness–adoption–study habits relationship.

Limitations and Directions for Future Research

Several limitations qualify the findings. The first limitation is that the sample used was not randomly selected, but was rather purposive (whole classes selected from 5 Education colleges) and therefore, the results obtained may not be generalized to all Colleges of Education in North-West Nigeria. Second, the instrument had a two-construct design but only an overall reliability coefficient was reported; some items were double-barrelled and all items presupposed the tools' benefit; and the cumulative standard deviations were computed as averages of item-level standard deviations rather than from composite respondent scores. Third, administrative and ethical documentation was incomplete (e.g., sampling for the per-college distribution, response rate, pilot details, and data collection session could not be retrieved from available documentation). Although the study formed part of a PhD project conducted under doctoral supervisory approval with expert validation of the instrument, it was not separately reviewed by an institutional ethics committee, and this is acknowledged as a limitation. Future research should adopt probability sampling across more colleges, use a validated study-habits measure, reword the instrument to separate awareness from presumed benefit and to capture students' own tool use, test relationships with inferential designs, and secure prior ethics-committee approval.

Conclusion

The study concludes that NCE II students of Islamic Studies in the sampled Colleges of Education in North-West Nigeria reported awareness of, and perceived adoption (through their lecturers' use) of, CBT and Google Forms, perceiving these tools as supporting their study habits, particularly practice testing, note-taking, and planning. The descriptive design and self-reported data produced findings based on students' perceptions and do not indicate a statistical relationship or causal effect on students' study habits. The study did not measure students' digital competence or institutional infrastructure directly, so no conclusions about their role can be drawn from these data.

Recommendations

Based on the results of the study, the following recommendations are made:

- i. Orientation and awareness programmes on CBT and Google Forms should be strengthened at the Colleges of Education, with particular attention to the lowest-rated awareness item completing assignments, tests, and examinations on time (Item 5, $M = 2.55$) so that students' familiarity with the tools' uses in education, and their potential to support learning, is enhanced.
- ii. Islamic Studies lecturers should adopt CBT and Google Forms as routine methods in teaching and learning activities, given that students perceived the tools as most supportive of practice testing, note-taking, and memory retention (Item 13, $M = 3.11$) and of improved performance (Item 17, $M = 3.07$), while paying attention to the lowest-rated adoption item, using the tools to support study duration and regularity (Item 11, $M = 2.64$).
- iii. College management should ensure sufficient ICT infrastructure, stable internet, power, and technical support for the effective and sustainable use of digital assessment tools.

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