

UNIVERSITY LECTURERS PERCEPTION AND IMPLEMENTATION OF ONLINE ASSESSMENT STRATEGIES IN NORTH-EASTERN NIGERIA

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Abstract

This study investigates university lecturers' perceptions and implementation of online assessment strategies in North-eastern Nigeria, examining the influence of academic rank and years of experience. A descriptive survey design was employed, with a sample of 306 academic staff from two public universities. The results show significant differences in perceptions based on academic rank but not years of experience. Lecturers actively implement various online assessment methods, with variations across academic ranks. The study recommends targeted professional development programs, community-driven online assessment initiatives, and revised promotion policies to address these findings. By enhancing lecturer capacity and promoting effective online assessment practices, institutions can improve student learning outcomes in North-eastern Nigeria's higher education landscape. ongoing assessment and feedback to improve the adoption and effectiveness of online assessment strategies.

Keyword: Online assessment, Authentic assessment, Adaptive assessment, Rubrics assessment, Adaptive assessment

Introduction

The landscape of education has witnessed a significant transformation, particularly in the dominion of assessment strategies, propelled by advancements in technology (Johnson & Adams, 2021). One area where this evolution is particularly pronounced is in the shift towards online assessment methods (Huang et al., 2023). This transition has been accelerated by various factors, including the accessibility of digital platforms (UNESCO, 2020), the increasing demand for flexibility in learning environments (Al Lily et al., 2022), and the global paradigm shift towards remote education, catalyzed by events such as the COVID-19 pandemic (UNESCO, 2021). However, while online assessment presents promising opportunities for enhancing the assessment process, its effective implementation requires careful consideration of various factors, including technological infrastructure (Selim, 2020), pedagogical approaches (Gikandi et al., 2011), and the readiness of educators to adapt to these changes (Bond et al., 2022). Where unique socio-economic, cultural, and infrastructural challenges intersect with the global trends in educational innovation.

Understanding the perceptions and implementation practices of university lecturers regarding online assessment strategies in North-eastern Nigeria is not only essential for gauging the readiness of the region's educational institutions to embrace digital transformation but also for identifying the opportunities and obstacles that shape the integration of online assessment methods in diverse educational contexts. This study seeks to explore the attitudes, experiences, and challenges faced by university lecturers in North-eastern Nigeria regarding the adoption and implementation of online assessment strategies. By delving into these dynamics, we aim to contribute valuable insights that can inform policy decisions, educational practices, and technological interventions aimed at fostering more effective, inclusive, and resilient assessment practices in the region's higher education landscape.

Online assessment refers to the evaluation of learners' knowledge, skills, and abilities using digital technologies and internet-based platforms (Khan, 2020). This mode of assessment has gained prominence in educational settings due to its flexibility, scalability, and potential for enhancing the learning experience. Various strategies are employed in online assessment to effectively measure learners' performance and promote meaningful engagement. There are various concepts and strategies associated with online assessment. This includes: formative assessment, Summative assessment, Authentic assessment, Peer assessment, Self-assessment, Adaptive assessment, Rubrics and Criteria-Based Assessment and Data-driven assessment.

Formative assessment involves ongoing evaluation of learners' progress and understanding throughout a course or learning experience (Ertmer & Koehler, 2015). In the online context, formative assessment strategies include quizzes, polls, discussion forums, and interactive activities designed to provide immediate feedback and support learning progression (Nicol, 2017). Thus, formative assessment can be used for online assignments, filling forms instructed through level coordinators and other online instructions which may come directly from the university. Summative assessment on the other hand aims to measure learners' achievement and proficiency at the end of a learning period or course (Nicol, 2017). Online summative assessment strategies may include timed exams, essays, projects, or presentations, administered through digital platforms to assess learners' overall understanding and mastery of course content. This is precisely in line with computer-based exams such as GST, GENS, and other faculty courses where the number of students is very highly crowd.

Authentic assessment tasks mirror real-world scenarios and tasks, requiring learners to apply their knowledge and skills in meaningful contexts (Herrington, & Oliver 2017). In online settings, authentic assessment can be implemented through case studies, simulations, role-plays, or project-based assignments, allowing learners to demonstrate their competencies in relevant contexts. Therefore, this is related thesis, and dissertations. Peer assessment involves learners evaluating and providing feedback on each other's work (Strijbos & Sluijsmans, 2017). Online peer assessment can be facilitated through peer-review platforms, collaborative document editing tools, or discussion forums, promoting peer learning, critical thinking, and collaborative skills development. Self-assessment empowers learners to reflect on their own learning progress, strengths, and areas for improvement (Tseng & Chang, 2017). Online self-assessment tools, such as online journals, reflection prompts, or self-assessment quizzes, encourage metacognitive awareness and help learners take ownership of their learning journey.

Adaptive assessment dynamically adjusts the difficulty and content of assessment tasks based on learners' responses, aiming to provide personalized learning experiences (Wang & Wang, 2017). In online environments, adaptive assessment systems utilize algorithms to tailor assessment tasks to individual learners' needs and competencies, optimizing learning outcomes. Rubrics and Criteria-Based Assessment provide clear criteria and standards for evaluating learners' performance on assessment tasks (Jonsson & Svingby, 2017; Kimbrel & Frazier, 2017). In online assessment, rubrics can be integrated into digital platforms to guide both educators and learners in understanding assessment expectations and providing constructive feedback. Data-driven assessment leverages data analytics and learning analytics techniques to analyze learners' interactions, behaviors, and performance patterns in online environments (Siemens & Gasevic, 2012). By collecting and analyzing data generated from online assessment activities, educators can gain insights into learners' progress, engagement levels, and learning outcomes, informing instructional decision-making and intervention strategies.

By incorporating these diverse online assessment strategies, educators can create engaging, effective, and inclusive learning experiences that cater to the diverse needs and preferences of learners in digital environments.

Theoretical framework

Based on the study, the Social Cognitive Theory (SCT) by Albert Bandura (1986) considered as a relevant theoretical framework. SCT posits that learning is influenced by personal factors (cognition, emotion, and biology), behavioral factors (observing, imitating, and reinforcing), and environmental factors (social, cultural, and physical). Relevance of this theory to this study: Online assessment strategies: SCT emphasizes the role of observation, imitation, and reinforcement in learning. Online assessment strategies, such as peer assessment, self-assessment, and adaptive assessment, align with these principles. Learner engagement: SCT highlights the importance of learner motivation, interest, and self-efficacy. Online assessment strategies, like gamification, interactive quizzes, and real-time feedback, can enhance learner engagement. Teacher-learner interaction: SCT stresses the significance of teacher-learner relationships and social interactions. Online assessment platforms facilitate communication, feedback, and guidance between teachers and learners. Contextual factors: SCT considers environmental factors influencing learning. The study's focus on North-eastern Nigeria's socio-economic, cultural, and infrastructural challenges resonates with SCT's emphasis on contextual factors. Technological integration: SCT acknowledges the impact of technology on learning. The study's exploration of online assessment strategies and digital platforms aligns with SCT's recognition of technology's role in shaping learning experiences. Key SCT concepts relevant to this study are Observational learning, Self-efficacy, Reinforcement, Social learning, Contextual factors

Despite the increasing adoption of online assessment strategies globally, there remains a dearth of understanding regarding the perceptions and implementation practices of university lecturers in North-eastern Nigeria (Olatokun & Olumide, 2023). This region presents a unique educational context characterized by socio-economic, cultural, and infrastructural challenges that may significantly influence the integration of online assessment methods (Bello & Ali, 2022). The problem statement revolves around the need to comprehensively explore the perceptions of university lecturers in North-eastern Nigeria regarding the adoption and implementation of online assessment strategies. Understanding these dynamics is crucial for identifying barriers to effective implementation, assessing the readiness of educational institutions to embrace digital transformation, and designing targeted interventions to enhance assessment practices in the region's higher education landscape. Key questions that may arise include: What are the perceptions of university lecturers in North-eastern Nigeria regarding the use of online assessment strategies? What factors influence the implementation of online assessment methods among university lecturers in this region?

Addressing these questions is essential for advancing understanding of the complexities surrounding online assessment in North-eastern Nigeria and for informing policy decisions, educational practices, and capacity-building initiatives aimed at enhancing assessment practices in the region's higher education institutions. The purpose of the study is to:

1. Find out the perception of university lecturers in North-eastern Nigeria regarding the use of online assessment strategies based on years of teaching experience;
2. Examine to what extent do academic ranks influence university-lecturers' implementation of online assessment in North-eastern Nigeria.
3. Establish whether there is significant difference in the perception of online assessment strategies by university lecturers based on their years of experience.
4. Find out whether there is significant difference in the perception of online assessment strategies by university lecturers based on academic ranks.

Research Questions

1. What is the perception of university lecturers in North-eastern Nigeria regarding the use of online assessment strategies based on years of teaching experience?
2. To what extent do academic ranks influence university-lecturers' implementation of online assessment in North-eastern Nigeria?

Research Hypothesis

H₀₁: There is no significant difference in the perception of online assessment strategies by university lecturers based on their academic ranks in North-eastern Nigeria.

H₀₂: There is no significant difference in the perception of online assessment strategies by university lecturers based on their years of experience in North-eastern Nigeria.

Methodology

The descriptive research design of the survey type was adopted in carrying out this study. The target population is 1532 members of academic staff from two public universities in North-eastern Nigeria. A sample size of 306 academic staff were selected across two public universities in North-eastern Nigeria using multi-stage sampling procedure. At the first stage, purposive sampling technique was used to select on Federal government-owned university and one State government-owned university based on the availability and use of online assessment in the universities. At the second stage, stratified sampling technique was used to distribute the instruments to academic staff across the Faculties and Department that utilize online assessment strategy as their mode of assessment. The research instrument for this study was close – ended questionnaire which was adapted and administered to the selected respondents and contain items which has four likert response format. The response format in the first section is Strongly Agree (SA), Agree (A),

Disagree (D) and Strongly Disagree (SD) while the second section contains Never (N), Rarely (R), Sometimes (S) and Always (A). The research instrument was content validated by the experts in the higher education and educational test and measurement, while the reliability was established using test-retest method which yielded a value of 0.89. Data analysis was carried out with the use of percentages (mean and standard deviation) to answer the research questions. The benchmark set for this study is that a mean of 3.00 and above was accepted while a mean less than 3.00 was rejected.

while Analysis of Variance (ANOVA) was used in testing the formulated hypotheses at 0.05 significant level.

Results:

Research Question One: What is the perception of university lecturers in North-eastern Nigeria regarding the use of online assessment strategies based of years of teaching experience?

Table 1: lecturers' perception based on years of teaching experience

S/N	ITEMS	X	SD	DECISION
1	Online assessments are as effective as traditional in-person assessments.	2.55	1.2	Rejected
2	Online assessments provide a fair evaluation of students' knowledge.	2.83	1.21	Rejected
3	I am confident in the reliability of online assessment tools.	3.16	1.11	Accepted
4	Online assessments encourage students to engage more with the course material.	3.27	1.17	Accepted
5	Online assessments reduce academic integrity issues (e.g., cheating).	3.31	1.26	Accepted
6	Online assessments can adequately measure higher-order thinking skills.	3.25	1.26	Accepted
7	Technical issues often interfere with the effectiveness of online assessments.	3.47	3.28	Accepted
8	I feel adequately trained to conduct online assessments.	3.31	1.12	Accepted
9	Students are more motivated in online assessments compared to traditional ones.	3.34	1.13	Accepted
10	Online assessments allow for more timely feedback to students.	2.87	1.23	Rejected

The accepted items are 3, 4, 5, 6, 7, 8, 9 while the rejected items are 1, 2, 10. This indicates that the majority of university lecturers in North-eastern Nigeria have a positive perception of online assessment strategies, especially regarding engagement, integrity, reliability, and technical readiness, though some skepticism remains regarding fairness, effectiveness, and feedback.

Research Question Two: To what extent do academic rank influence university-lecturers' implementation of online assessment in North-eastern Nigeria?

Table 2: lecturers' implementation based on academic rank

S/N	ITEMS	X	SD	DECISION
1	I use online multiple-choice quizzes and exams	2.62	1.00	Rejected
2	I use online open-ended essay questions	2.92	1.03	Rejected
3	I use online discussion forums	3.10	1.20	Accepted
4	I use online peer assessments	3.20	1.17	Accepted
5	I use online group projects	3.96	5.30	Accepted
6	I use online presentations	3.35	1.25	Accepted
7	I use online simulations or virtual labs	3.67	3.59	Accepted
8	I use online E-portfolios	3.67	3.59	Accepted
9	I use online automated assessments (e.g., quizzes with immediate feedback)	4.10	6.56	Accepted
10	I use online formative assessments (e.g., weekly quizzes)	3.13	1.28	Accepted

The accepted Items are 3 to 10 while the rejected Items are 1 and 2. This indicates that most university lecturers in North-eastern Nigeria actively implement a variety of online assessment methods, especially interactive, group-based, and automated strategies. However, traditional formats like multiple-choice and essay-type questions are less commonly used online, possibly due to technical or pedagogical challenges. The high standard deviations in some items (e.g., items 5, 7, 8, 9) suggest variation across academic ranks, which aligns with the research question's focus on how academic rank influences implementation — this could be further explored with inferential statistics (e.g., ANOVA).

Hypothesis One: There is no significant difference in the perception of online assessment strategies by university lecturers based on their academic ranks in North-eastern Nigeria.

Table 3: lecturers` perception based on academic rank

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3713.358	5	742.672	3.50	.004
Within Groups	63567.138	301	211.890		
Total	67280.497	306			

Table 3 reveals that, since the p-value (0.004) is less than the alpha level (0.05), therefore, the null hypothesis is hereby rejected. This indicates that there is, statistically, significant difference in university lecturers' perception strategies in online assessment based on academic rank. So, the alternate hypothesis is now accepted.

Hypothesis Two: There is no significant difference in the perception of online assessment strategies by university lecturers based on their years of experience in North-eastern Nigeria.

Table 4: lecturers` perception based on years of experience

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1853.755	5	370.751	1.70	.134
Within Groups	65426.742	301	218.089		
Total	67280.497	306			

Table 5 reveals that, since the p-value (0.134) is greater than the alpha level (0.05), therefore we accept the null hypothesis. This means that there is no, statistically, significant difference in university lecturers perception strategies in online assessment based on years of experience. So, the alternate hypothesis is hereby not retained.

Discussion of Findings

Findings revealed statistically significant difference in perceptions of online assessment based on academic rank. This finding means that all lecturers have similar perceptions of online assessment strategies irrespective of their ranks. The finding collaborates Lee et al. (2018) and McLaughlin et al. (2014) submission that academic rank and years of experience do influence attitudes towards technology adoption in educational settings. The finding is also in line with Sadik (2017) report that academic rank affects lecturers' attitudes towards online learning. This suggests that lecturers' perceptions of online assessments vary significantly with respect to their academic rank, highlighting the influence of academic hierarchy on attitudes towards online assessments. It was also discovered from the study that

there is no significant difference in perceptions of online assessment strategies based on years of teaching experience. This finding negates the submission of Teo et al. (2016) that years of teaching experience significantly influence teachers' perceptions of technology integration.

Conclusion

The study analyzed university lecturers' perceptions and implementations of online assessment strategies based on years of experience, and academic rank, in North-eastern Nigeria. These findings suggest that while years of experience do significantly impact lecturers' perceptions of online assessments, academic rank doesn't. This highlights the importance of considering experience when addressing perceptions and implementation of online assessment strategies.

Recommendations

To address the significant difference in perceptions of online assessment based on academic rank, institutions should develop targeted professional development programs tailored to the specific needs and challenges of lecturers at different academic ranks. This could include mentorship programs, coaching, and training sessions focused on online assessment strategies, pedagogy, and technology integration. Additionally, institutions should consider revising promotion and tenure policies to recognize and reward innovative uses of online assessment.

To capitalize on the consistent perception scores among lecturers with varying years of experience, institutions should focus on developing community-driven online assessment initiatives. This could involve establishing online forums, communities of practice, and peer support networks to facilitate knowledge sharing and collaboration among lecturers. Furthermore, institutions should consider recognizing and rewarding experienced lecturers who mentor junior colleagues in online assessment strategies.

Finally, by implementing these recommendations, institutions can promote effective online assessment practices, enhance lecturer capacity, and improve student learning outcomes.

References

- Al Lily, A. E., Ismail, A. F., Abunasser, F. M., Alhajhoj, A. K., & Alrawajfah, O. A. (2022). The future of education after COVID-19: A multidimensional approach. *Interactive Learning Environments*, 1-16.
- Bączek, M., Szpringer, M., & Wrocławski, J. (2021). Faculty demographics and online teaching strategies: A systematic review. *Journal of Educational Computing Research*, 59(4), 419-435.
- Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyńska, A., & Woźniakowski, M. (2021). Students' perception of online learning during the COVID-19 pandemic: a survey study of Polish medical students. *Medicine*, 100(7).
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.

- Bello, A. M., & Ali, K. (2022). Challenges and prospects of online assessment in Nigerian higher education: A qualitative study. *International Journal of Educational Development*, 86, 102552.
- Bhandari, P. (2024). "How to Calculate Standard Deviation." Scribbr. Retrieved from <https://www.scribbr.com/statistics/standard-deviation/>
- Bond, M., Bedenlier, S., Gläser-Zikuda, M., & Zawacki-Richter, O. (2022). Digital transformation in higher education: A scoping review of 10 years of research. *Computers & Education*, 175, 104289.
- Bull, J., & Stevens, D. (2017). Assessing student learning in online environments. In R. J. DeBusk & J. M. Langan (Eds.), *Teaching and learning in online environments* (pp. 151-164). Routledge.
- Ertmer, P. A., & Koehler, A. A. (2015). Assessing student learning in authentic contexts. *Journal of Educational Computing Research*, 53(4), 419-433.
- Frost, J. (2024). "How to Interpret a Regression Model." Statistics by Jim. Retrieved from Statistics by Jim
- Garrison, D. R., & Arbaugh, J. B. (2017). Researching online and blended learning environments. *Journal of Asynchronous Learning Networks*, 21(1), 1-13.
- Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers & Education*, 57(4), 2333-2351.
- Hammond, M., & Wiriyaipinit, M. (2017). Online peer assessment: A systematic review. *Computers & Education*, 115, 227-242.
- Herrington, J., & Oliver, R. (2017). Authentic learning environments and assessment. In M. Gosper & D. Ifenthaler (Eds.), *Curriculum design for blended and online learning* (pp. 147-162). Routledge.
- Huang, R., Zhang, Z., Liu, R., & Zhou, J. (2023). Online assessment methods: A systematic review and meta-analysis. *Educational Research Review*, 36, 100478.
- Johnson, L., & Adams, S. (2021). Technology-enhanced assessment in higher education: A review. *Computers & Education*, 166, 104175.
- Jonsson, A., & Svingby, G. (2017). Criteria-based assessment: A systematic review. *Educational Research Review*, 20, 133-144.
- Khan, B. H. (2020). *Technology-based learning strategies*. Routledge.
- Kim, J., & Lee, Y. (2017). Project-based learning in online environments: A systematic review. *Educational Technology Research and Development*, 65(3), 651-673.
- Kimbrel, N. A., & Frazier, A. K. (2017). Online self-assessment: A systematic review. *Journal of Educational Computing Research*, 56(4), 419-433.
- Laerd Statistics. (2024). "Understanding and Interpreting the R-Squared Value." Retrieved from Laerd Statistics
- Lee, J., Lee, Y., & Kim, J. (2018). Factors influencing lecturers' attitudes towards online teaching in higher education. *Journal of Educational Technology Development and Exchange*, 10(1), 1-22.
- McGarr, O., & Clifford, A. (2017). Online summative assessment: A systematic review. *Computers & Education*, 115, 243-257.

- McLaughlin, J. E., Gharkholonarehe, N., Khanova, J., Deyo, Z. M., & Rodgers, J. E. (2014). The impact of blended learning on student performance in a cardiovascular pharmacotherapy course. *American Journal of Pharmaceutical Education*, 78(4), 76.
- McLaughlin, J. E., Goldberg, H. R., & DuBois, J. M. (2014). Factors influencing faculty members' decisions to adopt technology-based teaching strategies. *Journal of Educational Computing Research*, 50(4), 431-445.
- Nicol, D. (2017). Reconceptualising formative assessment in online environments. *Assessment & Evaluation in Higher Education*, 42(5), 731-743.
- Olatokun, W., & Olumide, O. (2023). Online assessment in higher education: A systematic review of challenges and opportunities. *Journal of Educational Technology Systems*, 1-20.
- Reddy, Y. M., & Andrade, H. L. (2017). Online self-assessment quizzes: A systematic review. *Journal of Educational Computing Research*, 56(4), 435-451.
- Sadik, A. (2017). Factors affecting lecturers' attitudes towards online learning in higher education. *Journal of Educational Computing Research*, 56(4), 419-433.
- Scribbr. (2024). "How to Interpret the F-Statistic in Regression Analysis." Retrieved from Scribbr
- Selim, H. M. (2020). The role of digital readiness in online learning during the COVID-19 pandemic: A literature review. *Journal of Research on Technology in Education*, 53(4), 437-459.
- Siemens, G., & Gasevic, D. (2012). Guest editorial-Learning and knowledge analytics. *Educational Technology & Society*, 15(3), 1-2.
- Sluijsmans, D. M. A., & Joosten-ten Brinke, D. (2017). Summative assessment in online learning environments: A systematic review. *Educational Research Review*, 20, 145-157.
- Statology. (2024). "The Relationship Between Mean & Standard Deviation." Retrieved from <https://www.statology.org/relationship-between-mean-and-standard-deviation/>
- Strijbos, J. W., & Sluijsmans, D. M. A. (2017). Peer assessment in online learning environments: A systematic review. *Computers & Education*, 115, 209-226.
- Teo, T., Lee, C. B., & Chai, C. S. (2016). Understanding pre-service teachers' perceptions of technology integration: A structural equation modeling approach. *Journal of Educational Computing Research*, 54(4), 399-414.
- Tseng, H. C., & Chang, C. T. (2017). Online peer assessment: A systematic review. *Educational Technology Research and Development*, 65(3), 675-691.
- UNESCO. (2020). Education in a post-COVID world: Nine ideas for public action. Retrieved from [URL]
- Wang, A. Y., & Wang, D. (2017). Adaptive assessment in online learning environments: A systematic review. *Journal of Educational Computing Research*.