

Formative assessment methods and teaching and learning processes of Business Education in Federal Universities in South-South, Nigeria

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Abstract

The study examined the influence of formative assessment methods on the effective teaching and learning processes of Business Education in federal universities in South-South, Nigeria. A descriptive survey research design was employed for the study. The sample was 464 which comprised 90 Business Education lecturers and 374 undergraduate students. A four-point Likert scale questionnaire was used as the instruments for data collection. Two instruments were designed for the study, one for lecturers and the other for students. The reliability coefficient was 0.80 and 0.82 Cronbach alpha respectively. The research questions were answered using mean and Standard Deviations. The hypotheses were tested using t-test statistic. The analysis revealed that Business Education lecturers occasionally mark and return students' formative assessment works; that marks are occasionally reliable, and students' works are rarely returned promptly; that feedback is rarely done with the intention to effect correction through interaction. The analysis also revealed that Business Education lecturers often utilized question and answer method and they occasionally utilized other methods of formative assessment. Finally, the Business Education students and lecturers rated the question and answer method of formative assessment as effective, but also observed that other formative assessment methods are ineffectively utilized for the teaching and learning processes.

Key Words: Business Education, formative assessment methods, lecturers and students, teaching and learning processes.

Introduction

Business Education is a practical-oriented programme that equips students' with the skills to become fully engaged in entrepreneurial and lifelong learning tasks. Despite this clarification, Business Education students still graduate without acquiring the requisite skills to engage in entrepreneurial and lifelong learning tasks. Consequently, Business Education students who are not equipped with the requisite skills may probably become unemployed or underemployed, and would not have the self-confidence to participate in lifelong learning tasks upon graduation.

The skills gap among Business Education graduates has been traced to the low level of lecturers competencies and ineffective teaching and learning processes (Edokpolor, 2018b), which appears to be the major factors responsible for poor formative assessment methods. In fact, Guskey (2000) have made a case that professional learning development is inadequate. The author's clarion call of the move of evaluation based on participant reactions to evaluation based on students learning is among the most important researches in the professional development literature. Similarly, two erudite scholars published one of the most influential books of the 21st century, "The Knowing-Doing Gap" (Pfeffer & Sutton, 2000). They argued that there is a huge gap between the

knowledge acquired by Business Education graduates and the skills required for gainful employment in the workplace. These authors further stated that one of the most important insights in their research is that, knowledge, that is actually implemented, is much more likely to be acquired from learning-by-doing, than from learning-by-reading, listening, or even thinking.

By implication, Business Education lecturers need to assess students learning in order to determine what students have 'learned' and can 'do' on their own to meet the target of assistance that students require. Just as assessment plays so many roles in the classroom, lecturers have so many ways to assess what students have learned. Whichever type of assessment lecturers choose to use will depend on the objectives lecturers have stated. Objectives can be classified into two major types: knowing 'about' something and knowing how to 'do' something. The assessment that attempt to determine the range and accuracy of student's knowledge about something are usually called written tests, while the assessments that attempt to determine how well students can do something are referred to as performance assessments. As a result, there is the need to indicate here that both types have a legitimate place in a lecturer's assessment arsenal. In fact, well-designed formative assessment methods contribute to students learning (Popham, 2014).

Stressing the need to overcome the issues highlighted, Popham (2009) has indicated that lecturers' inadequate knowledge in formative assessment can cripple the quality of education. DeLuca and Johnson (2017) have recommended formative assessment literacy as a sine qua non for today's competent lecturers'. Formative assessment literacy involves the appropriate use of assessment methods along with the knowledge of theoretical underpinnings in the measurement of students' learning (Stiggins 2002; Volante & Fazio, 2007). Formative assessment methods are tasks that are given and made during the course and which partly determine the final result of students (Van Gaal & De Ridder, 2013). Formative assessment methods are groups of specific teaching strategies designed to provide assessment of students learning by engaging them in reflective evaluation of course materials, and through a systematic collection of student's reflections on learning (Cross & Angelo, 1993). Formative assessment methods can provide the instructor with useful feedback on how much and how well students are learning, which helps to improve the quality of instruction (Simpson-Beck, 2011). Formative assessment methods can help to advance learning and determine if learning has occurred (Higher Education Academy, 2010). Thus, the aim of formative assessment is primarily to improve the student's performance.

The central role of formative assessment methods in the teaching and learning processes is recognized more and more in higher education (Ramsden, 2003; Stobart, 2005), of which business education is a major part. Cross and Angelo (1993) asserted that formative assessment:

... focuses the primary attention of teacher and students on observing and improving learning, rather than on observing and improving teaching. To improve learning, it may often be more effective to help students change their study habits or develop their metacognitive skills (skills in thinking about their own thinking and learning) than to change the instructor's teaching behaviour. In the end, if they are to become independent lifelong learners, students must take full responsibility for their learning. To achieve that end, both teachers and students will need to make adjustments to improve learning. Classroom assessment can provide information to guide them in making those adjustments (p. 3).

A central argument is that, in Business Education, formative assessment should be used to empower students with the requisite skills to become entrepreneurs and lifelong learners. It is for this reason that the National Academy of Sciences (2000) indicated that formative assessment methods that are consistent with principles of learning shall mirror good instruction. This means that formative assessment involves one major activity that includes the collection of information about how much skills students have learned (measurements). Snowman and McCown (2015) opined that some teachers focus closely on the judgments they must make, and tend to overlook the measurements that are used to make those judgments and how such information can help them

teach more effectively in the classroom. Those are teachers who tend to think of “grading” when they hear the word “assessment”. Formative assessment is, thus, critical to understanding students learning, and understanding students learning is critical to enhancing student learning.

The first and probably the most obvious reason for assessing students are to monitor their progress. The main things that teachers want to know from time to time are whether students are keeping up with the pace of instruction and understand all of the material that has been covered. For students whose pace of learning is slower or faster than average and whose understanding of certain ideas is faulty, instructional techniques of ‘Accommodating Student Variability’ may be needed, because the aim of such assessment is to form learning, and not to assign a grade, which is usually called formative assessment. Moss and Brookhart (2009) saw formative assessment as an active and intentional learning process that partners the teacher and students to continuously gather evidence of learning with express goal of improving students learning. This implies that unless students and teachers are learning from the process, formative assessment is not occurring in the classroom. Black and Wiliam (2010) viewed formative assessment as activities undertaken by teachers and students in assessing themselves that provide information to be used as feedback to modify teaching and learning activities. It has been regarded as the “cornerstone of student learning” (Jessop, McNab & Gubby, 2012, p. 144), “the most powerful single influence that enhances achievement” (Hattie, 2009, p. 12) and a useful “diagnostic tool” (Jarvis, 2010, p. 215).

Researchers have used the term “formative assessment” synonymously with the term “assessment for learning” (Anderson & Östlund, 2017; Andersson & Palm, 2018). Black, Harrison, Lee, Marshall and Wiliam (2004) defined assessment for learning as activity that can provide information that teachers and their students use as feedback in assessing themselves and one another and in modifying teaching and learning activities in which they are engaged. They added that such assessment becomes formative assessment when the evidence is actually used to adapt teaching work to meet learning needs. As such, Business Education lecturers are required to assign grades to assignments, performances, quizzes, seminars, debates, mini projects, tests, and hands-on activities. They are required to mark term papers and work books, and thereafter students’ works are returned to them. Business Education lecturers are also required to examine the grades they have assigned to each assignment, each performance, each quiz, each seminar, each debate, each mini project, each test, and each hands-on learning activity; coupled with the marks that are assigned to each term paper and/or each work book. This pre-grading and marking of Business Education students work is often referred to as formative assessments for learning.

Statement of the Problem

Business Education is a practical-oriented programme that equips students with requisite skills to engage in entrepreneurial careers and lifelong learning tasks. Despite this laudable role, questions have been ask about the effectiveness and relevancy of Business Education regarding its capability to equip students with the requisite skills required to gain entrance into the world of work. This issue may be attributed to overemphasis on theory in Business Education curriculum while formative assessment methods that expose students to real-world prior to graduation have been ineffective and underutilized (Emeasoba, 2016). However, not many authors and researchers have taken up the lead to empirically investigate the extent to which formative assessment methods has influenced effective teaching and learning processes of Business Education. There is, therefore, an obvious gap in the academic literature concerning the influence of formative assessment methods on the effective teaching and learning processes of Business Education. It based on these identified gaps the authors decided to embark on this research so as to provide data on the influence of formative assessment methods on the effective teaching and learning processes of Business Education.

Purpose of the Study

The purpose of this research was to investigate the influence of formative assessment methods on the effective teaching and learning processes of Business Education in Federal Universities in South-South, Nigeria. The research specifically sought to:

1. determine the utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.
2. investigate the comparative utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.
3. examine the comparative effectiveness of formative assessment methods on the effective teaching and learning of Business Education.

Research Questions

The following questions were raised to guide the research:

1. What is the utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education?
2. What is the comparative utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education?
3. What is the comparative effectiveness of formative assessment methods on the effective teaching and learning of Business Education?

Research Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance:

- HO₁: There is no statistically significant difference between the mean ratings of lecturers and students regarding the utilization frequency of formative assessment methods in the effective teaching and learning processes of Business Education.
- HO₂: There is no statistically significant difference between the mean ratings of lecturers and students regarding the comparative utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.
- HO₃: There is no statistically significant difference between the mean ratings of lecturers and students regarding the comparative effectiveness of formative assessment methods in the effective teaching and learning of Business Education.

Methodology

A descriptive survey research design was used in the study. This design was primarily a non-experimental quantitative design in which questionnaire was administered on sample to describe their attitudes, opinions, experiences, or characteristics. The participants comprised 90 business education lecturers and 374 students, giving a sample size of 464. The instrument for data collection was a self-constructed questionnaire, titled: "Influence of Formative Assessment Methods in the Teaching and Learning of Business Education in Federal Universities (FAPTLBEFU)". The instrument was a 4-point Likert type, which ranged from 4 (Always) to 1 (Never), 4 (Very Often) to 1 (Never), and 4 (Highly Effective) to 1 (Ineffective) respectively. The instruments' reliability were Cronbach alpha coefficient of $\alpha=.80$ for lecturers and $\alpha=.82$ for students.

Results

Research Question 1:

What is the utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education?

The analysis of data in respect of Research Question 1 is shown in Table 1.

Table 1: Mean Ratings of the Utilization Frequency of Formative Assessment Methods on the Effective Teaching and Learning Processes of Business Education.

S/N	Item Statements	Mean frequency	SD	Remarks
1	Students' works are marked	2.09	0.89	Occasionally
2	After marking, students' work are returned to them	1.70	0.95	Occasionally
3	Students' works are returned promptly	1.45	0.95	Rarely
4	Marks are reliable	1.58	0.93	Occasionally
5	There is feedback	1.40	0.99	Rarely
6	Feedback is corrective	1.39	1.02	Rarely
7	Feedback is interactive	1.27	1.06	Rarely

The data in Table 1 showed that 3 items, with serial number 1, 2, and 4 had the mean scores that ranged from 1.58 to 2.09, and the corresponding Standard Deviations values ranged from 0.93 to 0.95. The mean scores imply that lecturers occasionally marked and returned students works and marks were occasionally reliable. The corresponding Standard Deviations values imply that lecturers and students responses were very close. The table also showed that 4 items, with serial number 3, 5, 6, and 7 had the mean scores that ranged from 1.27 to 1.45, and the corresponding Standard Deviations values ranged from 0.95 to 1.06. The mean scores imply that students' works were rarely returned promptly, and feedbacks were rarely done with the intention to effect corrections through interactions. The corresponding Standard Deviations values imply that lecturers and students responses were not very close

Research Question 2:

What is the comparative utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education?

The analysis of data in respect of Research Question 2 is shown in Table 2.

Table 2: The Mean Rating of the Comparative Utilization Frequency of Continuous Assessment Methods on the Effective Teaching and Learning Processes of Business Education.

S/N	Item	Mean frequency	SD	Remark
1	Question and answer	2.81	1.36	Often
2	Drill (hands-on)	2.27	1.43	Occasional
3	Mini project	2.05	1.38	Occasional
4	Term paper	2.00	1.42	Occasional
5	Announced Test	2.41	1.43	Occasional
6	Unannounced Test	2.05	1.45	Occasional
7	Group project	2.00	1.43	Occasional
8	Workbook	1.72	1.42	Occasional
9	Quiz	1.64	1.44	Occasional
10	Smart card	1.63	1.46	Occasional
11	Class seminar	1.71	1.38	Occasional
12	Class debate	1.58	1.42	Occasional

The data in Table 2 showed that 1 item, which is serial number 1 had the mean scores of 2.81, and the corresponding Standard Deviations values of 1.36. The mean scores imply that lecturers often use the question and answer method. The corresponding Standard Deviations values imply that lecturers and students responses were not very close. The table also showed that 11 items, with serial number 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 had the mean scores that ranged from 1.58 to 2.41, and the corresponding Standard Deviations values ranged from 1.38 to 1.46. The mean scores imply that lecturers occasionally utilized formative assessment method, while the corresponding Standard Deviations values imply that lecturers and students responses were not very close.

Research Question 3

What is the comparative effectiveness of formative assessment methods on the effective teaching and learning processes of Business Education?

The analysis of data in respect of Research Question 3 is shown in Table 3.

Table 3: The Mean Rating of the Comparative Effectiveness of Formative Assessment Methods on the Effective Teaching and Learning Processes of Business Education.

S/N	Item	Mean effectiveness	SD	Remark
1	Question and answer	2.81	1.36	Effective
2	Drill (hands-on)	2.27	1.43	Not quite effective
3	Mini project	2.05	1.38	Not quite effective
4	Term paper	2.00	1.42	Not quite effective
5	Announced Test	2.41	1.43	Not quite effective
6	Unannounced Test	2.05	1.45	Not quite effective
7	Group project	2.00	1.43	Not quite effective
8	Workbook	1.71	1.42	Not quite effective
9	Quiz	1.64	1.44	Not quite effective
10	Smart card	1.63	1.46	Not quite effective
11	Class seminar	1.71	1.38	Not quite effective
12	Class debate	1.58	1.42	Not quite effective

The data presented in Table 3 showed that 1 item, which is serial number 1 had the mean scores of 2.81, and the corresponding Standard Deviations values of 1.36. The mean scores imply that lecturers and students rated the question and answer method as effective. The corresponding Standard Deviations values imply that lecturers and students responses were not very close. The table also showed that 11 items, with serial number 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 had the mean scores that ranged from 1.58 to 2.41, and the corresponding Standard Deviations values ranged from 1.38 to 1.46. The mean scores imply that lecturers and students rated other formative assessment methods as not quite effective, and the corresponding Standard Deviations values imply that lecturers and students responses were not very close.

Hypothesis 1:

There is no statistically significant difference between the mean ratings of lecturers and students regarding the utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.

The summary of the test of Hypothesis 1 is shown in Table 4.

Table 4: Summary of the t-test Analysis of the Difference between Students’ and Lecturers’ Mean Ratings of the Utilization Frequency of Formative Assessment on the Effective Teaching and Learning Processes of Business Education.

S/N	ITEM	Lecturers’ Mean Rating	Students’ Mean Rating	t-stat	p- value	Decision
1	Students’ works are marked	2.73	1.84	1.59	0.21	Accept
2	After marking, students’ work are returned to them	2.57	1.37	1.24	0.30	Accept
3	Students’ works are returned promptly	2.19	1.17	1.37	0.26	Accept
4	Marks are reliable	2.09	1.39	1.79	0.17	Accept
5	There is feedback	2.12	1.12	1.29	0.29	Accept
6	Feedback is corrective	2.18	1.09	1.43	0.25	Accept
7	Feedback is interactive	2.06	0.96	1.38	0.26	Accept

The results of the data presented in Table 4 showed that the p-values in all the seven levels are greater than the 0.05 alpha levels. This showed that lecturers and students ratings of the utilization frequency of formative assessment are not statistically significantly different on all the seven characteristics of formative assessment methods used in the study. Hence, the researchers failed to reject the hypothesis that there is no statistically significant difference between the mean ratings of lecturers and students regarding the utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.

Hypothesis 2

There is no statistically significant difference between the mean ratings of lecturers and students regarding the comparative utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.

The summary of the test of Hypothesis 2 is shown in Table 5.

Table 5: Summary of the t-test Analysis of the Difference between Students' and Lecturers' Mean Ratings of the Comparative Utilization Frequency of Formative Assessment Methods on the Effective Teaching and Learning Processes of Business Education.

S/N	Item	Lecturers' Mean Rating	Students Mean Rating	t-stat	p-value	Decision
1	Question and answer	3.78	2.44	1.95	0.12	Accept
2	Drill (hands-on)	3.38	1.83	1.62	0.18	Accept
3	Mini project	3.22	1.60	1.57	0.19	Accept
4	Term paper	3.04	1.59	1.62	0.18	Accept
5	Announced Test	3.32	2.06	1.57	0.19	Accept
6	Unannounced Test	3.08	1.64	2.07	0.11	Accept
7	Group project	3.03	1.59	1.96	0.12	Accept
8	Workbook	2.96	1.23	1.35	0.25	Accept
9	Quiz	2.91	1.14	1.24	0.28	Accept
10	Smart card	2.94	1.12	1.27	0.27	Accept
11	Class seminar	2.91	1.25	1.37	0.24	Accept
12	Class debate	2.82	1.10	1.29	0.27	Accept

The results of the data presented in Table 4 showed that the p-values in all the twelve methods are greater than the 0.05 alpha levels. This showed that Business Education lecturers and students ratings of the comparative utilization frequency of the twelve formative assessment methods are not significantly different. Thus, the researchers failed to reject the hypothesis that there is no statistically significant difference between the mean ratings of lecturers and students regarding the comparative utilization frequency of formative assessment methods on the effective teaching and learning processes of Business Education.

Hypothesis 3

There is no statistically significant difference between the mean ratings of lecturers' and students' regarding the comparative effectiveness of formative assessment methods on the effective teaching and learning processes of Business Education.

The summary of the test of Hypothesis 3 is shown in Table 6.

Table 6: Summary of the t test Analysis of the Difference between Students' and Lecturers Mean ratings of the Comparative Effectiveness of Formative Assessment Methods on the Effective Teaching and Learning of Business Education.

S/N	ITEM	Lecturers' Mean Rating	Students' Rating	Mean	t-stat	p-value	Decision
1	Question and answer	3.76	2.78		1.56	0.19	Accept
2	Drill (hands-on)	3.53	2.44		1.33	0.25	Accept
3	Mini project	3.37	2.24		1.31	0.26	Accept
4	Term paper	3.21	2.18		1.47	0.22	Accept
5	Announced Test	3.30	2.34		1.84	0.14	Accept
6	Unannounced Test	3.11	2.14		1.63	0.18	Accept
7	Group project	3.10	2.16		1.73	0.15	Accept
8	Workbook	3.07	1.99		1.33	0.25	Accept
9	Quiz	3.09	2.0		1.38	0.24	Accept
10	Smart card	3.02	1.88		1.22	0.29	Accept
11	Class seminar	3.00	2.0		1.41	0.23	Accept
12	Class debate	2.94	1.90		1.31	0.26	Accept

The results of the data presented in Table 6 showed that the p-values in all the twelve methods are greater than the 0.05 alpha levels. This showed that lecturers and students ratings of the comparative effectiveness of formative assessment methods are not statistically significantly different. This means that the researchers failed to reject the hypothesis that there is no statistically significant difference between the mean ratings of lecturers and students regarding the comparative effectiveness of formative assessment methods on the effective teaching and learning processes of Business Education.

Discussion of Results

The findings of this study are supported by numerous researches which revealed limited extent in lecturers' implementation of formative assessment methods in skills development programmes, which consequently hinders students' academic achievements or learning outcomes (Bell, Steinberg, Wiliam, & Wylie, 2008; Randel, Beesley, Apthorp, Clark, Wang, Cicchinelli & Williams, 2011). The results of this study is equally consistent with emerging stream of research which found that attempts to promote formative assessment have been frequently unsuccessful (Carless, 2005; De Lisle, 2015; Hume & Coll, 2009; James & McCormick, 2009; Marshall & Drummond, 2006; Schneider & Randel, 2010; Wylie & Lyon, 2015), to the extent that poor students' achievement was obtained (Bell, et al., 2008; Jönsson, Lundahl, & Holmgren, 2015).

Although, there are several issues that make the implementation of formative assessment methods for the effective teaching and learning processes of Business Education difficult for lecturers (Andersson & Palm, 2018). Firstly, formative assessment practice is complex (Vingsle, 2014), and using assessment information to plan subsequent instruction is difficult (Heritage, Kim, Vendlinski, & Herman, 2009; Schneider & Meyer, 2012). Secondly, external factors, such as, accountability (Darling-Hammond & McCloskey, 2008; Klenowski, 2011) and the focus on examination or summative assessment (Bennett, 2011; Brown, Kennedy, Fok, Chan & Yu, 2009; Wiliam, 2006) hinder the implementation of formative assessment. Misconceptions of meaning and aims of formative assessment, conceptions of its value and time to implement it, and beliefs about teaching and learning has also hinder integration of formative assessment into classroom (DeLuca, Luu, Sun & Klinger, 2012). The implication is that Business Education lecturers who do not see formative assessment as a tool to promote effective teaching and learning processes cannot utilize formative assessment methods in the classroom. Hence, those lecturers or teachers who poorly practiced formative assessment are held responsible for the low quality of education.

Conclusions

Based on the findings, the authors of this research study concludes that the ineffective implementation of formative assessment methods within the processes of teaching and learning specifically for Business Education appears to be responsible for poor students' achievements in the programme. Despite this concluding remark, the authors still recommend that the findings of the study will propel more formative assessment researches (assessment for learning researches) in other academic fields in order to determine whether the results of this study will be consistent.

Practical Implications

Research on formative assessment methods in the teaching and learning of Business Education is lacking, especially in Nigeria. The results of this study, therefore, have serious implications for educational stakeholders and researchers regarding the influence of formative assessment in the teaching and learning of Business Education. Firstly, the study found that business education lecturers occasionally mark and return students formative assessment works; that marks are occasionally reliable while students' works are rarely returned promptly; and that feedback is rarely done with intention to effect correction through interaction. The study also found that Business Education lecturers often use question and answer method and business education lecturers occasionally utilized other formative assessment methods. Finally, the study found that Business Education students and lecturers rated question and answer method as effective but observed that other formative assessment methods are not quite effective.

The poor nature of the instructional processes in Business Education cannot control or neither regulates students' learning. Thus, it would be very helpful for all major stakeholders of Business Education to jointly implement a high degree of assessment literacy programme among practitioners and those that are involved in the Business of Education, which is highly crucial for attaining learning outcomes. Similarly, the educational stakeholders such as non-governmental organizations, employers and parents should endeavour to collaborate with Business Education administrators to ensure the optimization of instructional resources to improve hands-on practice, interactive feedback, and collaboration among lecturers and students. These recommendations would help to strengthen the relationship between formative assessment and effective teaching and learning processes of Business Education. By and large, the implementation of assessment literacy programme and optimization of instructional resources through strategic collaboration would assist in fostering the utilization of formative assessment methods on the effective teaching and learning processes of Business Education in the Nigerian tertiary institutions.

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