

Self-Assessment as Correlate of Academic Achievement among Financial Accounting Students in Public Senior Secondary Schools in Rivers State

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Abstract: This study investigated self-assessment as correlate of academic achievement among financial accounting students in public senior secondary schools in Rivers State. Four research questions were posed, while four hypotheses guided the study. This study adopted the correlational survey research design. From a population of 851 selected students in public senior secondary schools in Rivers State, 30% of the population (255 students) was sampled using the purposive sampling technique in selection of the students. A self-structured questionnaire titled "Self-Assessment and Academic Achievement Questionnaire" (SAAQ) with a four point rating scale, was used in generating data for the study. The instrument was validated by an expert in the field of Measurement and Evaluation, who established and proved that the instrument is valid and reliable, while a reliability coefficient index of 0.79 was obtained using the Pearson's Product Moment Correlation. The Pearson's Product Moment Correlation was used in answering the stated research questions and in testing the formulated null hypotheses at 0.05 level significance. The study found that there is a significant relationship between there is a significant relationship between formative self-assessment, summative self-assessment and academic achievement among financial accounting students in public senior secondary schools in Rivers State. Given the above, it was therefore recommended that schools should allow for and ensure effective adoption and invigoration of formative self-assessment and that proliferation of summative self-assessment should be integrated in the school curriculum to enhance learning and improve academic achievement of students.

Keywords: Self-Assessment, Academic Achievement, Financial Accounting, Senior Secondary Schools.

Introduction

Assessment is the formal act or process of developing an opinion of value. It is an integral part of the learning process which should play an important role in the educational model (Yunlok, 2014). It comprises of all activities to help learners recall what has been impacted to them, for example, tests, assignments, demonstration, illustration, and others on large

scale or classroom level. It helps to engage students, clarify roles, promote learners, diversify the scope of evaluation, and many more.

Narael and Abullah (2016) defined assessment as the knowledge gained which is assessed and marked by a teacher and/or educational goals set by students and teachers to be achieved over a specified duration. It also entails the outcome of education and extent to which a student, teacher or institution has achieved educational goals. In the opinion of Yunlok (2014), assessment is a measure of knowledge and skills that students have mastered in a subject or a course. It is basically a measure of how well students have performed in the various assessment items set for them based on some educational criteria determined by professional educators. Through students' achievement in the assessment items such as essays, tests, viva, and examinations, students' achievement are determined in ranking as to the educational standards that they have reached - pass, credit, distinction, high distinction and so on. A self-assessor with less skill at assessment but more time in which to do it than the teacher can produce an assessment of equal reliability and validity to that of a teacher.

Self-assessment is a learning tool for secondary school students for better conceptual understanding of additive and subtractive colour mixing (Noona, 2005). It provides a structured learning process for students to critique and provide feedback to each other on their work. It helps students develop lifelong skills in assessing and providing feedback to others and thus equip them with skills to self-assessment and improve their own work. Self-assessment involves students taking responsibility in assessing the work of their peers against set assessment criteria. This makes self-assessment an important component of assessment for learning (formative peer assessment) rather than simply a means of measuring performance (summative peer assessment). For successful self-assessment the teacher must: have clear assessment criteria (give crystal clear procedure), develop their assessment criteria with students, use anonymous examples of work, vary the work to assess, model responses, allow time to respond, and provide feedback on the assessment.

Orsmond (2015) asserted that engaging students in self-assessment can help them in learning to evaluate their own learning and in interpreting assessment criteria. Further benefits might also include increasing feedback to students; reducing marking loads for staff; giving students a sense of ownership of assessment process; encouraging critical analysis of students' work, so students see beyond a mark/grade. He concluded that very obvious challenges are met when there is lack of ability to evaluate students, some do not take the assessment seriously, or fear discrimination. In education, self-assessment has been used at an increasing rate in recent decades, as a tool for students' appraisal (Gielen, Dochy, Onghena, Struyven & Smeets, 2011), as it represents a system for learning built around the learner which focuses on the full integration of the student in the process of collaborative learning with peers under the supervision of the teacher (Thomas, Martin & Pleasants, 2011). Self-assessment may be therapeutic while other fields may have work integrated assessment, dynamic assessment, synoptic assessment, criterion-referenced assessment, Ipsative C, and others (Ndupuechi, 2019).

Self-assessment could be formative (assessment for learning) or summative (assessment of learning) (Ketonen, 2020) yet valid, reliable, equitable, explicit, transparent, support learning process and efficient. Formative self-assessment is an essential part of teaching

and learning. It does not add to the final marks given for the unit; instead, it improves learning through given advice. Also, it points out what is good about the work and what is not? Similarly, it also affects what the students and teacher will plan in the future for learning. In formative self-assessment, a collaborative learning technique, students evaluate their peers' work and have their own work evaluated by peers. Often used as a learning tool, formative self-assessment gives students feedback on the quality of their work, with ideas and strategies for improvement. At the same time, evaluating peers' work can enhance the evaluators' own learning and self-confidence. It personalizes the learning experience, potentially motivating continued learning. When used in grading, it can give the instructor needed information on students' performance. Especially for large online classes, it may allow inclusion of assignments where students' creative work could not be graded reliably through automation or efficiently by teaching staff (Lladó, Soley, Roura-Pascual & Moreno, 2014). The intent of formative self-assessment is to help students help each other plan their learning, identify their strengths and weaknesses, target areas for remedial action, and develop meta-cognitive and other personal and professional skills.

Summative assessment, on the other hand, shows the amount of learners' success in meeting the assessment. Also, it contributes to the final marks given for the unit. These are conducted at the end of units. In addition, it provides data for selection for the next level. It can also provide information that has formative value (Andrade, Hadi & Du, 2017). Summative self-assessment is an assessment method where students assess each other on the basis of their observed performance by the conclusion of the task or assignment which requires teamwork skills to be employed (Sambell, McDowell & Montgomery, 2013). Depending on its purpose, the assessment may comprise a mark, comments, or both. However, it usually involves observing, reading, or interacting with peers in completion of the group work assessment task. The goal of a summative self-assessment is to evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark. It is typically heavily weighted high stake with high point value administered at the end of an instructional unit as in midterm exam, end-of-term exam, cumulative work over an extended period such as final project or creative portfolio, end-of-unit or chapter tests, etc. It evaluates what students learn, covers complete content areas, assigns grade to students' understanding, and emphasizes the product of student learning. It can also provide information that has formative value. Summative self-assessment yield benefits as one of the main modification of the unilateral power that instructors keep during the assessment process (Tan & Keat, 2015). If students do not have access to the process of summative assessment, their involvement in the power basis of education will be merely peripheral. Nevertheless, Tan (2018), argued that the participation of students in summative self-assessment only increases their power when the result of such self-assessment has priority over the instructor's assessment and improves their academic achievement.

Academic achievement is measured by ability to move on to higher grades while intelligence is ability to adapt to new information being presented in previous grades. Based on the report of the Center for Research and Development Academic Achievement (CRIRES) (2015), academic performance is a construct to measure students' achievement, knowledge and skills. That means assessment can be estimated for any student by the home environment, learning skills, academic interaction and study habits. Students can

achieve high assessment through learning skills. Students' self-assessment is affected by learning skills, parental background, peer influence, teachers' quality and learning infrastructure. Academic achievement is almost entirely measured with grades (by subjects or assignment) and Grade Point Average (GPA). The accomplishment of learning objectives and the acquisition of skills and competences can be measured at a subject, programme (e.g. Senior School Certificate Examination) and institutional level.

In the view of Morrall (2019), assessment mirrors the old adage: "publish or perish." Students' self-assessment is the gradual, measurable grading of achievement as evident in grades earned, GPA, High school diploma, Bachelors' Degree and further. Malik (2018) viewed assessment as the measurement of students' achievement across various academic subjects. Teachers and education officials typically measure achievement using classroom performance, graduation rates and results from standardized tests. Academic achievement is the extent to which a student, teacher or institution has attained their short or long-term educational goals. Completion of educational benchmarks such as secondary school diplomas and bachelor's degrees represent academic achievement.

Nicol, Thomson and Breslin (2014) identified that teaching staff are often reluctant to relinquish complete control over the feedback and assessment process, despite considerable evidence of deep student dissatisfaction with teacher-led feedback practices. Thus, there are great opportunities and advantages, in terms of understanding and engagement, to learners providing feedback on and assessing each other's work. Using and/or developing assessment criteria takes students deeper into their learning and allows for feedback and reflection on learning and the sharing of what new meaning appears. Further, if self-learning and collaboration are to be emphasized in a course or module, then assessment activities need to align with this and promote it. Self-assessment should be both appropriate and credible. In self-assessment, students make decisions about each other's work and decide what constitutes 'good work'. This can be done anonymously, randomly, individually or in a group and is an active area of research (Strijbos & Sluijsmans, 2010). Self-assessment and the learning that emerges from it fit into social constructivist models of education (Carlile & Jordan, 2015). Therefore, the traditional individualistic concept of assessment needs to be re-addressed if student cooperation and collaboration are to be fostered. Furthermore, self-assessment can dramatically reduce the marking load on academic staff and allow them to devote more time to other aspects of teaching and learning. It can also free up time to enable them to manage the peer assessment process itself more effectively.

Statement of the Problem

Assessment of Financial Accounting as a subject in senior secondary schools should be comprehensive, objective, systematic, cumulative and guidance-oriented. Progressive and unbiased method of evaluating learners' achievement from instruction as well as their general developments physically, mentally, socially, morally, and culturally can generally be realised through self-assessment. However, many teachers fear that self-assessment is too resource intensive, time consuming, and an added task for which they are not appreciated. The aforementioned subject basically, has suffered much misunderstanding and unacceptance from secondary school students for many years because of unilateral teachers' grading, general misconception of its importance, little or no incentive for the few

available Financial Accounting teachers, poor students' performance in the subject among others (Ndupuechi, 2019). There is need for good performance by students in the subject matter. Therefore, it is imperative to encourage students offering Financial Accounting in secondary schools and teachers teaching the subject so as to improve in the teaching and learning process in public senior secondary schools in Rivers State and mitigate the challenges in the subject. Given the above, this study investigated self-assessment as correlate of academic achievement among financial accounting students in public senior secondary schools in Rivers State.

Purpose of the Study

The purpose of this study basically is to investigate self-assessment as correlate of academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. In specific terms, the study sought to:

1. Assess the relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.
2. Examine the relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Research Questions

The following research questions guided the study:

1. What is the relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State?
2. What is the relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State?

Hypotheses

The following research hypotheses were formulated for the study and were tested at 0.05 level of significance:

1. There is no significant relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.
2. There is no significant relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Methodology

This study adopted the correlational survey research design. From a population of 851 senior secondary 1 (SS1) students of public senior secondary schools in Rivers State (Source: Rivers State Senior Secondary Schools Board, 2021), 30% of the population (255 students) was selected for the study using the purposive sampling technique. A self-structured questionnaire titled "Self-Assessment Questionnaire" (SAQ) with a four-point

rating scale was used in measuring self-assessment, while examination scores of the students in Financial Accounting were obtained from the selected schools and used as data for Academic Achievement. The instrument (SAQ) was validated by two experts in the field of Measurement and Evaluation, who established and proved that the instrument was valid, while a reliability coefficient of 0.79 was obtained using Cronbach Alpha. The Pearson's Product Moment Correlation was used in answering the stated research questions, and the t-transformation statistic was used in testing the formulated null hypotheses at 0.05 level significance.

Results

Research Question 1: What is the relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State?

Table 1: Relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Variables	N	Σx	Σx^2	Σxy	R	Decision
		Σy	Σy^2			
Formative Self-Assessment (x)	255	20461	436710	830029	0.79	Positive (Strong)
Academic Achievement (y)	255	21642	529042			

Source: Researchers' Analysis from Field Survey, 2022.

The information in Table 1 above shows the relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. The calculated $r = -0.79$ shows that there is a positive relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. This implies that formative self-assessment among students improves their academic achievement in public senior secondary schools in Rivers State.

Research Question 2: What is the relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State?

Table: 2. Relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Variables	N	Σx	Σx^2	Σxy	R	Decision
		Σy	Σy^2			
Formative Self-Assessment (x)	255	23753	330621	756933	0.73	Positive (Strong)
Academic Achievement (y)	255	20926	466781			

Source: Researchers' Analysis from Field Survey, 2022.

The information in Table 2 above shows the relationship summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. The calculated $r = 0.73$ shows a strong positive relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. This implies that summative self-assessment among students improves their academic achievement in public senior secondary schools in Rivers State.

Test of Hypotheses

Hypothesis 1: There is no significant relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Table 3: t-transformed of relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Variables	N	Σx	Σx^2	Σxy	df	r-cal	t-trans	t-crit	Decision
		Σy	Σy^2						
Formative Self-Assessment (x)	255	20461	436710	830029	253	0.79	20.49	1.96	H ₀
Academic Achievement (y)	255	21642	529042						

Rejected

Source: Researchers' Analysis from Field Survey, 2022.

In Table 3 above, the t-transformed value of 20.49 is greater than the t-critical value of 1.96 for 253 degrees of freedom at 0.05 level of significance, the null hypothesis which states that there is no significant relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State is hereby rejected and the alternate is thus accepted. This implies that there is a significant positive relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Hypothesis 2: There is no significant relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Table 4: t-transformed of relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State

Variables	N	$\sum x$	$\sum x^2$	$\sum xy$	df	r-cal	t-trans	t-crit	Decision
		$\sum y$	$\sum y^2$						
Summative Self-Assessment (x)	25 5	23753	330621	756933	25 3	0.73	16.99	1.96	H ₀
Academic Achievement (y)	25 5	20926	466781						Rejected

Source: Researchers' Analysis from Field Survey, 2022.

In Table 4 above, the t-transformed value of 16.99 is greater than the t-critical value of 1.96 for 253 degrees of freedom at 0.05 level of significance. Thus, the null hypothesis that "there is no significant relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State" is hereby rejected and the alternate accepted. This means that there is a significant positive relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Discussion of Findings

Based on the analysis of the data, the Research Question 1 revealed that the relationship between formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State is positive and strong. The calculated $r = 0.79$ shows that there is a positive relationship between

formative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. This implies that formative self-assessment among students improves the academic achievement of students of public senior secondary schools in Rivers State. The corresponding test of Hypothesis 1 established that the t-transformed value of 20.49 is greater than the t-critical value of 1.96 for 253 degrees of freedom at 0.05 level of significance. Thus, the null hypothesis that “there is no significant relationship between formative self-assessment and academic achievement among Financial Accounting students of public senior secondary schools in Rivers State” is hereby rejected and the alternate accepted, which implies that there is a significant positive relationship between formative self-assessment and academic achievement among Financial Accounting students of public senior secondary schools in Rivers State.

In line with the findings of this study, Andrade, Hadi and Du (2017) asserted that formative assessment is an essential part of teaching and learning. It does not add to the final marks given for the unit; instead, it improves learning through giving advice. Also, it points out what is good about the work and what is not? Similarly, it also affects what the students and teacher will plan in the future for learning. Further, in formative peer-assessment, a collaborative learning technique, students evaluate their peers’ work and have their own work evaluated by their peers. Often used as a learning tool, peer-assessment gives students feedback on the quality of their work, with ideas and strategies for improvement. At the same time, evaluating peers’ work can enhance the evaluators’ own learning and self-confidence. It personalizes the learning experience, potentially motivating continued learning. When used in grading, it can give the instructor needed information on students’ performance. Especially for large online classes, it may allow inclusion of assignments where students’ creative work could not be graded reliably through automation or efficiently by teaching staff (Lladó, Soley, Roura-Pascual & Moreno, 2014). The intent of formative self-assessment is to help students help each other plan their learning, identify their strengths and weaknesses, target areas for remedial action, and develop meta-cognitive and other personal and professional skills. A peer assessor with less skill at assessment but more time in which to do it can produce an assessment of equal reliability and validity to that of a teacher.

The analysis of the data on Research Question 2 revealed the relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. The calculated $r = 0.73$ shows a strong positive relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. This implies that summative self-assessment among students improves their academic achievement in public senior secondary schools in Rivers State. The corresponding test of hypothesis 2 revealed that the t-transformed value of 16.99 is greater than the t-critical value of 1.96 for 253 degree of freedom at 0.05 level of significance, indicating that there is a significant relationship between summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State. This implies that summative self-assessment positively influences academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Supporting this finding, Sambell, McDowell and Montgomery (2013) informed that summative self-assessment is an assessment method where students assess each other on the basis of their observed performance by the conclusion of the task or assignment which requires teamwork skills to be employed. Basically, the assessment may comprise a mark, comments, or both. Thus, it usually entails observing, reading, or interacting with peers in completion of the group work assessment task. Also, Tan and Keat (2015) opined that the objective of a summative self-assessment is to evaluate student learning at the end of an instructional unit by comparing it against some standard or benchmark. It is typically heavily weighted with high point value administered at the end of an instructional unit as in midterm exam, end-of-term exam, cumulative work over an extended period such as final project or creative portfolio, end-of-unit or chapter tests, etc. It evaluates what students learn, covers complete content areas, assigns grade to students' understanding, and emphasizes the product of student learning. If students do not have access to the process of summative assessment, their involvement in the power basis of education will be merely peripheral. Nevertheless, Tan (2018), argued that the participation of students in summative self-assessment only increases their power when the result of such self-assessment has priority over the instructor's assessment.

Conclusion

The study revealed that engaging students in self-assessment can help them in learning to evaluate their own learning and in interpreting assessment criteria. Further benefits include increasing feedback to students; reducing marking loads for staff; giving students a sense of ownership of assessment process; encouraging critical analysis of students' work, so students see beyond a mark/grade. In education, self-assessment has been used at an increasing rate in recent decades, as a tool for students' appraisal as it represents a system for learning, built around the learner which focuses on the full integration of the student in the process of collaborative learning with peers under the supervision of the teacher. On the whole, there is a significant relationship between formative self-assessment, summative self-assessment and academic achievement among Financial Accounting students in public senior secondary schools in Rivers State.

Recommendations

From the findings of the study, the following recommendations are made:

1. Schools should allow for and ensure effective adoption and invigoration of formative self-assessment in public senior secondary schools to enhance learning.
2. Increased summative self-assessment should be integrated in the school curriculum to improve academic achievement of students.

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