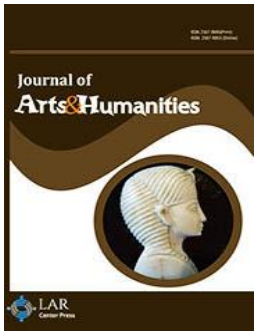

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Measuring Students' Perception About Assessment, Learning Approaches and Strategies: Evidence Among Higher Education Students from Kumasi, Ghana

Frank Yao Gbadago [1,*]

ABSTRACT

A repertoire of assessment have been developed in higher education lately for varying reasons. These same factors may have accounted for the pressure on students to adopt particular approaches or strategies to learning for assessment. Although research on student learning approaches have been well documented in literature, the foremost used approaches, together with their instruments have been criticized for their theoretical and methodological limitations, suggesting the need for more reliable ones. Measurement items constructed, together with the proposed model, were tested for their predictive potency using component factor analysis. This research attempts to extend current knowledge on students' personal characteristics, perceptions of assessment and teaching & learning experience on students' learning approaches and strategies. The specific objectives of this study were: 1) examine the effect of students' personal characteristics, perceptions of assessment and teaching & learning experience on students' learning approaches and strategies; 2) construct measurement items and propose a model for testing the above stated variables; and 3) test reliability and predictive potency of the measurement items and the proposed model. A research model was developed and tested using data from a survey of 288 respondents from Ghanaian universities based in Kumasi. Measurement items constructed, together with the proposed model, were tested for their predictive potency using component factor analysis. The results show that students' personal characteristics, perceptions of assessment and teaching & learning experience are three critical factors that drive students' learning approaches and strategies adoption intentions for assessment. The findings present policy implications for teaching and learning facilitation as well as assessment administration in higher education, especially in the Ghanaian context.

Keywords: Students' learning approaches and strategies; assessment in higher education, model's predictive potency.

*Corresponding author: E-mail: frankggh@yahoo.com
[1] Department of Accounting Studies Education; Akenten Appiah-Menka University for Skills Training & Entrepreneurial Development, Kumasi, Ghana.

1. Introduction

Knowledge and skills acquisition is considered critical as it helps the acquirers to become economically independent and productive. However, education, including teaching and learning, is seen as the most authentic means of acquiring such knowledge and skills (Gbadago, Morrison & Donkor, 2017). Education well noted for its ability to shape beliefs, moral values and, at the same time, lead to social change and transformation. Considering the critical role education plays within every economy for developing human capital and consequentially impaling economic growth and development, nations across the globe will continue to develop their educational systems and means of measuring their outcomes. Undoubtedly, assessment has become the most accepted and reliable means of measuring educational outcomes and/or performance.

Recently, there has been a repertoire of assessment in higher education largely due to varying reasons; among these are large class-size with accompanying heavy workloads; innovation necessitated by changes in the educational system; apparent challenges with pen and paper based assessment; transformed and intensified approaches to skills development policies for work and life among others (Mogre & Amalba, 2015; Gbadago, Morrison & Donkor, 2017; Succi & Canovi, 2019). Similarly, these same factors may have accounted for students' intention to adopt varying approaches or strategies to learning for assessment.

Since assessment is both compulsory and a critical aspect of knowledge and skills acquisition (that is, education), learners and those desirous of acquiring skills and knowledge cannot do so without being assessed in one form or another. As such assessment and students' learning have become part and parcel of national discourse in every nation. Assessment and students' learning discourse and/or research due to its importance in education, is well documented in literature. For instance, Sambell, McDowell and Brown (1997) explored students' perceptions on the consequential validity of assessment. The outcome of this study has greatly enriched the conversional evaluation setting. Similarly, Struyven, Dochy and Janssens (2005) reviewed students' perceptions about evaluation and assessment in higher education. Rossum and Schenk (1984), Zoller and Ben-Chaim (1988), among others, investigated the relationship between learning and related issues such as anxiety and study strategies. Treatwell and Grobler (2001) examined students' perceptions on skill training in simulation. Lizzio, Wilson and Simon's (2002) examination of university students' perceptions of the learning environment and academic outcomes has helped to understand learning strategies that students are likely to adopt. Gbadago, Morrison and Donkor (2017) renewed the debate on assessment in higher education by examining the perception among stakeholders from Ghana.

However, considering its dynamic and ubiquitous nature, assessment and related issues such as students' learning approaches, strategies and/or outcomes in general, the various findings of the above mentioned studies have not been conclusive and hence the need for continuous research efforts. The most commonly used instrument for students' learning and strategy is the study process questionnaire (SPQ) by Biggs (1987). This, and its revised two-factor version (R-SPQ-2F) by Biggs, Kember, and Leung (2001), are bedeviled with controversies as its usefulness is questionable (Justicia *et al*., 2008). Justicia *et al*. further aver the seeming confusion existing among researchers in respect to variables and their measurement scales. This suggests the need for a more potent instrument for this purpose. However, research on assessment and related issues such as students' learning approach and/or outcomes in higher education is in its infancy, especially in developing economies (Mogre & Amalba, 2015) despite its important role in knowledge and skills acquisition for that matter human capital development. As a consequence there is an over-reliance on studies from developed economies such as Europe and Australia for policy decisions (Justicia *et al*., 2008). As environmental settings and policy actions in both economies may not be the same, reliance on studies from developed economies for policy formulation may not work. Furthermore, many methodological limitations levelled against previously reported studies have been identified (Lizzio, Wilson & Simons, 2002; Bliuc *et al*., 2011). In view of the foregoing discussions, this study attempts to fill the above identified research gap.

This study therefore contributes to the development of an instrument for measuring students' learning approaches and strategies by modeling students' learning approaches and related issues in higher education from a developing economy perspective. Specifically, this study analyzes the relationship among students' perception of assessment, personal characteristics, teaching and learning

experiences and how these influence their approaches and strategies to learning within higher education in Ghana.

2. Literature review

Understanding students' learning approach strategy and related determinants may help refine teaching and learning in higher education in general and, more importantly, improve assessment administration in particular (Bliuc *et al*., 2011; Struyven, Dochy & Janssens, 2005). This, moreover, has the penchant of saving resources that currently go to waste due to haphazard and reduplication of many assessment functions in educational institutions. In addition, within the students' context, this may minimize assessment anxieties and, at the same time, improve teaching and learning outcomes. However, understanding the impact of students' perception of assessment on learning approaches and outcomes is routed in the theory of reality construction.

Students' perception about assessment (SPAA) impacts learning strategy and approaches (Sergers, Gijbels & Thurlings, 2008). These variables together determine students' learning and/or assessment outcomes (Struyven, Dochy & Janssens, 2005; Justicia *et al*., 2008; Mogre & Amalba, 2015; Beyaztaş & Senemoğlu, 2015). However, literature suggests students' approaches and strategies to learning for assessment are dynamic and contextual depending on numerous factors (Mogre & Amalba, 2015). Based on prior studies such as Struyven, Dochy and Janssens (2005) and Mogre and Amalba (2015), these factors are identified and categorized accordingly as shown in Table 1. Thus, students' learning approaches and/or strategies for assessment is influenced and/or determined by the students' personae, learning context and institutional settings (as shown in Figure 1). Therefore, to elicit appropriate learning strategy or approach from students that yields desired assessment outcomes requires manipulating these variables accordingly. In addition, it should be noted that as these variables (refer to Table 1) are dynamic, fit for all actions as mostly seen in most of assessment administration in higher education may not work.

Table 1.

Tabulation of Determinants of Students' Learning Approaches and Strategies to Assessment.

Category	Factors
Personal	Gender
	Age
	Prior assessment experience
	Feedback from prior assessment
	Student's perception about assessment
	Prior assessment outcomes
	Perceived impact of assessment on future endeavours
	Student's mastery of the subject matter
	Prior working experience
	Student's purpose of learning
	Individual student's intellect
Contextual	Teaching & learning activities
	Teaching & learning environment
	Perceived workload
	Perceived difficulty or ease of assessment
	Disposition of the teaching & learning facilitator
	Assessment procedures
	Nature of assessment
	Assessment format & methods
	Effects of assessment on learning process
	Student's perception of fairness of assessment
	Employability of the skill and knowledge being tested in the assessment
Institutional	Environment including facilities & facilitators
	Policy & administration
	Controls and quality assurance systems

	Values & culture
	Feedback
	Usage to which assessment results are put into

Source: Author's Construct based on Struyven, Dochy and Janssens (2005), Mogre and Amalba (2015), Gbadago, Morrison and Donkor (2017), Succi and Canovi (2019).

Students' perception about assessment informs their learning approaches and/or strategies in general. According to literature, there are various strategies and approaches, which can be categorized mainly into surface learning, deep learning and strategic learning (Biggs, 1987; Samarakoon, Fernando & Rodrigo, 2013; Mogre & Amalba, 2015). Views by Biggs, Kember and Leung (20001) as supported by Mogre and Amalba (2013) suggest that learning approaches and strategies are a complex interaction between the student, context and task.

As such, there have been persistent calls for assessment in general to support student learning. According to Gbadago, Morrison and Donkor (2017), in today's world of education, assessment that achieves the intended agreed student learning goals; promotes the required amount of students' learning experiences and activities; and adequately prepares the students for the world of work, will be seen as authentic. In addition, employment and employers' requirements suggest that today's learners and/or students acquire diverse and relevant knowledge and skills. These knowledge and skill sets must help foster professional and personal development, counseling and facilitation of various pathways to learning (UNESCO, 2015; Gbadago, Morrison & Donkor, 2017). This suggests the need to intensify research efforts in students' learning approaches and strategies so as to enhance teaching and learning experiences in general, especially in developing countries.

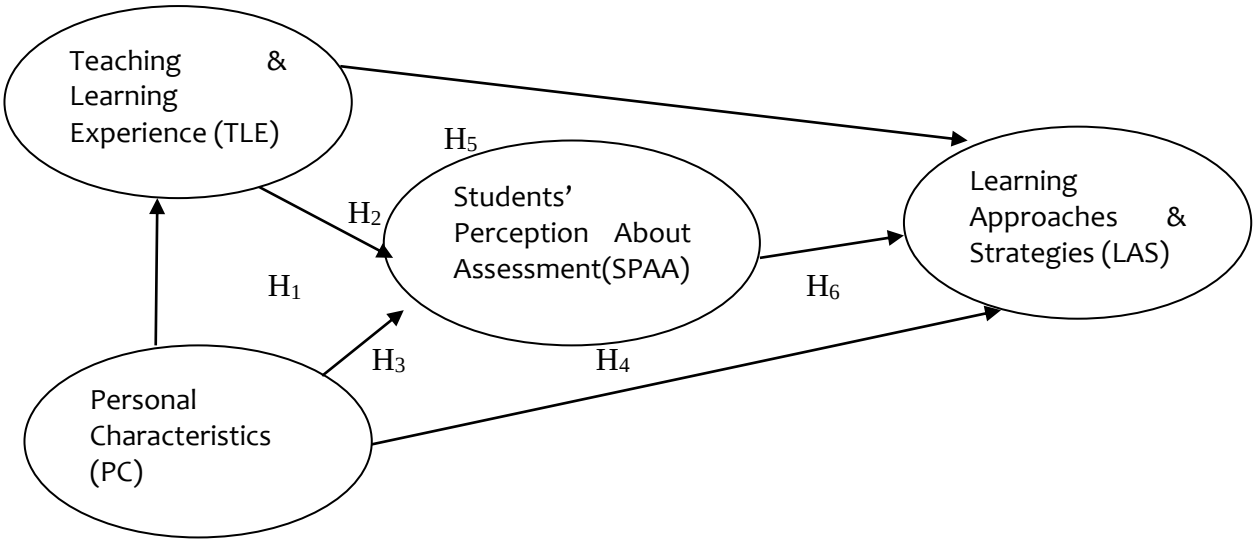

Figure 1: Conceptual Framework and Hypotheses.

Drawing on a prevailing body of knowledge in learning and learning approaches and strategy for assessment domain, this study proposed a conceptual framework of three determinants of students' learning approaches and strategies for assessment and underlying hypotheses as shown in Figure 1. Based on existing studies, we link teaching & learning experience or effect to learning approaches & strategies and students' perception about assessment to yield learning approaches and strategies. We likewise demonstrate the direction of the relationships between these variables. Personal characteristics and previous teaching and learning experience were introduced as a contingent factor for students' perceptions about assessment based on prior literature supported by theory.

3. Methodology

This study used survey research design where a self-administered structured questionnaire was used as the data collection instrument based on assertions by Robertson and McCloskey (2002) on the potency of the instrument in collecting data of high quality within the shortest possible time with

minimal costs without the physical presence of the researcher. The data collection was part of a larger study conducted within Kumasi Metropolis, Ghana. The population consisted of various stakeholders (such as students, parents, faculty members, administrators, policy makers) in higher education. Overall, 287 usable sets of the instrument were obtained out of 300 sets (representing an 82% response rate) and used for analysis. The above mentioned sample is seen as reasonable size large enough to permit appropriate statistical analysis for this study based on the Central Limit Theorem assumption about a sample of 100 or more (Grinstead & Snell, 2006; Oppong-Boakye, Appiah & Afolabi, 2013; Gbadago, 2015; Gbadago, Morrison & Donkor, 2017). The data obtained were analyzed using regression with the help of SPSS version 21.

Component factor analysis and reliability test were applied in examining the relationships and variables. Factor analysis was carried out in two stages, namely measurement model to ascertain the reliability of the observed items in measuring the variables they represent; and the predictive potency of the model ascertaining the predictive power of the model and the relationships between the variables in the model: all of which are presented and discussed appropriately under the result section accordingly.

4. Results of the study

The results in Table 2 show two tests that indicate the suitability of the data for structure detection. Kaiser-Meyer-Olkin Measure of Sampling Adequacy is a statistic that indicates the proportion of variance in the variables that might be caused by underlying factors. High values (close to 1.0) is generally an indication that a factor analysis may be useful with a given set of data. However, a value of less than 0.50 is an indication that the results of the factor analysis probably may not be very useful. On the other hand, Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, and should indicate whether the variables are unrelated and therefore may not be suitable for structure detection. Results that give small values (less than 0.05) of the significance level indicate that a factor analysis may be useful with a given set of data. From the results of 0.566 and 0.000 for KMO and Bartlett's test, respectively, as shown in Table 2 is an indication that factor analysis could be performed and that the results thereon shall be useful for our purpose. We therefore proceed accordingly with our factor analysis.

Table 2.

Kaiser-Meyer-Olkin (KMO) Measure and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.566
Bartlett's Test of Sphericity	Approx. Chi-Square	131.509
	Df	55
	Sig.	0.000

Source: Authors' Field Data

Communality values act as quality assurance scores for factor analysis just like Eigen Values and Scree Plot. Thus, extraction communalities are estimates of the variance in each variable accounted for by the factors in the factor solution produced. Small values indicate variables that do not fit well with the factor solution, and should possibly be dropped from the analysis. The extraction communalities for this solution as shown in Table 3 are acceptable as they are above 0.40.

Table 3.

Communalities.

	Initial	Extraction
Personal Characteristics		
Gender	1.000	0.545
Age	1.000	0.700
Current Educational Level	1.000	0.637
Any previous working experience in industry/practice?	1.000	0.684
Assessment & Learning Experiences		
Have you ever taken any form of examination or assessment in HE?	1.000	0.485
What is the typical nature of assessment you have experienced in your HE?	1.000	0.577

How were the final grades (or score) in your assessment obtained?	1.000	0.540
Perception About Assessment		
Does your previous life experience help you to plan your learning & influence the outcome of your learning activities, and the time allocated for this?	1.000	0.460
Do you think current mode of assessment in HE out-lived it usefulness given industrial expectation.	1.000	0.464
Learning Approach Strategies		
Do you plan and put effort in learning activities that you are aware will not be assessed (examined) but are needed in your future endeavor?	1.000	0.514
In your academic pursuit(s), do you normally focus on examination by concentrating time and efforts on strategies for passing examination instead of actual learning activities?	1.000	0.713

Extraction Method: Principal Component Analysis.

Source: Authors' Field Data

The leftmost section of this table shows the variance explained by the initial solution. Only five factors in the initial solution have eigenvalues greater than 1. Together, they account for almost 57.45% of the variability in the original variables. This suggests that five latent influences are associated with students' learning, but there remains room for a lot of unexplained variation. This result is further confirmed by the Scree Plot as shown in Figure 2.

Table 4.

Total Variance Explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.704	15.491	15.491	1.704	15.491	15.491	1.466	13.328	13.328
2	1.366	12.422	27.913	1.366	12.422	27.913	1.379	12.533	25.860
3	1.126	10.240	38.154	1.126	10.240	38.154	1.238	11.259	37.119
4	1.085	9.866	48.020	1.085	9.866	48.020	1.150	10.453	47.573
5	1.037	9.431	57.451	1.037	9.431	57.451	1.087	9.878	57.451
6	0.928	8.438	65.889						
7	0.886	8.053	73.942						
8	0.813	7.392	81.334						
9	0.742	6.747	88.081						
10	0.700	6.364	94.445						
11	0.611	5.555	100.000						

Extraction Method: Principal Component Analysis.

The second section of Table 4 shows the variance explained by the extracted factors before rotation. The cumulative variability explained by these five factors in the extracted solution is still 57.45%, the same as the initial solution. However, the rightmost section of Table 4 shows the variance explained by the extracted factors after rotation. The rotated factor model makes some amounts of adjustment to almost each of the five noted factors (1, 2, 3, 4, & 5). The scree plot of Eigen Values as shown in Figure 2, confirms the choice of the five components.

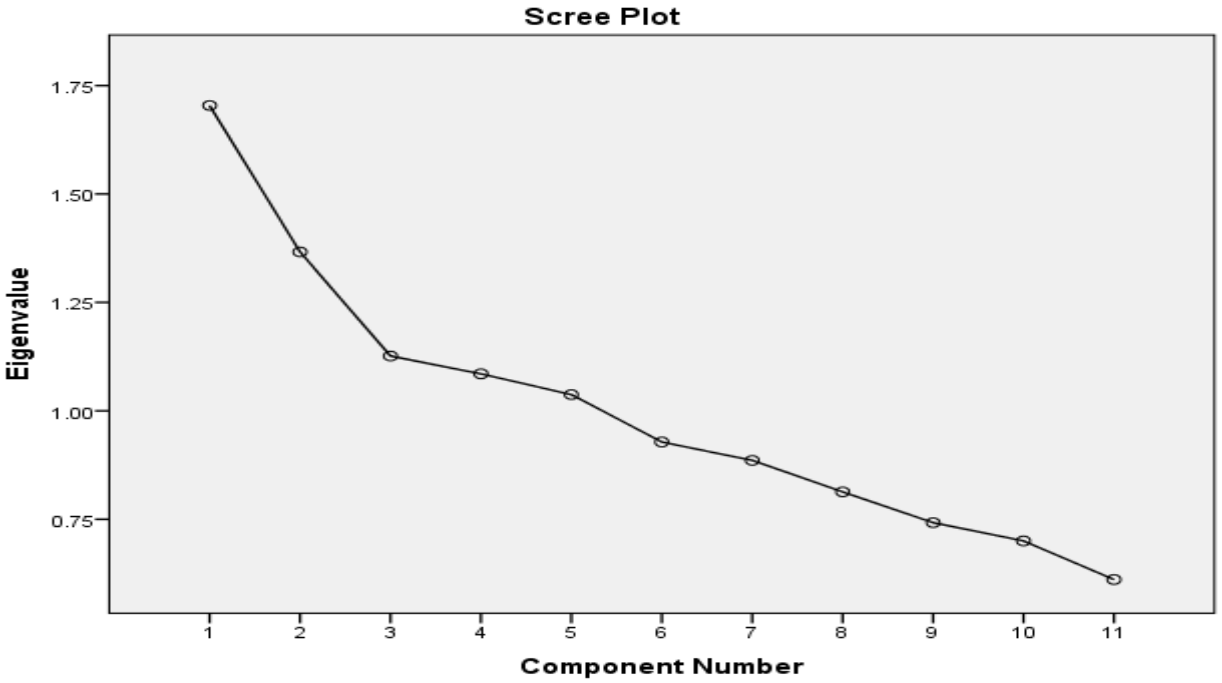

Figure 2: Scree Plot

5. Regression model predictive potency results

Having confirmed the suitability of the variables for the model specification, we now go ahead to test the predictive power of the proposed model by performing the regression analysis, the results of which are shown in Table 5. The R value of 0.343 revealed the correlation between the observed and predicted values of the dependent variable of the model as specified above. R-Square, on the other hand, signifies the proportion of variance in the dependent variable that can be predicted by the independent variables in the model. This value indicates that about 12% of the variance in students' learning approaches and strategy towards assessment can be predicted from the adopted variables. Note that this is an overall measure of the strength of association, and does not reflect the extent to which any particular independent variable is associated with the dependent variable. The resultant adjusted R-square value is an indication that the model is able to explain close to 10% of variation in students' learning approaches and strategies in general.

Table 5.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.343[a]	.118	.082	.50960	.118	3.330	11	275	.000	2.038

6. Discussions and policy implications

The results of this study, as presented above, confirms most prior studies on determinants of students' learning approaches and strategies, such as Biggs (1987), Kember and Leung (2001), Lizzio, Wilson and Simons (2002), Justicia *et al*. (2008), Biggs, Mogre and Amalba (2015), Succi and Canovi (2019) among others. This study's findings are remarkable and has suggestion for policy implications for teaching and learning interactions, especially among facilitators and students.

Theoretically, this paper advances our knowledge on the effect of students' personal characteristics, teaching and learning experiences, and perception about assessment on learning

approach strategy for assessment in higher education in a developing country context as well as well as methodological issues in studying concepts. First, since relatively few past studies have examined methodological issues in respect to students' personal characteristics, teaching and learning experiences, and perception about assessment on learning approach strategy for assessment in higher education, this paper contributes to increasing knowledge in the extant literature regarding measurement and analysis of these variables. Secondly, the present study emphasizes the complementary role of students' personal characteristics, teaching and learning experiences, and perception about assessment in influencing learning approach strategy for assessment. These are three key factors that affect teaching, learning and assessment outcomes and hence educational effectiveness. Thirdly, unlike previous studies that have emphasized the role of learning approaches and students' perception about assessment in determining assessment outcomes, the present study has validated that, in assessment in the higher education context, students' personal characteristics are important determinants of the learning approach and strategy towards assessment. In the existing literature, while perception about assessment and learning approaches have been found to influence each other depending on the students' motives, this study provides empirical evidence that students' personal characteristics can influence and strengthen students' learning approaches and strategies adoption in general and assessment outcome in particular.

Given that students' teaching and learning experiences are taking many forms and shapes (on-line; face-to-face, or blended), it has become critically important for management and facilitators of teaching and learning in higher education to understand both the strategic and policy implications of these issues. Generally, the findings of this study implies that, in order to influence students' learning approach and strategy and invariably assessment outcomes, management and facilitators of teaching and learning should focus on students' personal characteristics, and teaching and learning activities that may influence students' perception about assessment positively. To begin with, managers and facilitators of teaching and learning should focus on help students work on their personal characteristics that are critical for learning and at the same time help their students to have a quality experience during their contact with them in order to significantly influence their perceptions about teaching, learning and assessment. Students' perception, personal characteristics, and teaching and learning are so important in the learning approach and strategy adoption towards assessment. As this study shows, management and facilitators could deploy their understanding in achieving expected outcomes. It is important for management and facilitators to understand that failure to deploy these may lead to undesirable assessment outcomes.

7. Limitations and directions for future research

In spite of the significant contributions of this study to theory and student learning management, it has some limitations that provides avenues for future research. First, this study did not examine all the variables that could influence learning approaches and strategies, such as social influence, quality of teaching, facilitator disposition and mastery of subject matter among others. Future research should include these other variables to develop a comprehensive framework for understanding students' learning and learning approaches in higher education. Moreover, the sample of this study was based on only Ghanaian respondents from universities in Kumasi, which limits the generalizability of the findings to the Ghanaian context. Future research should extend the research model to other learning and assessment context in other countries. Furthermore, in this study, we did not examine the influence of adopted learning strategies on assessment outcomes. It is recommended that future research should attempt to explore these areas to advance our knowledge of students' learning approaches and strategies for assessment in general and developing countries in particular.

8. Conclusion

This study examines the effect of students' personal characteristics, perceptions of assessment and teaching and learning experience on students' learning approaches and strategies in a developing country. It draws on a rich body of existing literature to develop a research model, which was tested using data from a survey of 288 respondents from Ghanaian universities based in Kumasi. The results show that students' personal characteristics, perceptions of assessment and teaching and learning

experience are three critical factors that drive students' learning approaches and strategies adoption intentions for assessment. The findings present policy implications for teaching and learning facilitation as well as assessment administration in higher education, especially in Ghanaian context.

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Appendix A:
Table 6: Research Questionnaire

S#	Items	Initial	Extraction
	Personality Factors		
1	Gender	1.000	0.545
2	Age	1.000	0.700
3	Current educational level	1.000	0.637
4	Any previous working experience in industry/practice?	1.000	0.684
5	How were the final grades (or score) in your assessment obtained?	1.000	0.540
	Students' perceptions about assessment		
6	Does your previous life experience help you to plan your learning influence the outcome of your learning activities, and the time allocated for this?	1.000	0.460
7	Have you ever taken any form of examination or assessment in HE?	1.000	0.485
8	What is the typical nature of assessment you have experienced in your HE?	1.000	0.577
9	Do you think current mode of assessment in HE out-lived it usefulness given industrial expectation.	1.000	0.464
10	Do you plan and put effort in learning activities that you are aware will not be assessed (examined) but are needed in your future endeavour.	1.000	0.514
11	In your academic pursuit(s), do you normally focus on examination by concentrating time and efforts on strategies for passing examination instead of actual learning activities?	1.000	0.713

Extraction Method: Principal Component Analysis.

Appendix B:
Table 7: Component Matrix[a]

	Component				
	1	2	3	4	5
Gender	0.597	-0.346			
Have you ever taken any form of examination or assessment in HE?	0.561				
Do you think current mode of assessment in HE out-lived it usefulness given industrial expectation.	0.532			-0.326	
Do you plan and put effort in learning activities that you are aware will not be assessed (examined) but are needed in your future endeavour.	0.508	0.317			0.306
How were the final grades (or score) in your assessment obtained?	0.389	0.598			

Does your previous life experience help you to plan your learning influence the outcome of your learning activities, and the time allocated for this?	0.358	0.522			
Any previous working experience in industry/practice?	0.354	-0.390	0.601		
What is the typical nature of assessment you have experienced in your HE?		-0.344	-0.547	0.373	
Current Educational Level		0.327	0.422	0.568	
Age				-0.468	0.643
In your academic pursuit(s), do you normally focus on examination by concentrating time and efforts on strategies for passing examination instead of actual learning activities?				0.475	0.557

Extraction Method: Principal Component Analysis.
a. 5 components extracted.

Appendix C:
Table 8: Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
How were the final grades (or score) in your assessment obtained?	0.721				
Does your previous life experience help you to plan your learning influence the outcome of your learning activities, and the time allocated for this?	0.658				
Do you plan and put effort in learning activities that you are aware will not be assessed (examined) but are needed in your future endeavour.	0.518			0.447	
Any previous working experience in industry/practice?		0.803			
Gender		0.681			
Current Educational Level			-0.727		
Do you think current mode of assessment in HE out-lived it usefulness given industrial expectation.			0.585		
Have you ever taken any form of examination or assessment in HE?		0.434	0.490		

In your academic pursuit (s), do you normally focus on examination by concentrating time and efforts on strategies for passing examination instead of actual learning activities?	0.829	
Age		0.794
What is the typical nature of assessment you have experienced in your HE?	0.318	-0.610

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Appendix D:
Table 9: Component Transformation Matrix

Component	1	2	3	4	5
1	0.569	0.603	0.433	0.347	0.070
2	0.803	-0.453	-0.298	-0.189	0.157
3	-0.054	0.578	-0.559	-0.321	0.498
4	0.084	0.161	-0.633	0.489	-0.573
5	-0.146	-0.266	-0.108	0.708	0.628

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix E:
Table 9: Component Score Coefficient Matrix

	Component				
	1	2	3	4	5
Gender	0.005	0.474	0.051	0.121	-0.030
Age	-0.153	-0.078	0.097	0.168	0.745
Current Educational Level	0.179	0.136	-0.639	0.196	0.023
Any previous working experience in industry/practice?	-0.106	0.626	-0.151	-0.142	0.073
How were the final grades (or score) in your assessment obtained?	0.500	-0.085	0.066	-0.096	-0.010
Does your previous life experience help you to plan your learning influence the outcome of your learning activities, and the time allocated for this?	0.460	0.051	-0.125	-0.065	-0.090
Have you ever taken any form of examination or assessment in HE?	0.078	0.271	0.355	-0.059	-0.174
What is the typical nature of assessment you have experienced in your HE?	-0.167	-0.121	0.114	0.284	-0.543

Do you think current mode of assessment in HE out-lived it usefulness given industrial expectation.	0.103	0.017	0.453	0.108	0.137
Do you plan and put effort in learning activities that you are aware will not be assessed (examined) but are needed in your future endeavour.	0.330	-0.114	0.101	0.371	0.097
In your academic pursuit(s), do you normally focus on examination by concentrating time and efforts on strategies for passing examination instead of actual learning activities?	-0.097	0.022	-0.120	0.738	-0.011

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix F:

Table 10: Component Score Covariance Matrix

Component	1	2	3	4	5
1	1.000	0.000	0.000	0.000	0.000
2	0.000	1.000	0.000	0.000	0.000
3	0.000	0.000	1.000	0.000	0.000
4	0.000	0.000	0.000	1.000	0.000
5	0.000	0.000	0.000	0.000	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.