

Transition from Conventional Assessment to Authentic Assessment Methods in Tertiary Education 21st Century Classroom in South-East Geo-Political Zone

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ABSTRACT: *This paper investigates the shift from conventional assessment methods to authentic assessment methods in tertiary institutions particularly, in the 21st century classrooms. The paper will focus on exploring students' preference for conventional and authentic assessment methods, the benefits and challenges of transitioning to authentic assessment methods which emphasizes real-world problem-solving and application of knowledge and skills. Descriptive survey research design was deployed in the study, guided by four research questions and four hypotheses. The population will comprise students from tertiary institutions in South-East geo-political zones in Nigeria. A sample of 1838 students was drawn from five tertiary institutions using simple random sampling and accidental sampling techniques. The instrument for data collection was the "Conventional versus Authentic Assessment Methods in 21st Century Classroom Questionnaire" (CAAM21CCQ). The instrument was adapted from Saher et al. (2022) and Fatmawati (2018) respectively. The estimated reliability coefficient of the instrument using Cronbach Alpha was 0.813. the instrument was administered using Google forms. The research questions were answered with using descriptive statistics. Whereas, the hypotheses were tested at 0.05 alpha levels using paired t-test, independent t-test and one-way analysis of variance (ANOVA) as appropriate. Findings indicated that students prefer both assessment methods and authentic assessment foster development of the 21st century skills. Further, no statistically significant difference was found on students' perception on challenges of authentic assessment methods and the implementation strategies based on gender and programme. It was recommended among others, that educators should combine conventional and authentic assessment methods when necessary.*

KEYWORDS: conventional assessment, authentic assessment, 21st century classroom, tertiary education

INTRODUCTION

Assessment in tertiary institutions plays a crucial role in evaluating student learning outcomes and is dependent to a great extent on the effectiveness and accuracy of the assessment developed (Karim et al., 2018). The landscape of education has undergone profound transformations due to the rapid integration of technology and the evolving pedagogical approaches in recent years. As the 21st-century classroom continues to evolve, educators face the challenge of preparing students for a dynamic, fast-paced, and ever-changing world (Sharonova & Avdeeva, 2019). As the demands of the workforce continue to shift towards complex problem-solving and adaptable skills, the conventional examination assessment methods employed in higher education fall short in adequately measuring students' readiness for the real-world challenges they will encounter. The changing landscape of education and the demands of the 21st-century workforce call for a transition to authentic assessment methods which offer a more comprehensive and holistic evaluation of students' abilities, competencies, and readiness for professional life (Care & Vista, 2017).

Conventional assessment methods comprise traditional assessment approaches which employ pen and paper or computer –based examination method to evaluate students' knowledge, understanding, and skills (Ecole Globale 2020). These approaches involve exams, quizzes, objective tests, and essays which can only generate test score as feedback. However, test scores for instance, cannot tell anything about students' progression. Similarly, they cannot tell what difficulties the student had during the test (Dikli cited in Saher et al., 2022). Conventional assessment methods usually follow a standardized format, providing uniformity in the process administration and grading across a large number of students, hence, they are time limited, measuring students' ability to perform within a time frame (Kidson, 2023)). The standardized nature of conventional assessment methods enhances objectivity and reliability in grading (Nobre, 2021). There are other characteristics underlying the practice which include conventional tests focusing on learners giving an established single right answer as in multiple tests which give no room for subjectivity or flexibility since there can only be one correct answer (Nobre, 2021). These tests are also summative in nature because they are used at the end of a semester to address the content studied during the whole course and the use of the scores generated to take decision on the students' next level. This allows for the comprehensive evaluation of students' knowledge and understanding of course content (Kidson, 2023). They provide opportunities to assess a wide range of topics and concepts. The outcome provides the teacher with a picture of students' ability. This approach is simple, time and cost effective as the teacher can handle a large number of students in a lesser amount of time without additional assessment tools (Ecole Globale, 2020).

A close look at the characteristics of conventional assessment methods, suggests the need for a rethink in their effectiveness, particularly when considering an assessment scenario that may focus predominantly on lower-level thinking skills, such as recall and comprehension, and offer little opportunity of demonstrating critical thinking and problem-solving skills characteristic of the 21st century competencies (Biggs & Tang, 2011). Another limitation of the conventional assessment method is its summative nature and the focus given to scores which make what the learners still need to know and achieve to become unclear. Lending credence to this Nobre (2021:3) contended that

...in a summative assessment, results are not used to inform further learning and teachers do not have the chance to personalize lessons that better address learners' specific needs. Neither do teachers go on to make informed decisions about what needs to change in their lessons so that further – and more effective – learning can be fostered.

Conventional tests give more weight to reliability which invariably impacts validity negatively and deprives learners the opportunity to progress more authentically. Despite its shortcomings in really measuring learners' performance and informing the learning process, conventional assessments methods understandably motivate students to study, make them aware of what they have learned and where they need to study more (Nobre, 2021; Sahera et al., 2022).

An alternative conventional assessment method is authentic assessment methods. Authentic assessment according to Karim et al., (2018), is based on reflection on the teaching, learning, achievement, motivation, and attitudes of both teachers and students during the teaching and learning process. Gore et al. cited in Bosco and Ferns (2017) conceptualized authentic assessment as a single task that holds some relevance to the real-world setting and is formally evaluated within curricula. For Bosco and Ferns, such tasks reflect meta-cognitive skills specifying the requirements and performance of an individual component of the curriculum for that real-world setting. Gunning et al. cited in Nguyen (2022:4) gave a concrete definition of authentic assessment as follows: "Authentic assessment requires students to engage with a problem or task that is contextualized within a realistic environment and assesses the knowledge skills and attitudes required in the workplace community and for lifelong learning". It can deduced from this definition that authentic assessment is designed to resemble complex and real-life situations and it requires students constructing extended responses, open-ended tasks, performing an act, or producing a product in a real-world context. Examples of authentic assessments include projects, portfolios, writing an article for newsletter or newspaper, performing a dance or drama, designing a digital artefact, creating a poster for science fair, debates, and oral presentations (University of Hull, n.d.). These tests-tasks are used to determine if students can apply the knowledge they have acquired in a real-world setting (Frey & Schmitt cited in Sahera, 2022). These assessment methods are characterized by their alignment with real-world contexts, reflecting the types of tasks and challenges students may encounter in their

future careers (Koh et al., 2019). They provide opportunities for students to demonstrate the application of knowledge and skills in meaningful ways. Authentic tasks require students to engage in critical thinking, problem-solving, and decision-making and there are no right or wrong answers in authentic assessment (The University of Melbourne, 2022). It is all about showing how the student can use the knowledge from the course in real-world contexts and scenarios. It captures aspects of students' knowledge, deep understanding, problem-solving skills, social skills, and attitudes that are used in a real-world, or simulation of a real-world situation (Bevan, 2022). In all, it serves as a powerful tool for assessing students' 21st-century competencies of critical thinking, complex problem solving, creativity and innovation.

One of the key advantages of authentic assessment as observed by Dixon (2022) is that it immerses the student in the learning experience and they become self-directed learners. By participating in authentic assessment, students are motivated to become producers of content as opposed to receivers of content (Swaffield, 2011). It provides opportunities for students to develop and apply a range of skills, including critical thinking, problem-solving, communication, collaboration, and creativity (Campbell, 2023). These skills are essential in preparing students for the demands of the 21st-century workforce. Ecole Globale (2020) added that authentic assessment helps in students' engagement and provide opportunities to construct a new meaning of the things that were taught. Authentic assessment methods provide valuable feedback for both students and teachers particularly, for students who obtain more-personalized and targeted feedback to demonstrate their understanding and skills in various forms (Bevan, 2022). Moreso, students are at liberty to work based on their abilities without being under pressure hence, fostering motivation and creativity (Nobre & Villas-Boas cited in Nobre, 2021). However, as education landscape continues to evolve, the limitations of conventional assessment are being conspicuous (Kidson, 2023).

This transition from conventional to authentic assessment also presents challenges and considerations in the process. Authentic assessment requires higher levels of thinking, analysis, and synthesis which can be cognitively demanding that the conventional assessments (Koh et al., 2019). It further requires students to apply knowledge to new situations, or come up with innovative solutions to complex problems. Another challenge of authentic assessment is that of time constraints for adequate preparation as students are required to draw on variety of skills and knowledge that they have not specifically prepared for. This is different in the case of conventional assessment that is often based on predictable formats and contents (Aziz et al., 2020). Authentic assessment provides incomplete feedback without details because teachers cannot completely rely on the authentic assessments for providing feedback and evaluating the students' gain in learning experiences. Feedback received may only be surface-level feedback on whether the task is completed successfully and stakeholders may not consider it too reliable (Singh, 2021). Finally, students might not be familiar with the format or structure of authentic assessment and cannot be able to mimic the work of others without truly understanding what

they are expected to do (Mueller, 2018). This can create confusion or feelings of uncertainty about what is expected of them to complete the task. Admittedly, authentic assessment has numerous challenges yet it provides platform for students to demonstrate their abilities in practical and real life situations (Bevan, 2022).

Since authentic assessment is worthwhile perquisite in workplace and for lifelong learning, some strategies can be deployed for its effective implementation. Every authentic assessment should began with setting clear goals and SMART objectives making sure students understand what is expected of them upon completing the task (Nguyen, 2022). Including the criteria for assessment criteria and standards for the task will also enhance the understanding of the expectations for the assessment. Educators need to help learners develop higher order cognitive skills by designing assessment activities that replicates authentic, real-world scenarios. In way assessment will be made realistic, performance-based and cognitively complex, aligning with expectations of 21st century work life (Nguyen, 2022). Shaw (2020) contended that consistent, timely, specific, and constructive feedback provides learners with variety of opportunities to reflect on and adjust their work according to the required standard.

There are empirical evidences strengthening the importance of authentic assessment in the 21st century tertiary education classroom. Moria and Zain (2017) examined the use of authentic assessment model to enhance students' learning and creativity for writing. Two English language teachers were observed as they implemented the model while 124 students were asked to give their perception of the implementation. They found that authentic assessment was effective in encouraging students' interest and critical thinking in writing. The study further reported that authentic assessment afforded intense evaluation of students' writing skills. Fatmawati (2018) explored students' perception of 21st century skills development through implementation of project based learning. The finding revealed that students perceived project-based learning, a form of authentic learning, was helpful in developing the 21st century skills like critical thinking, problem-solving, decision making and collaboration skills. Similarly, Koh et al. (2019) reported that authentic involves higher levels of cognitive tasks and help in developing professional competences such as critical thinking, complex problem solving, creativity and innovation, effective communication and collaboration. In another development, Wahyuri et al. (2020) aimed at describing teachers' perception of application of the authentic assessment during online teaching. They found that the teachers' perceived a sufficient understanding of the implementation of online authentic assessment and also that the adjusting of the materials into the required competencies would enable the students to be close with real-world. They used authentic assessment in evaluating students' speaking and writing skills then multiple choice tests or completion items. Similarly, Wylie et al. (2020) in their study proved that students' perceptions about assessment significantly influence their learning and study approaches, as students' study approaches affected their perceptions of evaluation and assessment. In this same vein, students preferred multiple-choice question exams to short essay type questions, which are

typical traditional assessment tools. However, when compared to the authentic assessment methods, students prefer using these innovative assessment methods of authentic assessment as they are fairly evaluated. Adopting quantitative and qualitative approaches, Saher et al. (2022) sought to determine how authentic and traditional assessment methods impacted students' performance in health and educational sciences. Educators and students participated in the study. They found that some educators used both assessment methods and preference of any of the methods depended on the academic qualification of the educator. Few educators did not consider authentic assessment. However, students reported many advantages of using authentic assessment and how it would help them in enhancing their academic writing and productivity.

The earlier studies reviewed showed that although both students and educators are excited about authentic assessment, the use of any of the models demands consideration of the advantages and limitations of each type. Saher et al. (2022) commented that the purpose of the assessment is paramount in deciding which type to use while evaluating students' skills and knowledge. This entails that in some situation the two assessment method could be combined. Arguably, there has been a major shift in the way traditional assessment is being viewed as the only method of assessment by looking further for alternative methods of assessment. The authentic assessment model could be utilized as a resource for educational reform due to the increasing concern and awareness of the impact of assessment on instruction and curriculum. This paper aimed to explore the challenges and potential solutions associated with transitioning from conventional assessment methods to authentic assessments in the 21st century classroom.

Research Questions

The following research questions guided the study:

1. What are students' preference in the use of conventional assessment and authentic assessment methods in tertiary institutions in Souh-East geo-political zone?
2. What are the students' perceived advantages of authentic assessment methods in development of 21st century skills in tertiary institutions in Souh-East geo-political zone?
3. What are the students' perceived challenges of authentic assessment methods in tertiary institutions in Souh-East geo-political zone?
4. What are the students' perceptions on the implementation strategies of authentic assessment in tertiary institutions in South-East geo-political zone?

Hypotheses

1. There is no significant difference in students' preference of conventional and authentic assessment methods in tertiary institutions in South-East geo-political zone.
2. There is no significant difference in students' perception on the advantages of authentic assessment methods in the development of 21st century skills based on gender and programme in tertiary institutions in South-East geo-political zone.

3. There is no significant difference in the students' perception of challenges of authentic assessment methods based on gender and programme in tertiary institutions in South-East geo-political zone.
4. There is no significant difference in the students' perceptions on the implementation strategies of authentic assessment based on gender and programme in tertiary institutions in South-East geo-political zone.

METHODS

Research Design: The study employed a descriptive survey research design which consisted of quantitative approaches to research which enabled collection of in-depth data that gave credence to the study.

Participants: The population for this study comprised of students from tertiary institutions in South-East geo-political zones in Nigeria. Five institutions were randomly drawn and students in various programmes constituted the participants. A total of one hundred and thirty eight (138) were finally selected to participate using accidental sampling technique because the instrument was administered using Google forms, those that completed they became part of the sample.

Instrument for Data Collection: The instrument for data collection was the Conventional Versus Authentic Assessment Methods in 21st Century Classroom Questionnaire (CAAM21CCQ). The instrument was adapted from Saher et al. (2022) and Fatmawati (2018) respectively. The questionnaire consisted of two sections, section A was the students' demographic information on gender and programme whereas section B comprising 21 items elicited information on students' preference of conventional and authentic assessment methods (8 items), advantages of authentic assessment in development of the 21st century skills (5 items), challenges of employing authentic assessment methods (4 items), and implementation strategies authentic assessment methods (4 items). The instrument was responded on 5-point Likert-type scale of Strongly Agree - 4, Agree - 3, Disagree - 2, Strongly Disagree - 1, and Neutral - 0 point respectively. The Cronbach Alpha reliability technique for internal consistency was used in estimating reliability coefficients and index of 0.813 was obtained. The index was adequate for the use of the instrument for data collection. Hence, the questionnaire was administered by Google forms within a period of four weeks by posting it on various students' group WhatsApp platforms in the selected institutions.

Data Analysis: The data collected was analyzed using Statistical Package for Social Sciences version 25 (SPSS-25). The research questions were answered using descriptive statistics by computing mean and standard deviation of the items. The boundaries of each response in the 5-point Likert-type scale from 0 to 4 were calculated by dividing the serial width 4 by the number of responses 5 and found to be 0.80 following Topkaya (2010) pattern of analysis. Therefore,

depending on the calculation, the accepted boundaries for interpretation of each response on an item are as follows: 0.00 – 0.80 (N), 0.81 – 0.1.60 (SD), 1.61 – 2.40 (D), 2.41 – 3.20 (A), and 3.21 – 4.00 (SA). These values were used to interpret the mean values and to answer the research questions. However, the standard deviation (SD) scores were also presented to show the spread of each raw score from which the mean was computed. The hypotheses were tested at .05 alpha levels using paired t-test, independent t-test and one-way analysis of variance (ANOVA) where appropriate. The tenability of the null hypotheses was based on comparing the chosen alpha level with the level of significance in SPSS output tables. F-ratio or t-value with probability level of equal to or less than the alpha level was rejected, otherwise it is retained.

RESULTS

Table 1

Demographic Information of Participants used in the study

Category	Levels	Frequency	Percentage
Gender	Male	43	31.2
	Female	95	68.8
Programme	NCE	8	5.8
	Degree	79	57.2
	Postgraduate	51	37.0

Table 1 showed that the participants comprised 43 (31.2%) males and 95 (68.8%) female. The distribution of participants with respect to programme of study was NCE 8 (5.8), Degree 79 (57.2), and Postgraduate 51 (37.0).

Research Question 1: What are students' preference in the use of conventional assessment and authentic assessment methods in tertiary institutions in Souh-East geo-political zone?

Table 2

Mean and Standard Deviation of Students' Preference of Conventional and Authentic Assessment Methods

S/N	Type of assessment	Items	N	\bar{x}	SD	Decision
1	Authentic	I prefer tasks that are challenging and have more than one answer	138	2.43	1.34	Agree
2	Conventional	I prefer computerized tests	138	2.79	1.27	Agree
3	Authentic	I prefer questions that require the application of material learned to new situations	138	3.26	0.69	Strongly Agree
4	Conventional	I prefer simple tasks that have only one correct answer	138	2.64	1.25	Agree
5	Authentic	I prefer questions that require scientific investigation	138	2.51	1.37	Agree
6	Conventional	I prefer written tests, without supporting	138	2.34	1.09	Disagree

		materials				
7	Authentic	I prefer tasks that require personal opinions or explanation	138	3.41	0.7411	Strongly Agree
8	Conventional	I prefer written tests, with supporting materials (notes, books)	138	2.76	1.10	Agree
Average mean				2.77	1.10	Agree

The results in Table 1 showed that the item highest mean score for the authentic assessment was item 7 (I prefer tasks that require personal opinion or explanation) with ($\bar{x} = 3.41$). The lowest mean score was observed for item 1 (I prefer tasks that are challenging and have more than one answer) with ($\bar{x} = 2.43$). For conventional assessment methods, item 2 (I prefer computerized tests) returned the highest mean score ($\bar{x} = 2.79$) whereas the lowest mean score was obtained for item 6 (I prefer written tests without supporting materials) with ($\bar{x} = 2.34$). The mean values obtained for both authentic and conventional assessment could be interpreted that tertiary education students have preference for both assessment methods.

Research Question 2: What are the students' perceived advantages of authentic assessment methods in development of 21st century skills in tertiary institutions in Souh-East geo-political zone?

Table 3

Mean and Standard Deviation of Students' Perception of the Advantages of Authentic Assessment Methods in Development of 21st Century Skills

S/N	Type of 21 st century skill	Items	N	\bar{x}	SD	Decision
9	Critical thinking	My lecturers give assignment that helps me in developing critical thinking skill	138	3.14	0.97	Agree
10	Problem-solving	My lecturers give assignment helps me in developing problem solving skill	138	2.96	1.08	Agree
11	Decision making	My lecturers give assignment helps me in developing decision making skill	138	2.91	1.11	Agree
12	Creativity	The assignments has improved my creativity skill	138	2.97	1.15	Agree
13	Collaboration	The assignments has improved my ability to work with others in team	138	3.03	0.99	Agree
Average mean				3.00	1.06	Agree

Table 2 presented result on the advantages of authentic assessment in development of 21st century skills. The highest mean score was observed for critical thinking skills ($\bar{x} = 3.14$), followed by collaboration skills ($\bar{x} = 3.03$), creativity skills ($\bar{x} = 2.97$), problem-solving skills ($\bar{x} = 2.96$), and the least decision making ($\bar{x} = 2.91$). The overall mean score was ($\bar{x} = 3.00$)

which showed that the students agreed that authentic assessment methods help in the development of 21st century skills.

Research Question 3: What are the students’ perceived challenges of authentic assessment methods in tertiary institutions in South-East geo-political zone?

Table 4

Mean and Standard Deviation of Students’ Perception of the Challenges of Authentic Assessment Methods

S/N	Items	N	\bar{X}	SD	Decision
14	Authentic assessment require higher levels of thinking to apply knowledge to new situations	138	3.25	0.81	Strongly Agree
15	Authentic assessment are based on unpredictable formats and contents that requires time for preparation	138	2.79	1.15	Agree
16	Students may not have detailed feedback on project-based task	138	2.44	1.09	Agree
17	There is feeling of uncertainty about what is expected in authentic assessment since the format is unfamiliar	138	2.66	1.08	Agree
Average mean			2.79	1.03	Agree

Table 4 indicated that item 14 on authentic assessment requiring higher cognitive demands had the highest mean score ($\bar{X} = 3.25$) followed by item 15 on time constraints for preparation ($\bar{X} = 2.79$) then item 17 on uncertainty and lack of familiarity with the structure of authentic assessment ($\bar{X} = 2.66$). The lowest mean score was observed for item 16 on incomplete feedback ($\bar{X} = 2.44$). The overall mean score was ($\bar{X} = 2.79$) implied that students perceived the use of authentic assessment methods challenging.

Research Question 4: What are the students’ perceptions on the implementation strategies of authentic assessment in tertiary institutions in South-East geo-political zone.

Table 5

Mean and Standard Deviation of Students' Perception of the Implementation Strategies Authentic Assessment Methods

S/N	Items	N	\bar{X}	SD	Decision
18	Lecturers should help students develop higher order skills	138	3.28	0.90	Strongly Agree
19	Students should be provided with format for the assessment task and be given timely interventions when necessary	138	3.46	0.61	Strongly Agree
20	Students should be given frequent and meaningful feedback on their progress and performance in assessment	138	3.49	0.72	Strongly Agree
21	Students should be provided with clear instructions and expectations for the assessment task	138	3.54	0.61	Strongly Agree
Average mean			3.44	0.71	Strongly Agree

Table 5 presented students' perception on implementation strategies of authentic assessment. Item 21 returned the highest mean score on the strategy of providing clear instructions and expectations for assessment tasks ($\bar{X} = 3.54$) followed by giving frequent and meaningful feedback on performance in assessment ($\bar{X} = 3.49$), providing format for assessment and giving timely intervention ($\bar{X} = 3.46$), and helping students to develop higher order skills ($\bar{X} = 3.28$). The overall mean score was ($\bar{X} = 3.44$) which indicated that students strongly agreed to the perceived strategies for implementation of authentic assessment in tertiary education.

Hypotheses 1: There is no significant difference in students' preference of conventional and authentic assessment methods in tertiary institutions in South-East geo-political zone.

Table 6

Paired t-test Analysis of Difference between Students' Preference of Conventional and Authentic Assessment Methods (N = 138)

Assessment method	\bar{X}	SD	Df	t-value	Sig.
Conventional	10.53	2.70	137	3.70	.000
Authentic	11.61	2.49			

Table 6 revealed that the t-value (137) = 3.70 and p-value (.000) < alpha level (.05). Based on the result, the null hypothesis was therefore, rejected. The result implied that there is a significant difference in students' preference of conventional and authentic assessment methods in tertiary institutions in South-East geo-political zone.

Hypotheses 2: There is no significant difference in students' perception on the advantages of authentic assessment methods in the development of 21st century skills based on gender and programme in tertiary institutions in South-East geo-political zone.

Table 7

a.Independent t-test Analysis of Difference between Students' Perception of Advantages of Authentic Assessment Methods in the Development of the 21st Century Skills based on Gender

Gender	N	\bar{x}	SD	df	t-value	Sig.
Female	95	15.18	4.18	136	.698	.486
Male	43	14.66	3.96			

b.One-way ANOVA of Students' Perception of Advantages of Authentic Assessment Methods in the Development of the 21st Century Skills based on Programme

Sources of Variance	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	225.464	2	112.732	7.308	.001
Within Groups	2082.507	135	15.426		
Total	2307.971	137			

Table 7a indicated that the t-value (136) = 3.70 and that p-value (.486) > alpha level (.05). Based on the result, the null hypothesis was therefore, upheld. It can be deduced that there is no significant gender difference in the students' perception on the advantages of authentic assessment methods in the development of 21st century skills.

Further, Table 7b indicated that F-ratio (2, 135) = 7.308 and that p-value (.001) < the alpha level (.05). Therefore, the null hypothesis was rejected implying that students' perception on the advantages of authentic assessment methods in the development of 21st century skills based on program of study differs significantly. Therefore, further analysis to establish the groups where there were differences was done using Scheff's Multiple Comparison statistics. The result of the test is as shown in Table 8.

Table 8

Scheff's test Analysis of the Students' Perception of Advantages of Authentic Assessment Methods in the Development of the 21st Century Skills based on Programme

Multiple Comparisons						
Dependent Variable: Academic Performance						
(I) Programme	(J) Programme	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
NCE	Degree	2.839	1.48	.154	-0.768	6.455
	PG	0.299	1.494	.980	-3.398	3.996
Degree	NCE	-2.839	1.457	.154	-6.446	0.768
	PG	-2.540*	0.706	.002	-4.286	-0.793
PG	NCE	-0.299	1.494	.980	-3.996	3.398
	Degree	2.540*	0.706	.002	0.793	4.286

Scheff's test analysis as presented in Table 8 revealed three possible pair wise comparison of

mean difference in the students' perception based on programme. Significant mean difference was only observed between Degree and postgraduate programmes (2.54) with p- value (.002) < alpha level (.05).

Hypotheses 3: There is no significant difference in the students' perception of challenges of authentic assessment methods based on gender and programme in tertiary institutions in South-East geo-political zone.

Table 9

a.Independent t-test Analysis of Difference between Students' Perception of Challenges of Authentic Assessment Methods based on Gender

Gender	N	\bar{x}	SD	df	t-value	Sig.
Female	95	11.13	3.28	136	.025	.980
Male	43	11.14	1.42			

b.One-way ANOVA of Students' Perception of Challenges of Authentic Assessment Methods based on Programme

Sources of Variance	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	38.668	2	19.334	2.469	.088
Within Groups	1056.984	135	7.830		
Total	1095.652	137			

From Table 9a it can be observed that the t-value (136) = .025 and that p-value (.980) > alpha level (.05). Based on the result, the null hypothesis was therefore, retained. This means that there is no statistical significant difference in the students' perception of challenges of authentic assessment methods based on gender. Similarly, Table 9b revealed that F-ratio (2, 135) = 2.469 and that p-value (.088) > the alpha level (.05) therefore, the null hypothesis was retained. The result showed that there is no significant difference in the students' perception of challenges of authentic assessment methods based on programme in tertiary institutions in South-East geo-political zone.

Hypotheses 4: There is no significant difference in the students' perceptions on the implementation strategies of authentic assessment based on gender and programme in tertiary institutions in South-East geo-political zone.

Table 10

a.Independent t-test Analysis of Difference between Students' Perception of the Implementation Strategies Authentic Assessment Methods based on Gender

Gender	N	\bar{X}	SD	Df	t-value	Sig.
Female	95	14.01	2.20	136	1.95	.053
Male	43	13.26	1.87			

b.One-way ANOVA of Students' Perception of the Implementation Strategies Authentic Assessment Methods based on Programme

Sources of Variance	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.765	2	4.883	1.080	.342
Within Groups	610.271	135	4.521		
Total	620.036	137			

As shown in Table 10a the t-value (136) = 1.95 and the p-value (.053) > the alpha level (.05). Based on the result, the null hypothesis was therefore, retained. This indicated that there is no statistically significant difference in the students' perceptions on the implementation strategies of authentic assessment based on gender. On the other hand, Table 10b revealed that F-ratio (2, 135) = 1.080 and that p-value (.342) > the alpha level (.05) therefore, the null hypothesis was retained. The result implied that there is no statistical significant difference in the students' perceptions on the implementation strategies of authentic assessment based on programme in tertiary institutions in South-East geo-political zone.

DISCUSSION OF FINDINGS

The purpose of the study was to investigate transition from conventional assessment to authentic assessment methods in tertiary education 21st century classroom in south-east geo-political zone. The first hypothesis tested revealed significant difference between students' preference of conventional and authentic assessment methods in tertiary education. This finding was expected and it corroborated with the position of Saher et al. (2020) who also reported significant difference between students' responses to both types of assessment, commenting that the purpose of the assessment is paramount in deciding which type to use while evaluating students' skills and knowledge. Similarly, Wylie et al. (2020) reported that students preferred multiple-choice question exams to short essay type questions, which are typical traditional assessment tools but when compared to the authentic assessment methods, they prefer using these innovative assessment methods of authentic assessment as they are fairly evaluated. These findings of earlier researchers suggest that in some situation, the two assessment method could be combined. The second hypotheses indicated no significant gender difference in the students' perception on the advantages of authentic assessment methods in the development of 21st century skills and a significant difference based on programme students run. The result on gender difference was

expected and is in line with the position of earlier researchers' perspectives who in their independent studies reported that the higher order of cognitive tasks of authentic assessment help in development that critical thinking, complex problem solving, creativity and innovation, effective communication and collaboration which are components of 21st century skills (Moria & Zain, 2017; Fatmawati, 2018; Koh et al., 2019). Lending credence to these findings, Campbell (2023) asserted that authentic assessment provides opportunities for students to develop and apply a range of skills, which were essential for personal and professional development in the global competitive workplace and lifelong learning. However, the finding on response of students based on the programme they run is surprising as the significant mean difference was found between degree programme and postgraduate programme. This finding negates the reports of Saher et al. (2022) who found no statistically significant differences between levels of study compared to the two types of assessments.

Hypotheses three found no significant difference in the students' perception of challenges of authentic assessment methods based on gender and programme. These findings are expected and agree with the opinions of Mueller et al. (2018); Koh et al. (2019); Aziz et al. (2020); Singh (2021) who contended that authentic assessment is challenging because it requires higher levels of thinking that are cognitively complex; students are constrained by time for adequate preparation; students receive surface-level feedback that hinders opportunities for timely intervention and adjustments of their work. Also, students are unfamiliar with authentic assessment structure.

The result of the fourth hypothesis revealed that there is no statistically significant difference in the students' perceptions on the implementation strategies of authentic assessment based on gender and programme. Implementing these strategies, which include setting clear goals and objectives, making the structure and expected standard known prior the assessment, designing higher order assessment, and giving consistent, timely, specific, and constructive feedback (Shaw, 2020; Nguyen, 2022), will make the students feel comfortable and successful in their completion of authentic assessment.

CONCLUSION

Based on the empirical evidences, the study concluded that students prefer combination of conventional and authentic assessment methods. Authentic assessments are veritable tools for development of the 21st century skills. It was also concluded that although authentic assessment has challenges there are implementation strategies that will lead to increase in engagement and motivation of among students.

Recommendations

The following recommendations were made:

1. Government and awarding institutions should train tertiary educators so that they can combine conventional and authentic assessment methods.
2. Tertiary educators should design higher- order tasks to foster development of the 21st century skills.
3. Educators should recognize the hurdles of authentic assessment on the part of the students and try to embrace effective implementation methods.

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