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ASSESSMENT FOR LEARNING: UNIVERSITY TEACHERS' UNDERSTANDING AND PRACTICES IN NIGERIA

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ABSTRACT
The study explored university teachers' understanding and practice of formative assessment, using a mixed-method approach. Sample of 108 teachers were randomly selected from two universities in Ebonyi State. A 29-item Understanding and Practices of Formative Assessment Scale for Teachers (UP_FAST) was developed and validated. The data collected were analysed using descriptive statistical and factorial analysis of variance techniques. The results show that the teachers have some knowledge of aspects of formative assessment like perception of assessment as ongoing process, using assessment feedback to modify instruction to meet students' needs, and effective classroom discussion. Some aspects of formative assessment practiced by the teachers are engaging students in clarifying learning goals and providing formative assessment feedback. It was also found that factors that hinder effective use of formative assessment during lecture delivery are limited time, large class size, inadequate infrastructural facilities, inadequate pedagogical knowledge and students' attitude. The test of hypotheses reveal that there are no significant interaction effects of qualification, experience and rank of teachers on their understanding, $F(4, 85) = 1.975$, $p>.05$ and practice of formative assessment $F(4, 85) = 2.385$, $p>.05$), although main effect of experience on understanding was significant, $F(4, 85) = 2.602$, $p<.05$. Based on the findings, it was concluded that capacity of university teachers be built to be able balance summative and formative assessment in higher education for enhancing student learning and performance.

Keywords: assessment for learning, teachers' understanding, formative assessment practices

Introduction

Formative assessment, otherwise known as assessment for learning (AfL), is an assessment that supports learning through continuous monitoring of students' learning using feedback to improve performance (Black and Wiliam, 1998; Black, Harrison, Lee, Marshall and Wiliam, 2003; Klenowski, 2009; Carless, 2012; Udoukong and Okon, 2012; Anderson, 2015; Thum, Tarasawa, Hegedus, Yun and Bowe, 2015). Evidence abound from literature that different countries in the world started investing in reform initiatives, projects and policies to develop the use of formative assessment because of its potential in enhancing student learning (Dibu-Ojerinde, 2005; Clarke, 2012; Anderson, 2015). For instance, there is an increase in government policy supporting use of formative assessment and continuous assessment in Nigeria (Dibu-Ojerinde, 2005), Ghana (Pryor and Akwesi, 1998) and South Africa (Kuze and Shumba, 2011). It was observed by Perry (2013) that 18 out of 41 World Bank projects in 2011 that promoted student assessment had formative assessment components. They motivated educational researchers to have increased interest in using formative assessment to improve student learning (Weldmeskel, 2015).

The reforms also gave rise to use of both informal and formal types of formative assessment in schools. The informal methods of formative assessment include oral questioning,

observing students as they work, including their facial expressions, with oral questioning as the most dominant method (Dibu-Ojerinde, 2005; Akom, 2010; Perry, 2013). On the other hand, the formal methods include use of tests, homework, quizzes and diagnostic tests.

Assessment for learning is critical in students' mastery of 21st century competencies such as learning how to learn, thinking about own learning, knowing how to plan and evaluate thinking and understanding. According to Black and Wiliam (1998), formative assessment encompasses all activities by teachers and students which provide feedback for modifying teaching and learning activities in the classroom. This conception of formative assessment consists of different assessment practices like clarifying learning goals, self- and peer-assessment, feedback, teachers' choice of assessment tasks, questioning behavior and use of tests as well as mastery learning systems. Bennett (2011) and Tan (2013) criticized these for being too broad and do not enable teachers determine specific formative assessment practice to which improvement in student learning can be attributed. It has also been argued that all the characteristics of formative assessment must be present and be applied for an assessment to be formative (Cizek, 2010).

In response to the above argument, Tan (2013) identified minimal requirements for formative assessment to succeed. These include assessment standards, design and feedback which should serve as framework for assessment for learning. He proposed a triangulated model of assessment for learning. This model places assessment tasks design on the horizontal axis, student feedback shown on the inclined side of the triangle and clarity of standards on the vertical axis. In Tan's model, elements of standards on the vertical axis are concerned with identifying possible gaps in each student's learning that assessment practices will close. The tasks design on the horizontal axis shows the sequence and pace of initial and later assessment to determine whether or not there is improvement in student learning as was planned. The level of incline in the triangulated model depicts appropriateness of student feedback. Thus, assessment for learning should not only provide feedback for teachers and students it should also provide information to be utilized to enhance learning outcomes. This triangulated model of formative assessment provided the basis for this study, where key components of effective formative assessment practice in higher education are assumed to include tasks design, feedback and opportunity for students to act on feedback.

The place of feedback in formative assessment has also been stressed in literature (Huhta, 2010; Juwah, Macfarlane-Dick, Matthew, Nicol, Ross and Smith, 2004). According to Ramaprasad (1983), feedback refers to information on the gap between actual level of student learning and expected level of performance. It requires closing the gap to enhance performance. Components of good feedback identified by Juwah et al. (2004) include practices that encourage teacher and peer dialogue and those that involve self-assessment, clarifying good performance in terms of goals and expected standard, closing the gap between observed and expected performance, giving high quality information to students, as well as providing information that enables teachers to modify their methods to meet students' needs. Effectiveness of formative assessment therefore, depends on the opportunities given to students and teachers to receive and act on feedback (Sadler, 2010). Feedback obtained can enhance short-term or long-term learning. Providing students opportunities to work on the feedback received immediately after the feedback promotes short-term learning; while students' engagement in assessment practices such as self- and peer-assessment promotes long-term learning (Tan, 2013).

The central role of assessment in the school system for improving teaching and learning demands that teachers should be conversant with classroom assessment methods that promote student learning. Classroom assessments are made and used by teachers for formative and summative purposes. They serve

formative purpose when the results are used to monitor teaching and learning progress and summative purpose when the results are used for grading, promotion and certification. Formative assessment focuses on finding out what learners know and can do, what they partially know and do not know so as to engage in activities that can promote learning. Feedback on formative assessment tasks are expected to provide students information on how to improve and opportunity to work towards improvement (Black and Wiliam, 1998). Furthermore, evidence from formative assessment tasks should also provide feedback for teachers on how to vary instructional strategies and materials to fill identified learning gaps and meet students' learning needs (Chua, Kan Sok and Lee Soo, 2014). It involves verbal or written feedback on assignment, essay or project, tests, quizzes or mere questions and answers during lecture delivery, self- and peer-assessment (Gauntlett, 2007). Formative assessment is therefore part of everyday practice, where students, teachers and peers seek, reflect and respond to information from assessment tasks to enhance ongoing learning (Klenowski, 2009). In contrast, summative assessment or assessment of learning, is designed primarily to serve the purpose of accountability, grading students' performance, passing judgement on standard of performance, promotion and certification. It is the assessment that teachers engage in to meet the pressure of accountability to stakeholders, ranking or certifying competence.

In higher education, the emphasis of assessment is more on grades earned in course work, mid-semester and end of semester examinations, research projects/theses or dissertation than on providing feedback for improving students' learning and teaching strategies. Since both assessment of learning and for learning are vital for promoting development of competencies, literacies or skills in different disciplines and programmes, as well as accountability in higher education, efforts need to be made by university teachers to build assessment culture that promotes them. Neglect for use of formative assessment because of the great influence summative assessment has on teachers and students will continue to result in poor performance of students. This is because sufficient and timely feedback is not provided and used to adapt teaching to meet student learning needs.

It has also been stressed (Higher Education Academy (HEA), 2016, Wolterinck, Kippers, Schildkamp and Poertmap, 2016; Yorke, 2001) that quality of teaching and learning in higher education can be enhanced through effective formative assessment practices. The HEA (2016) also stresses the need to pay attention to methods of assessment and their principles to enhance student learning and satisfaction as well as the need to promote stakeholders' confidence in academic standards. The implications of transforming assessment in higher education include balancing summative and formative assessment in different academic programmes by integrating formative assessment in teaching learning process using different assessment strategies. This may not be feasible if university teachers do not have understanding of assessment for learning, its principles and strategies that will enable them integrate the two forms of assessment in their curriculum design and teaching-learning process. An investigation of university teachers' perception of their understanding and practices of formative assessment is therefore considered apt and timely. An examination of factors that hinder effective utilization of this form of assessment in higher education is also necessary because requisite characteristics of teachers, students and institutions for effective use of formative assessment to support learning found in literature.

This study explored university teachers' understanding and practice of formative assessment as well as perceived factor that hinder use of assessment during lecture delivery. This is necessary in order inform institutional heads on the need to focus on creation of enabling policy and provide facilities that promote balancing of formative and summative assessment, as well as developing teachers' capacity on how to integrate both forms of

assessment practice. This will improve the quality of teaching and learning in higher education.

Research Questions

The following research questions were answered in the course of the study:

1) What are university teachers' perceptions of their understanding of formative assessment?
2) What are the dominant formative assessment strategies university teachers adopt during lecture delivery?
3. What are the perceived factors that hinder university teachers' understanding and practices of formative assessment?

Hypotheses

To further explore the extent the perceived factors influence university teachers' assessment practices, the following hypotheses were tested at .05 level of significance:

1) There is no significant interaction effect of highest educational qualification, years of teaching experience and academic rank on university teachers' perceived understanding of formative assessment.
2) There is no significant interaction effect of highest educational qualification, years of teaching experience and academic rank on university teachers' perceived formative assessment practices?

Research Method

A mixed method survey design was adopted in exploring university teachers' understanding and practices of formative assessment in their instructional practice. The sample consisted of 108 university teachers/lecturers (75 male; 33 female). Sixty three of the teachers hold masters' degree, while 44 hold doctorate degree. The participants' years of teaching experience at the university level vary (1-5years=58; 6-10years=17; 11-15years=16; 16-20years=10; 21 years and above= 7). The teachers were from five academic disciplines; education (20), humanities (35), management and social science (19), and science (34). The participants were randomly selected from a population of lecturers, from the rank of Assistant Lecturer to Professor (72 Assistant Lecturer to Lecturer I; 18 Senior Lecturers; 18 Reader/Professors) in two universities, in Ebonyi State, Nigeria. An Understanding and Practices of Formative Assessment Scale for Teachers (UP_FAST) was developed and used by the researchers for data collection. The instrument consists of 29 items that are organized in four sections, A, B, C and D. Section A sought information on teachers' gender, highest educational qualification, academic discipline, years of teaching experience and academic rank. Section B consists of 11 items, which sought information on the teachers' perceived understanding of different aspects of formative assessment. Section C consists of 12 items, which required teachers responses on how teachers' formative assessment practices; while Section D consists of one open-ended item that sought information on five dominant formative assessment strategies adopted by the teachers during lecture delivery.

The teachers were required to make their responses in Section B using a 4-point modified Likert Scale: Strongly Disagreed (SD)=1, Disagree (D) =2, Agree (A) =3, and Strongly Agree (SA)=4. Nine out of the 11 items in Section B were positively structured while 2 were negative statements formative assessment. A cut-off mean score of 3.00 for decision on aspects of formative assessment that teachers understand. The mean responses of teachers were categorized as follow: 1.00-1.99= SD; 2.00-2.99= D; 3.00-3.99= A; and 4.00= SA. The teachers were also required to respond to the 12 items in Section C by using a five-point rating scale to indicate their typical assessment practices: Very Rarely or Never (VR, 0-10% of the time) =1, Rarely (R, 11-25% of the time) = 2, Occasionally (O, 26-50% of the time) = 3, Very Frequently (VF, 51-75% of the time) = 4, and Always (A, More than 75% of the time) = 5. Ten out of the 12 items in this section were positive statements, while two were negative. The scale was reversed for scoring negative items, where, Always = 1 and Very Rarely = 5. The mean scores were categoised as follow:

1.00-1.99= very rarely, 2.00-2.99 = Rarely, 3.00- 3.99 =Occasionally, 4.00-4.99 = Very Frequently, and 5.00 = Always for decision on aspects of formative assessment that teachers practice. High mean score mean score was considered as aspects of formative assessment that teachers adopt during lecture delivery.

The instrument was subjected to the scrutiny of two experts in educational measurement and evaluation to judge appropriateness and clarity of the items. The items were considered adequate for assessment of university teachers' perceived understanding and practices. The UP_FAST was administered directly to the teachers within a week in the universities by the researchers.

The Cronbach coefficient alpha obtained for the instrument was 0.77; while split-half coefficient of reliability was 0.78 after correction for length using Spearman Brown formula. The coefficient reliability of internal consistency of Sections B and C of the instrument, using split-half method, were 0.60 and 0. 61, respectively. The instrument was therefore considered to be a reliable measure of university teachers' understanding and practices of formative assessment in higher education.

The data collected for profiling teachers' understanding and practices of formative assessment were analysed using percentages, mean and standard deviation. Those for testing hypotheses of no significant interaction effect of highest educational qualification, years of teaching experience and academic rank on university teachers' perceived understanding and practices of formative assessment were analysed factorial analysis of variance statistical technique. The results of the analyses are presented in Tables 1 to 7.

Presentation of Results

Table 1 shows the 11 aspects of formative assessment that teachers need to understand in higher education. Their mean responses ranged from 2.33 to 3.2, while the standard deviation ranged from 0.75 to 1.05. The standard deviation ranged from 0.72 to 1.57, with average deviation of 0.84 shows that their responses were not too variable. The aspects of formative assessment that the teachers understand, based on criterion perception cut-off mean score of 3.00 on the scale, are three out of the 11 items (2, 3, 10). The three items, 2, 3 and 10 are perception of formative assessment as ongoing through the use of variety of strategies, adapting instructions to meet students' needs based on assessment feedback, and effective classroom discussion through which evidence of students' understanding is generated, respectively. The standard deviation of 0.75, 0.80 and 0.75 associated with the three items show that their responses were unanimous since they are less than 1 standard deviation. Generally, the aspects of formative assessment that university teachers understand clearly, based on their perception, are assessment as a continuous process requiring use of different strategies, using feedback to structure instruction to meet students' needs, and using classroom discussion to provide evidence about student learning; while the other aspects were not clearly understood.

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Table1: Mean and Standard Deviation Profile of Teachers' Understanding of Formative Assessment

S/n Teachers' of Formative Assessment (n=108)	Mean	SD
In formative assessment,		
1. students know what they are learning and how they will be assessed	2.80	0.84
2. assessment is ongoing through use of variety of strategies	3.20*	0.75
3. teachers adapt instruction to meet students' needs	3.06*	0.80
4. feedback is focused on grades and not specific task	2.43	0.78
5. feedback is provided improve student learning process	2.99	1.05
6. a student's performance is examined relative to others in class	2.33	0.95
7. students are allowed to identify their learning difficulties	2.86	0.87
8. students are actively engaged to support themselves and their peers	2.67	0.82
9. teachers audit what students know and do not know, can do or cannot do	2.73	0.78
10. effective classroom discussion that provide evidence of student' understanding	3.04*	0.75
11. students are actively engaged in self- and peer-assessment	2.88	0.90

Table 2 shows the 12 formative assessment practices of university teachers. Their mean responses ranged from 1.97 to 4.18, while the standard deviation ranged from 0.89 to 1.40. The standard deviation ranged from 0.89 to 1.40, with average deviation of 1.10 shows that their responses were variable. The formative assessment practices (FAP) of the teachers, based on categorization of their mean responses as1.00-1.99 = very rarely; 2.00-2.99 = rarely; 3.00-3.99 = occasionally; 4.00-4.99 = very frequently; and 5.00 as always, reveals that the teachers very rarely focus feedback on students' specific tasks but on grades (item 4); the teachers continuously collect assessment data for ranking of students rather than for improving teaching and learning (item 5); the FAP that teachers occasionally practice include using assessment as part of planning lecture and delivery, providing timely feedback, active engagement of students, helping students to have control over what they learn, activating them to serve as resources for one another, and adapting instruction to meet students' needs (items 1,3,6,8,9 & 10); while the teachers perceive involving students in clarifying learning goals and outcomes, using FA to improve teaching and learning process, determining how student learning and pedagogical activities can be improved (items 2, 7, 11 & 12) as formative assessment practices they very frequently engage in. Generally, formative assessment that university teachers practice very frequently are clarifying learning goals and using assessment feedback to determine how student learning and pedagogical activities can be improved.

Table 2: Mean and Standard deviation Profile of University Teachers Formative Assessment Practices

S/n	Teachers' Formative Assessment Practices (FAP) (n=108)	Mean	SD
	In planning lectures and delivery I,		
1.	use FA for effective planning and delivery of my lectures	3.60	1.25
2.	clarify learning goals and expected outcomes for students	4.07	1.11
3.	give specific and timely oral and written feedback to students	3.86	0.99
4.	grade students at the end of the semester	1.97	1.40
5.	continuously collect data for ranking students in class	2.69	1.19
6.	actively involve students to enable them have control over their learning	3.81	1.07
7.	use FA to improve teaching and learning process	4.07	0.97
8.	activate students be owners of their own learning	3.81	1.12
9.	make students serve as instructional resource for one another	3.43	1.10
10.	adapt instruction to meet immediate learning needs of students	3.96	1.12
11.	determine how students' learning can be improved	4.07	1.03
12.	diagnose areas for improvement of class activities	4.18	0.89

Table 3: Percentage distribution of University Teachers' Dominant Formative Assessment Strategies

S/n	Formative Assessment Strategies (N=53)	n	%
1.	Take-home/written assignment	33	62.26
2.	Oral question and answer	32	60.38
3.	Quizzes	18	33.96
4.	Oral presentation	12	36.36
5.	Projects	11	20.75

Table 3 reveals the 53 out of the 108 studied responded to the open ended question on list of five formative assessment strategies they adopt during lecture delivery. The Table also shows that five FA strategies used by teachers are take-home/written assignment, oral question and answer, quizzes, oral presentation and projects. The dominant strategies used by teachers are take-home assignment and oral questioning. Qualitative interview data provided stories that will complement quantitative analyses. One central theme in the stories is that many most all the teachers interviewed indicated that they use oral questions and answer as well as assignments to support students' learning'. One Education/English teacher expressed the way she uses formative assessment to support learning as follows:

> "Of course, question and answer, assignment, oral presentations, where I ask students to come and explain. It helps me to know progress of my students. In fact, to know whether my students have understood what I taught or whether I should revise…"

Data on factors that hinder the teachers' use of formative assessment strategies during lectures were collected using interview technique. The teachers identified the following factors that hinder effective use of formative assessment to support learning: limited time, large class size, inadequate infrastructural facilities, lack of pedagogical knowledge, and attitude of students. The emerging theme in the stories is that teachers expressed concern about limited time, inadequate infrastructural facilities and large class size that hinder effective use of formative assessment to students' to support learning. A science teacher expressed his view in the following way:

"Part of the problem is that emememem, sometimes lecturers don't start as promply as you want. Students work long distance across, sometimes power or system failure, you don't' have sufficient time to ask questions but if there is time you ask at the end. It appears students are overloaded, their programmes are crowded. Again, inadequate teaching facilities…, but time is a major factor and resources".

Table 4: Mean and Standard Deviation of Teachers' Perceived Understanding and Practice of FA

Dependent Variables	Independent Variable	Level	n	Mean	SD
1. Understanding FA score	1. Highest Educational Qualification	Masters	63	39.81	4.22
		Ph.D	44	43.77	4.61
	2. Years of Teaching Experience	1-5yrs	58	39.93	3.40
		6-10yrs	17	42.65	5.22
		11-15yrs	16	42.69	4.30
		16-20yrs	10	44.40	5.17
		21yrs & Above	7	44.14	6.36
		Total	108	41.45	4.76
	3. Rank of teachers	Asst. Lect			
		To Lect. I	72	40.47	4.10
		Snr Lecturer	18	43.17	4.63
		Reader/Prof.	18	43.67	6.22
		Total	108	41.45	4.76
2. FA Practices score	1. Highest Educational Qualification	Masters	63	42.95	6.77
		Ph.D	44	43.84	6.00
		Total	107	43.32	6.27
	2. Years of Teaching Experience	1-5yrs	58	43.03	5.80
		6-10yrs	17	43.53	7.00
		11-15yrs	16	43.75	6.91
		16-20yrs	10	43.30	7.95
		21yrs & Above	7	45.14	5.70
		Total	108	43.38	6.27
	3. Rank of teachers	Asst. Lect			
		To Lect. I	72	43.40	5.64
		Snr Lecturer	18	42.83	5.64
		Reader/Prof.	18	43.83	8.40
		Total	108	43.38	6.27

Table 4 presents the descriptive statistics of university teachers' responses on their understanding of formative assessment and practices by the study variables. The interaction effect of the three teacher-related variables; highest educational qualification, years of teaching experience and academic rank on teachers' understanding and practices of

formative assessment was tested using factorial analysis of variance technique. The results of the analysis are presented in Tables 5 and 6.

Table 5: Factorial Analysis of Variance results for interaction effect of three Teacher Variables on their understanding of Formative Assessment

Source	Type III Sum of Squares	df	Mean Square	F	*p*value
Corrected model	836.646[a]	21	39.840	2.133	.008
Intercept	66571.585	1	66571.585	3563.992	.000
Experience	194.406	4	48.601	2.602*	.042
Rank	42.892	2	21.446	1.148	.322
Highest Qual.	45.912	1	45.912	2.458	.121
Exp.xRank	238.797	6	39.800	2.131	.058
Exp.xQual.	62.212	3	20.737	1.110	.358
RankxQual.	73.778	2	36.889	1.975	.145
Exp.xRankxQual.	8.670	2	4.335	.232	.793
Error	1587.710	85	18.679		
Total	186166.00	107			
Corrected Total	2424.355	106			

[a]R Squared = .345 (Adjusted R Squared = .183); *p<.05

The results in Table 5 shows that the university teacher differ significantly in their understanding of formative assessment due to their years of teaching experience, $F(4, 85) = 2.602$, $p<.05$, but interaction effects of qualification, experience and rank were not significant, $F(2, 85) = 1.975$, $p>.05$. Post hoc analysis using Scheffe method for multiple comparison of mean shows that no significant difference exists between pair of mean scores. However, teachers who are in the category of 16-20 years had highest mean score followed by 20 years and above, 11-16 years, 6-10 years and 1-5 years, in that order.

Table 6: Factorial Analysis of Variance results for interaction effect of three Teacher Variables on their Formative Assessment Practices

Source	Type III Sum of Squares	df	Mean Square	F	*p*-value
Corrected model	755.401[a]	21	35.971	.896	.596
Intercept	68462.535	1	68462.535	1705.616	.000
Experience	97.848	4	24.462	.609	.657
Rank	17.519	2	8.760	.218	.804
Highest Qual.	5.562	1	5.562	.139	.711
Exp.xRank	439.292	6	73.215	1.824	.104
Exp.xQual.	85.164	3	28.388	.707	.550
RankxQual.	191.379	2	95.689	2.385	.098
Exp.xRankxQual.	63.006	2	31.503	.785	.459
Error	3411.795	85	40.139		
Total	204945.00	107			
Corrected Total	4167.196.106	106			

[a]R Squared = .181 (Adjusted R Squared = -.021); $p>.05$

Table 6 shows that there was no significant main and interaction effects of the variables (highest educational qualification, years of teaching experience and academic rank) on university teachers' formative assessment practices, $F(2, 85) = 2.385$, $p>05$.

Discussion of Findings

This study explored university teachers' understanding and practices of formative assessment, otherwise referred to as assessment for learning. The findings from the quantitative data show that the teachers understand clearly that formative assessment is a continuous process that requires use of different strategies and feedback to modify instruction to meet students' learning needs. These findings corroborate earlier studies (Black and Wiliam, 1998; Careless, 2012; Udoukong and Okon, 2012; Anderson, 2015) that formative assessment supports learning through continuous monitoring of students' learning using feedback to improve performance. The overall picture that emerged through data is that feedback is associated with grading as shown in the following excerpt from interview transcript: "Assessment results are used for feedback which helps me to re-plan lectures. It helps to identify my lapses. I use results also for students' placement and promotion".

Furthermore, teachers' responses that feedback focuses more on grades than on specific tasks and reporting students' performance relative to others in class show clearly that the teachers understand formative assessment to be more for summative function than for supporting student learning. The lack of emphasisin the qualitative data on the important role played by self- and peer-assessment, need for creating opportunities for students to act on the feedback received, and need for re-assessment to establish whether there is improvement as planned, implies teachers' lack of understanding of these components of formative assessment. Developing competencies in these components is necessary because according to Tan (2013), gaps in students' learning must be closed and the evidence needs to be provided through reassessment.

The dominant use of assignment and oral questions during lectures found was expected because teachers give students assignments, mid-semester tests and end of semester examination, which are graded and recorded for students as part of continuous assessment mode of evaluation in higher education. However, other aspects of formative assessment that teachers did not clearly understand, such as, clarifying learning goals and expected outcomes, use of feedback to improve learning process, engaging students in self- and peer-assessment as well as diagnosing students' learning difficulties, should be incorporated in any effort that is directed towards building pedagogical knowledge and skills of teachers. Helping teachers to understand these basic components of formative assessment will go a long way in improving teaching and learning in higher education.

Another finding of the study is that formative assessment practiced by teachers very frequently are clarifying learning goals and using assessment feedback to improve student learning and teachers' pedagogical activities. This is expected because they are required to prepare their course specifications in which learning goals, outcomes, and assessment procedure are outlined. Although, the teachers reported that they provide feedback to students, the feedback provided are grades rather than on students' specific tasks. The teachers continuously collect assessment data for ranking of students rather than for improving teaching and learning. The results also show that formative assessment that teachers occasionally practice include; using assessment as part of planning lecture and delivery, providing timely feedback, active engagement of students, helping students to have control over what they learn, activating them to serve as resources for one another, and adapting instruction to meet students' needs suggest that

capacity of lecturers should be built on how to balance formative and summative assessment in higher education. This may be viable if necessary support, in terms of provision of human and material resources are provided. The results of the study also show that the following factors hinder effective use of formative assessment to support learning: limited time, large class size, inadequate infrastructural facilities, lack of pedagogical knowledge, attitude of teachers, and lack of interest by students. This finding supports earlier study (Wolterinck, Kippers, Schildkamp and Poertman, 2016) that assessment-, school-, teacher- and student-related characteristics influence practice of formative assessment.

They specifically identified teachers' knowledge, school leaders' support, alignment between assessment and curriculum, provision of specific feedback, and teachers' attitude as factors that hinder effective use of formative assessment.

The emerging theme in the stories is the concern expressed by teachers about limited time, inadequate infrastructural facilities, large class size, and lack of interest by students constitute barriers to effective use of formative assessment to support student learning. This excerpt from interview transcript provides evidence for this assertion:

> "Most students lack interest when given assignment. They copy their friends' work when in a group. Few students will participate, while majority will play away their time. Lack of space is also a hindrance, staff strength where it is limited and infrastructural facilities are hindrances to assessment" (Teacher H)

These factors are likely to affect systematic use of feedback to support teaching and learning. In a situation where use of feedback is weak and not tied to specific action to close existing gap, the benefits of formative assessment cannot be achieved in any educational assessment practice. Thus, it is important to take these factors into account when enforcing the formative use of assessment for improving teaching and learning in higher education.

Finally, the test of the two hypotheses show that the university teachers differ significantly in their understanding of formative assessment due to their years of teaching experience (F4, 85) = 2.602, $p<.05$; but the interaction effect of the three independent variables; highest educational qualification, years of teaching experience and academic rank on the dependent variable (understanding of formative assessment) was not significant (F(2, 45) =1.975, $p>.05$). Post hoc analysis using Scheffe method for multiple comparison of mean shows that no significant difference exists between pair of mean scores. However, teachers who are in the category of 16-20 years had highest mean score followed by 20 years and above, 11-16 years, 6-10 years and 1-5 years, in that order. The finding that experience in teaching at the university level is a significant factor suggests that capacity of junior academics can be built through mentoring by older colleagues and team teaching to under study them and develop good understanding of formative assessment.

However, the non-significant main and interaction effects of the variables on formative assessment practice of the university teachers cast doubt on whether or not length of time spent in teaching actually influences teachers' understanding and practice of formative assessment. This observation could be considered in the light of various factors identified as constituting barrier to effective utilization of formative assessment for improving teaching and learning. Capacity building and provision of enabling teaching and learning environment are required for effective use of formative and summative feedback to support student learning in higher education.

The researchers are aware that this study has some limitations that should be taken into account in future research. This study explored university teachers' understanding and practice of formative assessment in only two universities in Ebonyi State. Secondly, students were not

involved to corroborate and authenticate quantitative and qualitative data obtained. Also teacher observation was not carried out to verify stories they told. However, to fully understand teachers' understanding and formative assessment practice, there is need to increase the sample size, include observation and involve students in the study in addition to extending the area of study. Nonetheless, the study has provided useful insights into the extent of use of formative assessment and feedback to support teaching and learning in higher education. It has also provided baseline data for building capacity of teachers in the universities on how to balance summative and formative assessment to improve performance of students and enable them acquire 21st century shills that are needed for success in the global world of work.

Conclusion

The study explored university teachers' understanding and practice of formative assessment. The purpose was to provide baseline for capacity building on teachers' use of formative assessment in lecture delivery to support learning. The findings of the study show that teachers have some understanding of some components of formative assessment like assessment as ongoing process, using assessment feedback to modify instruction to meet students' needs, and effective classroom discussion. Some aspects of formative assessment practiced by the teachers are involving students in clarifying learning goals and using formative assessment feedback to improve teaching and learning process. It was also found that factors that hinder effective use of formative assessment during lecture delivery are limited time, large class size, inadequate infrastructural facilities, inadequate pedagogical knowledge and students' attitude. The test of hypotheses reveal that there are no significant interaction effects of qualification, experience and rank of teachers on their understanding and practice of formative assessment, although main effect of experience on understanding was significant. The dominant use of assignment and questioning as formative assessment strategies suggest the need for capacity building in for the teachers. The study has therefore made useful contribution by providing empirical evidence that can be used as baseline for addressing problems associated with poor learning in higher education.

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