

IDENTIFYING EFFECTIVE QUALITY ASSESSMENT TOOLS FOR THE IMPROVEMENT OF QUALITY ASSURANCE IN HIGHER INSTITUTION: A CASE STUDY OF ELECHI AMADI POLYTECHNIC, RIVERS STATE

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Abstract

The use of assessment is common in quantitative research and sometimes consider in a qualitative study. The challenges of achieving assessment are among the most difficult things faced by researchers. The study adopted descriptive research design. Two research questions and two hypotheses guided the study. The study was carried out in Captian Elechi-Amadi Polytechnic, Rumuola, Obio/Akpor Local Government Area of Rivers State. The population of the study consists of 72 teachers who are trained in Captian Elechi -Amadi Polytechnic Obio/Akpor. The sample size of 72 teachers constituted for the study using census sampling technique. Data was collected through questionnaire. The instrument titled: Quality Assessment tools for Quality Assurance Questionnaire (QATQAQ) was constructed and validated by test experts in the field of measurement and Evaluation. Cronbach alpha was used to determine the reliability coefficient and the value obtained was 0.75. The research questions were analyzed using mean and standard deviation while hypotheses were tested using t-test. The study revealed that assessment tools can improve quality assurance such as type form, explain everything, remind me etc. The study recommended that teachers should attends seminars and conferences to gain more information on the current assessment tools.

Keywords: Quality assurance, assurance, quality and quality assessment, assessment tools

Introduction

Quality is the measure of excellence of a product or service, including its features, unique attributes, and characteristics. It could be as explicit as a contract or implied in consumers' expectations regarding a product or service. It also includes meeting customers' needs regarding functionality, reliability, durability, and product price. For instance, you can expect a watch to tell the time accurately or an auditor to follow the terms of his contract (Mathur, 2022). Assurance is a promise or guarantee meant to inspire confidence in a thing. It is a declaration made in a positive light (Mathur, 2022).

Mathur (2022) defines quality assurance as a method of preventing mistakes and defects in manufactured products or services rendered to customers. It involves services or product delivery to customers. It is also known as QA testing, and it focuses on improving processes to deliver quality to customers. Quality Assurance is a way of preventing mistakes or defects in manufactured products and avoiding problems when delivering solutions or services to customer, it is applied to physical products in pre-production to verify what will be made to meet specification and requirements and during manufacturing production runs by validating lot samples meet specified quality controls (Free Encyclopedia.com). Quality assurance generally refers to a broad plan for maintaining quality in all aspects of a program. This plan should describe how to describe how to undertake the monitoring effort: proper documentation of all procedures, training of volunteers, study design, data management and analysis and specific quality control measures. Quality assurance helps to support teachers and build expertise and capacity in the education system to deliver positive outcomes for children and young people. Through sharing, understanding and applying standards and expectations, quality assurance helps to raise standards and expectations and levels of consistency across teachers and schools. It is important in the planning and coordination of professional development activities that a partnership and inter establishment approach is adopted to ensure cross-service and cross sector working on standards and

expectations. Quality assurance in education is part of the day-to-day work of pre-school centers primary, special and secondary schools, services and local authorities staff use a wide range of activities to ensure that high standards are maintained and outcomes improved for children and young people. These include monitoring, self-evaluation and planning for improvement. Quality assurance in school according to Azubuike in F.M.E (2010) is about the quality of the work of a school and its impact on the learners. It is said to depend on the level and goal of educational system. There are various indicators (signs) to judge or detect the assurance of quality in schools. These indicators have been classified into three groups namely the input indicator, the process and outcome indicators. There are also certain techniques employed to carry out quality assurance processes in the school system, they include quality cycles, supervision, school development plan (SDP), evaluation, participatory leadership style, funding to name a few. Apart from guaranteeing the accomplishment of educational goals, quality assurance in schools is a proactive phenomenon that reduces defects and wastage in educational system.

Ainslee (2018) says that assessment acts as a catalyst in bringing out positive outcome by encouraging the learner in terms of better performance. It is a part of quality assurance that focuses on assessment of fulfilling quality requirement (need or expectation that is stated generally implied or obligatory (Ess quality Glossary 2010). Lucas (2008) asserts that assessment is an integral part of instruction, as it determines whether or not the goals of education are being met. Assessment affects decisions about grades, placement, advancement, instructional needs, curriculum, and, in some cases, funding. Assessments inspire us to ask these hard questions: "Are we teaching what we think we are teaching?" "Are students learning what they are supposed to be learning?" "Is there a way to teach the subject better, thereby promoting better learning? Quality assessment is an evaluation of the extent to which a trial's design and management are likely to have prevented systematic errors and biases (Farlex,2012). Ayanyemi (2023) viewed an assessment tool as a technique or method of evaluating information to determine how much a person knows and whether this knowledge aligns with the bigger picture of a theory or framework. Assessment methods differ based on context and purpose. For example, personality tests use your responses to discover character traits, and financial assessments measure how much you know about concepts like saving and investments. Cornell University (2023) says that assessment tools assist in assessing and evaluating student learning and can provide different options to assess students beyond the traditional exam. Several tools are available including grading rubrics, Canvas Assignments, plagiarism detection, self-assessment, and peer assessment, surveys, and classroom polling.

Spectraining (2021) says that a quality assessment tool consists of a number of components. Each one designed to meet particular conditions that ultimately ensure the tool meets the principles of assessments and rules of evidence. A reliable assessment tool is one that can be used multiple times in multiple contexts and still produce the same expected outcomes, regardless of who is assessing the learner. Reliability can be checked by ensuring the Assessor's marking guide is clear and accurate. We also use edition control to create and ensure ensure that assessors are using the most up to date version of the assessment. Bakir (2005) opined that a quality assessment tool is presented to detect the presence of out of-control conditions in a school course system. The tool detects whether or not a set of courses offered by a certain discipline constitutes a stable (or in-control) system of courses. Quality Assessment tools are questionnaires created to help you assess the quality of a variety of study designs. Depending on the types of studies you are analyzing, the questionnaire will be tailored to ask specific questions about the methodology of the study. There are appraisal tools for most kinds of study designs. You should choose a Quality Assessment tool that matches the types of studies you expect to see in your results. (UNC,2023).

Characteristics of an Assessment Tool

Reliability: The right assessment tool produces the same results over time. So there's a consistency, or accuracy in these results. Here, you should consider whether the test can replicate results whenever it is used for instance if the students perform the same tasks concurrently, then such assessment passes as reliable. Ayanyemi (2023)

Validity: The validity of an assessment boils down to how well it measures the different criteria being tested. In other words, it is the idea that the test measures what it intends to measure. This means your assessment method should be relevant to the specific context. For example, if you're testing physical strength, you shouldn't send out a written test. Instead, your tests should include physical exercises like pushups and weight lifting (Ayanyemi, 2023).

Equitable: A good assessment tool is equitable, which means it doesn't favor or disfavor any participant. Fair assessments imply that students are tested using methods and procedures most appropriate to them. Every participant must be familiar with the test context so they can put up an acceptable performance (Ayanyemi, 2023).

Standardization means applying consistency to your testing methods. For example, if you're sending out a questionnaire, it should have the same set of questions for all participants, and all the answers should be graded using the same criteria (Ayanyemi, 2023).

The Geological Society of America (2020) mentioned assessment tools

Concept Maps - A diagramming technique for assessing how well students see the "big picture".

Concept Tests - Conceptual multiple-choice questions that are useful in large classes.

Knowledge Survey - Students answer whether they could answer a survey of course content questions.

Exams - Find tips on how to make exams better assessment instruments.

Oral Presentations - Tips for evaluating student presentations.

Poster Presentations - Tips for evaluating poster presentations.

Peer Review - Having students assess themselves and each other.

Portfolios - A collection of evidence to demonstrate mastery of a given set of concepts.

Rubrics - A set of evaluation criteria based on learning goals and student performance.

Written Reports - Tips for assessing written reports.

Other Assessment Types Includes concept sketches, case studies, seminar-style courses, mathematical thinking and performance assessments.

Roles of Assessment in Quality Assurance

It is safeguarding academic standards and public accountability, help improve, curriculum, evaluate the effectiveness of teaching and instructional practices; measure student achievement and determine students' mastery of skills: it is essential for improving the quality of programs, inform prospective students and their parents. Quality assessment is important for safety and processes of care, it is important to know when errors occur, why they occur and what to do about them to prevent them from happening again. However, assessment is integral to learning, teaching and the curriculum, since quality assurance approaches apply equally to assessment. Assessment is for high stakes qualifications and certification; particular safeguards are required to guarantee fairness to all young people and to

provide confidence to parents, colleges, universities and employers. In developing assessment, teachers are involved in their approaches through participation in moderation activities is a highly effective form of professional development. www.educationscotland.gov.uk/learning.

Statement of the Problem

Over times people begin to do the right thing continuously and consistently even when no one is watching in order to sustain relationship, maintain high standard, seeking to structure features or characteristics of a product or service that bear on their ability and the outcomes will improved or satisfy human want. However, it is not surprising that almost every employer expects the best from his/her employee. Therefore quality is a momentary perception that occurs when something in our environment interacts with us, in the pre-intellectual awareness that comes before rational thought takes over and begins establishing order. Judgment of the resulting order is then reported as good or bad quality value.

Aim and Objectives of the Study

The aim of this study is to identify effective quality assessment tools in improving quality assurance in higher institution in Rivers State. Specifically, the objectives are to:

- i. identify effective quality assessment tools
- ii. determine the role of assessment in quality assurance

Research Questions

- i. What are the effective quality assessment tools?
- ii. What are the roles of assessment in quality assurance?

Hypotheses

- i. There is no significant difference in effective quality assessment tools in higher institution based on gender
- ii. There is no significant difference in the role of assessment in quality assurance based on gender

Methodology

The study adopted descriptive research design. Two research questions and two hypotheses guided the study. The study was carried out in Captain Elechi-Amadi Polytechnic, Rumuola Obio/Akpor Local Government Area in Rivers State. The population of the study consists of 72 teachers who are trained in Captain Elechi -Amadi Polytechnic Obio/Akpor. The sample size of 72 teachers constituted for the study using census sampling technique. Data was collected through questionnaire. The instrument titled: Quality Assessment tools for Quality Assurance Questionnaire (QATQA) was constructed and validated by test experts in the field of measurement and Evaluation. Cronbach alpha was used to determine the reliability coefficient and the value obtained was 0.75. The research questions were analyzed using mean and standard deviation while hypotheses were tested using t-test.

Results

Research Question One: What are the effective quality assessment tools?

Table 1: Mean and Standard Deviation Responses of the assessment tools

<i>S/N</i>	<i>Items</i>	<i>N</i>	<i>Mean</i>	<i>Standard Deviation</i>
1	Answer Garden	72	2.94	.78523
2	Assistments	72	2.78	.80297

3	Backchannel chat	72	2.44	.80297
4	Chatzy	72	3.43	.49863
5	Coggle	72	1.74	.78710
6	Edulastic	72	3.34	.47943
7	Explain everything	72	3.19	.39855
8	Formative	72	1.75	.68690
9	Flipgrid	72	2.40	.88269
10	Go formative	72	3.22	.41866
11	Insert learning	72	3.09	.44909
12	Kahoot	72	1.28	.45105
13	Lino	72	1.43	.49863
14	Mentimeter	72	3.40	.49390
15	Type form	72	3.64	.48369
16	Survey planet	72	3.19	.39855
17	Seesaw	72	3.50	.39855
18	Quizlet	72	3.53	.50273
19	Padlet	72	1.44	.66901
20	Remind	72	1.39	.49092
21	Nearpod	72	3.26	.44383
22	Pear Deck	72	3.00	.0000
23	Poll everywhere	72	3.30	.46387
24	Socrative	72	1.39	.49092
25	Formplus	72	3.63	.51560
26	Research Reports	72	3.62	.44383
27	Google classroom question tool	72	1.96	.65944
28	Project assessment tool	72	3.18	.45429
29	Plickers	72	3.28	.48126
			2.71	0.83

Criterion mean = 2.50

The data presented in table 1 showed that the mean and standard deviation ratings of the responses on the effective of quality assessment tools on 29 items in the table were ranging from 1.28 to 3.63 which some are not up to the cutoff point value of 2.50 on a 4-point rating scale. This indicated that the 21 identified items in the table are in agreement with the statement about assessment tools in higher institutions. The conclusion is that there are effective quality assessment tools.

Research Question Two: What are the roles of assessment in quality assurance?

Table 2: Mean Responses of Roles of Assessment in Quality Assurance

S/N	Items	N	Mean	Standard Deviation
1	<i>The level of academic achievement attained by higher education graduates, are maintained and improved.</i>	72	3.53	.50273
2	Through assessment of student learning that we discover the extent to which students have learned whatever it is they are required to know to meet their learning objectives	72	2.78	.80297
3	Help clarify what good performance is	72	2.44	.80297
4	Encourage time and effort on challenging learning tasks	72	3.43	.49863
5	Deliver high quality feedback information that helps learners self-correct	72	3.53	.50273
6	Provide opportunities to close any gap between current and desired performance	72	3.34	.47943
7	Ensure that summative assessment has a positive impact on learning.	72	3.19	.39855

8	Encourage interaction and dialogue around learning (peer and teacher-student)	72	3.09	.44909
9	Facilitate the development of self-assessment and reflection in training	72	3.64	.48369
10	Give choice in the topic, method criteria weighing or timing of assessments	72	3.22	.41866
Grand mean		3.20	0.37	

Criterion =2.5

The data presented in table 2 showed that the mean and standard deviation of ratings responses of the role of assessment in quality assurance on 10 items in the table ranging from 2.44 to 3.64 which are all greater than the cut-off value of 2.50 on 4-point rating scale. This indicated that the 10 identified items in the table are in agreement with the statement about the role of effective assessment tools. The conclusion is that there are enormous role of assessment to quality assurance.

Hypotheses

Hypothesis One: There is no significant difference in effective quality assessment tools in higher institution based on gender.

Table 3: t-test Analysis on An Effective Quality Assessment Tools in Higher Institution

Variables	N	Mean	sd	df	t-cal	P-value	Decision	Result
Male	17	83.18	3.49	70	0.323	0.000	Rejected	Significance
Female	55	83.49	3.57					

The result in Table 3 shows the t-value (0.32) was obtained and a probability value is 0.00. The probability value of 0.00 was compared with 0.05 and it was found to be lesser than 0.05 ($p < .05$). Hence, the null hypothesis is rejected. This indicates that there is a significant disparity between ratings of the responses of male and female teachers exposed to effective quality assessment tools in higher institution.

Hypothesis Two: There is no significant difference in the role of assessment in quality assurance based on gender.

Table 4: t-test analysis on role of assessment in quality assurance

Variables	N	Mean	Sd	df	T-cal	P-value	Decision	Result
Male	36	84.06	3.57	70	1.541	0.000	Reject	Significant
Female	36	82.78	3.46					

The result in Table 4 shows the t-value (1.54) was obtained and a probability value is 0.00. The probability value of 0.00 was compared with 0.05 and it was found to be lesser than 0.05 ($p < .05$). Hence, the null hypothesis is rejected. This indicates that there is a significant disparity between ratings of the responses of male and female teachers exposed to the role of assessment in quality assurance.

Discussions of findings

The Effective Quality Assessment Tools in Higher Institution

The effectiveness of these tools depends on various factors such as the context, the nature of the product or service being assessed, available resources and organizational culture. Regular review and adaptation of assessment methods are essential to ensure they remain relevant and useful. However, integrating

multiple tools and approaches can provide a more comprehensive understanding of quality and drive continuous improvement efforts. The finding is in line with UNC (2024) who reported that quality assessment tools are questionnaires created to help assess the quality of a variety of study designs. Depending on the types of studies you are analyzing, the questionnaire will be tailored to ask special questions about the methodology of the study. Moreso, there are assessment tools for most kinds of study designs.

The Role of Assessment in Quality Assurance

Assessment serves as a cornerstone of quality assurance efforts, providing the necessary data and insights to drive continuous improvement, mitigate risks, ensure compliance, and enhance stakeholder satisfaction. By integrating assessment into quality management processes, organizations can establish a culture of excellence and achieve their quality objectives effectively. The finding is in support with (fastercapital, 2024) who says that the primary assessment is to improve product or service quality. He also said it helps organizations identify weaknesses or inefficiencies in their processes and take appropriate measures to rectify them.

Conclusion

Based on the findings of this study, it can be concluded that assessment tools can improve quality assurance such as types, forms, explain everything, remind etc. One thing that is vital is to tailor the particular tool suitable at the moment. Once the tool is tied to the context, one can choose the right questions to help in gathering valuable data. Most importantly, the results from assessments should inform improvements, whether at school, at work, or for projects.

Recommendations

Based on the findings, the following recommendations were made;

- i. Teachers should attend seminars and conferences to gain more information on the current assessment tools.
- ii. Ensure that the right techniques are in place when assessing student for quality assurance
- iii. The government and school management should as a matter of fact provide conducive environment with the necessary facilities in schools for effective assessment.

References

- Ainslee, J. (2018) The significance of quality assessment in the education system. www.e-learningindustry.com/ quality assessment in the education system significance
- Ayanyemi, T. (2023) Assessment tools: Types, examples and importance. www.formpl.us/blog/assessmenttools
- Bakir, S. T. (2005). A simple tool for Quality assessment in Education. *Journal of College Teaching & Learning*. 2(7), >
- Cornell University (2023). Assessment tools; Center for teaching innovation. www.teachingcornell.edu/learning-technologies/assessment
- Ess Quality Glossary (2010). Quality assurance in vocational education. European and training <http://epp/eurostat.ec.europa.eu/portal>
- Federal Ministry of Education (2010). Education quality assurance instrument for Abuja: *Federal Inspectorate Service*.



- Farlex (2012). Segen's medical dictionary .www.dictionary.thefreedictionary.com Quality assurance for school development: Guiding principles for policy development on Quality assurance in school education.
- Faster Capital (2024). Understanding the role of quality assessment. www.fastercapital.com
- Indeed Editorial Team (2022). 28 assessment tools for teachers what to use in your classroom www.indeed.com/career-advice-development/assessmenttoolsforteacher
- Lucas,G (2008) Why is assessment important. George Lucas Educational Foundation www.edutopia.org/assessment-guideimportant
- Mathur, K. (2022). what is quality assurance? How quality assurance improve your business. <https://www.sweetprocess.com/qualityassurance>
- UNC (2024). What are quality assessment tools?:assess quality of included studies (optional) [www.iuides.lib.unc.edu > questionnaire](http://www.iuides.lib.unc.edu/questionnaire)
- Spectraining (2021). What is quality assessment tool. <https://spectraining.edu.au/blogs>
- The Geological Society of America (2020) Understanding what our geoscience students are learning: Observing and assessing.