

Relationship Between Learning Approaches and Academic Achievement of Accounting Education Students

Leticia Sam

Department of Business and Social Sciences Education, University of Cape Coast, Ghana

DOI: 10.29322/IJSRP.10.07.2020.p103103

<http://dx.doi.org/10.29322/IJSRP.10.07.2020.p103103>

Abstract- Learning approach is an important consideration when planning for effective instruction and assessment. Hence, effective educators always desire to know how students learn so that they can be better informed how to go about their teaching and assessment. The study investigated the learning approach that most Bachelor of Education accounting students use for accounting as a course. Further, the study also examined the relationship between students learning approaches and academic achievement. Correlational design was used for the conduct of this study. Accounting education students of the University of Cape Coast were targeted, however, only the final year students (n = 154) were assessed due to three-month recess of schools as a result of the Covid-19 global pandemic. Entwistle et al.'s (2000) Approaches and Study Skills Inventory for Students was adapted and used to collect data on students learning approaches while Cumulative Grade Point Average (CGPA) was used as a measure of students' academic achievement. Mean and standard deviation was used to analyse the research question as Pearson's Product Moment Correlation Coefficient was used to test the hypothesis in the study. Findings of the study revealed that most of the students of accounting education (respondents) made use of a strategic approach in the study of accounting as a course. Also, the study discovered that the surface learning approach had an inverse relationship with academic achievement. The study recommended that teachers should adopt an assessment procedure (preferably, performance assessment) that would cause students to make use of higher learning approaches such as deep learning. Implications for teaching and learning were also discussed.

Index Terms- Academic achievement; Learning; Deep approaches; Surface approaches; Strategic approaches.

I. INTRODUCTION

Globally, an important factor in the development of future accountants is the education process that they undertake. Consequently, professional accounting bodies have become increasingly concerned with accounting education (Montaño & González, 2009). The quality of teaching and learning in higher education has been a subject of debate for many decades (Owusu, Kwakye, Bekoe & Welbeck, 2019). Adequate preparation of accounting graduates to face the world of work

has been a subject of debate for most economies, especially, developing countries. Universities have been criticized for raising accounting graduates who cannot think and make judgments on issues independently. The teaching of accounting in universities has often been described to be overly technical, for students to grasp concepts and reproduce financial statements (Ballantine et al., 2008). Recently, there has been a call for accounting instructors to move beyond just the impartation of technical knowledge and equip students with a deeper understanding of principles and concepts underpinning accounting practices (Flood & Wilson, 2008). Undoubtedly, the role of educators in equipping students with the skill set relevant for today's job market is quintessential, however, it is also a fact that graduates will learn how to become successful professional accountants if they adopt the life-long learning concept and thereby continually adapt to changes in the business environment (Owusu et al., 2019).

The way students' study, rather than the content of what they study, is an area that is recently getting the attention of researchers in education. For some decades now, scholars in education have tried to understand how students learn from a phenomenographic point of view (Duff, 2004). Previous studies on how students learn were done using text reading experiments in the 1970s. Beginning point focused on exploring ways of explaining some of the main differences in how students go about learning in schools (Phan & Deo, 2007; Justicia, et al., 2008). For the advancement of quality of learning among students, it is imperative to get the full glimpse of the process of learning among students. The way they learn can be explained using cognitive or behavioural theories but it is also important to take note of their experiences within the school setting (Marton & Booth, 1997, p. 13).

Approaches to learning which stand for the way students manage their study tasks (Byrne et al. 2002). Previous studies on approaches to learning had come up with three approaches that are often used by learners, they include; surface, strategic, and deep learning strategies (Biggs 1988; Entwistle 1987). Around the year 1976, Marton and Soljo discovered two different ways in which learners learn study materials. They called those strategies surface and deep. Deep approach is mostly connected with a student trying to learn to understand the subject matter through making reference to other materials and previously learned concepts. This is to say that, it is a learning process whereby learners consciously get involved in the learning process, relate

previous life encounters and earlier acquired information, express intrinsic interest and try harder to understand what they learn (Enswistle & Ramsden 2003; Lucas 2001). In contrast, the surface approach is about learning without having a clear understanding of the subject. We often refer to such a situation as rote-learning and memorizing the fact, that is a student committing the information to memory just for the purpose of reproducing it without understanding what it is (Enswistle & Ramsden 2003; Lucas 2001). In addition to the two approaches, Ramsden (1979) added a third approach which he called a strategic approach whereby learners go through the course with the sole objective of getting high grades in examination. Essentially, a student using a particular approach when learning is informed by certain specific intentions or motivations to learning.

Numerous studies have been done on students' approaches to learning in the accounting education literature (Byrne & Flood, 2005; Donald & Jackling, 2007; Flood & Wilson, 2008; Jackling & De Lange, 2009), and pointed out Deep, surface and strategic learning as the predominant students' learning approaches (Ballantine et al., 2008; Byrne et al., 2010). Some empirical studies have found out that most accounting students demonstrate surface learning approaches (Andon, Chong & Roebuck, 2010; Donald & Jackling, 2007). Findings of other studies demonstrate the existence of differing learning approaches of accounting students based on context (Hall, Ramsay and Raven, 2004; Byrne and Flood 2005; Byrne et al, 2010; Teixeira et al., 2013). Clearly, studies have shown that the kind of learning approach that accounting students demonstrate to a large extent depends on the country within which that study was conducted (Byrne et al. 2010). Most of the foregoing studies undoubtedly, were conducted in the more advanced jurisdictions. What then is the case of Ghana? What is the predominantly used learning approach of accounting students and our public universities? There exists paucity of literature on the learning approach of accounting students in Ghana which warrant more empirical investigation. The only study done and published in Ghana concerning accounting students learning approaches made use of only students from school of business (Owusu, Kwakye, Bekoe & Welbeck, 2019) ignoring accounting education students. This study therefore sought to contribute to what is known about the phenomenon by focusing on the learning approaches of Bachelor of Education accounting students. Specifically, the study sought to explore the relationship between learning approaches and academic achievement in accounting.

II. LITERATURE REVIEW

Learning approaches among accounting students

Previous studies existing in the accounting education literature point out to the fact that most accounting students predominantly make use of surface learning approach (English, Luckett, & Mladenovic, 2004; Flood & Wilson, 2008), they tend to employ strategic learning approach in some instances but rarely employ deep learning approach as they find this method very difficult since the discipline are mathematically based (Byrne & Flood, 2005). In addition, Byrne et al. (2010) in a comparative study examined the learning approaches of accounting and science students in Ireland and discovered that

while accounting students were more strategic learners than science students, the science students adopted a deep learning approach. Barac (2012) also conducted a study using auditing students in South Africa. The study, like others already mentioned, discovered that the students were more strategic in their learning which supported the findings of Flood and Wilson (2008) in Ireland. Studies further clarify that the possibility of accounting students applying various learning approaches at different levels of their studies is undeniable (Hall et al., 2004; Ballantine et al., 2008). For example, earlier in the accounting education literature, Hong Kong, Gow, Kember, and Cooper (1994) revealed that accounting students do adopt a deep learning approach in the early years of their study, but they become more surface learners as they progressed through their course. However, arguing that some low-level competencies in accounting can be effectively learned with a surface learning approach, Hall et al. (2004) support the idea that at some point, an accounting student will be a surface learner. It is also argued that the nature of accounting studies may require some form of memorization and rote learning at all levels from introductory accounting to senior level accounting units (Birkett & Mladenovic, 2009). Volet and Chalmers (1992) indicated that the way students learn can be seen as on a continuum with surface and deep being the extremities. Gibbs (1995) posited most often in real life situations when learners adopt a surface style of learning it nearly always leads to poorer quality learning outcomes. He also opined that evidence exists to point to the fact that learners can commit to memory not just information but also procedures. In accounting terms this would equate to not just rote learning facts, but whole processes which in most cases are permissible for practice sake.

Learning approaches and students' academic achievement

Learning strategies is an exceptional idea by Marton and Säljö (1976) in the late 1970s which set the foundation for 'student learning approaches' (SLA) theories (Biggs, Kember, and Leung, 2001). Conceptually, a learning approach has to do with a student's conceptions when he/she is placed in a learning context and the modus operandi of their academic tasks. This is normally known when questionnaires are used to assess it (Watkins, 2001 cited in Rodriguez & Cano, 2007). Several data-based studies have been done on the connection between learning strategies and students' learning outcomes. Cano (2007) discovered that learning approach is a crucial factor in explaining students' performance. Cano's (2007) study showed application of deep learning approach brought about good performance among the samples. This probably happened due to the fact that learners who perform well are more likely to be those that make use of deep learning strategy than their counterpart low achievers (Zeegers, 2001). Entwistle, Tait, and McCune, (2000) opined that in the forthcoming periods for college degree, especially when the mode of assessment system in a way rewards the efforts of learners that dig deeper for better understanding of concepts, students are more likely to score higher on the deep approach learning scale which will relate to good performance. In this line, studies have suggested that students who adopt a surface learning approach are inclined to be at a lower performing level (Biggs, 2003; Birenbaum, 2007).

Moreover, studies have shown that students who use desirable learning approaches, especially by rating higher on deep approach and strategic approach scales, have high academic achievement (Byrne et al. 2002; Duff, 2004). Other studies also corroborate the conclusions that deep and strategic approaches to learning tend to be related with high academic achievement (Cano 2005; Lietz & Matthews, 2006). Trigwell and Prosser (1991) cited in Kyndt et al., (2011) investigated the correlation between students' learning approaches and the performance of final year nursing students who were 122 in number. Findings showed a positive relationship between deep learning approach and academic performance. Unfortunately, not all study's findings show a connection between deep learning approach and performance (Byrne, Flood, & Willis, 2004; Gijbels et al., 2005). Some studies found that deep approach did not have any relationship with higher grades on students' assessment (Minbashian et al., 2004; Trigwell & Prosser, 1991). Undeniably, most of the studies above are those that emanate from developed jurisdictions. The case of Ghana is worse since most studies conducted in accounting education over the years have not paid attention to the learning approaches of accounting students in Ghana. This study therefore contributes to the literature by investigating learning approaches of Bachelor of Education accounting students in Ghana.

III. RESEARCH QUESTION

The following research question guided the study.

1. What is the predominantly used learning approach of accounting education students in Ghana?

IV. RESEARCH HYPOTHESIS

The following hypotheses were posed to guide the study:

H_0 : There is no statistically significant relationship between accounting students' learning approach and their academic achievement.

H_1 : There is a statistically significant relationship between accounting students' learning approach and their academic achievement.

V. RESEARCH METHODS

Correlational design was the choice design for the study. The population of the study comprised all Bachelor of Education Accounting students of the University of Cape Coast, however, only the final year students (2019/2020 academic year) were accessible to the researcher. The entire final year students (n=154) were used for the study (census). One hundred and fifty-four (154) students were asked to complete the questionnaire. The return rate for the survey was 100%. Students' approach to learning (SAL) accounting education courses were measured using an adapted Entwistle et al.'s (2000) ASSIST research instrument which is also called Approaches and Study Skills Inventory for Students. The instrument consisted of 53 items on three hypothetical sub-scales of a 'defining' approach to learning which is deep approach, surface approach, and strategic approach. The respondents were asked to indicate their degree of agreement with statements scored on a seven-point Likert scale

with 1 being strongly disagreed and 7 strongly agree. Before the administration of the instrument, respondents were assured confidentiality and anonymity after they had signed a consent form. Students' academic achievement were measured using cumulative grade point average (CGPA) of the final semester for the final year students. Information about the CGPA was taken from the university academic record unit. In this case, each dimension's composite score (i.e, deep, strategic and surface) of students' approaches to learning (SAL) (predictor variables), were computed with the overall composite score of students' CGPA (criterion variable) to estimate the relationship. The estimation of the relationship was done using Pearson's Product Moment Correlation Coefficient (PPMCC) and this was how the hypothesis was tested. Data to answer the research question, however, was analysed using mean and standard deviation. Tables were drawn to showcase the summary of the results.

VI. RESULTS OF THE STUDY

Research Question: What is the predominantly used learning approach of accounting education students in Ghana?

This research question sought to determine the learning approach that B.Ed. (Accounting) students use when studying courses within the discipline. Students' approaches to learning were measured using ASSIST scale. Summary of the results are shown in Table 1.

Table 1- Learning approaches among Bachelor of Education accounting students

Students Learning Approaches	Mean	Standard deviation
Surface approach	4.46	.82
Strategic approach	5.02	.76
Deep approach	4.60	.77

Source: Field Data (2020)

Table 1, shows the types of learning approaches used by Bachelor of Education accounting students in the university that was selected for the study. The items were responded to by the students based on a seven-point Likert-type of scale (1=strongly disagree, 7=strongly agree). Results indicate that majority of the respondents (i.e. students) use Strategic Approach (M = 5.02, SD = .76), followed by Deep Approach (M = 4.60, SD = .77) and the minority Surface Approach (M = 4.46, SD = .82). The relevant meaning that can be drawn from the results in Table 1 overall, is that education accounting students sampled made use of the three approaches to learning while on the programme, however, majority of them aligned themselves to the use of strategic approach while some of them (i.e. in a minority) made use of surface learning approach.

Hypothesis: H_0 : There is no statistically significant relationship between accounting students' learning approach and their academic achievement.

The hypothesis sought to examine the connection between learning approaches of students and their academic performance. CGPA was used to represent students' academic performance (criterion) while students' learning approaches (predictors) were

measured using ASSIST scale. Summary of the analysis are shown in Table 2.

Table 2- Correlation Matrix of student learning approaches and academic achievement

	1	2	3	4
CGPA	1.0			
Surface Approach	-.23*	1.0		
Strategic Approach	.39*	---	1.0	
Deep Approach	.58*	---	---	1.0

*Correlation is significant at the 0.05 level (2-tailed).

Table 2 provides the summary of results for correlation between learning approaches of students and their academic achievement. By using Pearson correlation to determine the strength of relationship between the two variables (that is, SAL and CGPA), results indicate that there was a positive relationship between Strategic Approach (SA) and achievement ($r = .39, p = .001$) as well as Deep Approach (DA) and achievement ($r = .58, p = .001$). Even though the results for SA and DA in terms of magnitude appear to showcase a somewhat moderate relationship, the case of Surface Approach was worse. This is because, Surface Approach to learning showed a reverse relationship with performance ($r = -.23, p = .001$). It can be inferred from the result that the more students cling to the use of Surface Approach to learning in their studies, the lower their academic achievement would be. Alternatively, the results demonstrate that the use of Strategic Approach and Deep Approach tend to align with higher academic achievement. The results definitely have implications for the academic guidance role of accounting education instructors within our tertiary education set up.

VII. DISCUSSION

The study had an objective to explore the predominantly used learning approach of education accounting students in the selected university. Findings indicated that the majority of the study sample (B.Ed. Accounting students) made use of a strategic approach to learning with the rest aligning themselves to a deep and surface approach. The majority of the accounting education students being strategic in their learning point to the fact that they have their focus on achieving high grades in combination with well-organised studying and attention to assessment requirements. The students only prioritise implementing plans to achieve higher grades without necessarily focusing on deeper understanding of concepts taught. The findings in this study corroborate with Byrne et al. (2010) in a comparative study found out that accounting students were more strategic learners than science students. Further, Barac (2012) study had earlier discovered that students learning auditing (an accounting course) were more strategic in their learning which supported the findings of Flood and Wilson (2008). The fact that accounting education students were strategic in their learning instead of being deep learners was not surprising but rather a reflection of an ancient held view that Ghanaian education

system places more emphasis on passing examinations rather than seeking to gain knowledge concepts studied.

The second objective was on investigating the relationship between students' approaches to learning and their academic achievement. Findings indicated that there was a positive relationship between students' approaches to learning (SAL) such as deep and strategic, however, surface approach had an inverse relationship. This suggests that the more students aligned themselves with surface learning approach in their studies the lower their academic achievement becomes. This finding is parallel with previous research which has shown that consequently students who adopt a surface learning approach are inclined to have lower achievement level (Biggs, 2003; Prosser and Trigwell, 1999; cited in Birenbaum, 2007).

Again, this is to say that the use of deep or strategic learning approaches had connections with higher performance, however, not true for surface approach. The findings concur with Cano's (2007) study which discovered that high application of deep learning approach resulted in a better academic performance among the samples. In line with this same idea, studies have shown that students who use desirable learning approaches such as deep approach and strategic approaches have high academic achievement (Byrne et al. 2002; Duff, 2004). Other studies also corroborate the finding that deep and strategic approaches to learning tend to be correlated with high academic achievement (Cano 2005, Watkins 2001, cited in Lietz & Matthews, 2006).

VIII. CONCLUSIONS

Based on the findings of the study, it can be concluded that majority of University of Cape Coast accounting education students who were used in this study are more likely to have good grades in most of their courses in the accounting education programme because of their usage of strategic learning approach, however, may not be able to apply conceptual knowledge of those courses to actual situation. Further, it can be concluded that University of Cape Coast assessment, especially, for accounting education programmes rewards deep and strategic learning approaches since those learning approaches (i.e. deep and strategic) have positive connection with higher achievement.

IX. RECOMMENDATIONS

Based on the findings, the following recommendations are given for policy and practice.

1. Instructors of Bachelor of Education accounting courses should adopt an assessment procedure (preferably, performance assessment) that would cause students to make use of higher learning approaches such as deep learning approach and switch from strategic and the surface learning approaches. By implication students' learning approach may be a function of the mode of assessment they have been subjected to over their study years.
2. Course instructors should emphasize a teaching strategy that directs students to self-regulate their learning and brainstorming. These strategies would help students to

appreciate conceptual understanding and applications rather than resorting to rote learning style of learning.

REFERENCES

- [1] Andon, P., Chong, K. M., & Roebuck, P. (2010). Personality preferences of accounting and non-accounting graduates seeking to enter the accounting profession. *Critical Perspectives on Accounting*, 21(4), 253-265.
- [2] Ballantine, J. A., Duff, A., & Larres, P. M. (2008). Accounting and business students' approaches to learning: A longitudinal study. *Journal of Accounting Education*, 26(4), 188-201.
- [3] Byrne, M., Flood, B., & Willis, P. (2002). The relationship between learning approaches and learning outcomes: a study of Irish accounting students. *Accounting education*, 11(1), 27-42.
- [4] Biggs, J. B. (1988). Assessing student approaches to learning. *Australian Psychologist*, 23(2), 197-206.
- [5] Byrne, M., & Flood, B. (2005). A study of accounting students' motives, expectations and preparedness for higher education. *Journal of further and Higher Education*, 29(2), 111-124.
- [6] Byrne, M., Finlayson, O., Flood, B., Lyons, O., & Willis, P. (2010). A comparison of the learning approaches of accounting and science students at an Irish university. *Journal of Further and Higher Education*, 34(3), 369-383.
- [7] Byrne, J. V., Beltechi, R., Yarnold, J. A., Birks, J., & Kamran, M. (2010). Early experience in the treatment of intra-cranial aneurysms by endovascular flow diversion: A multicentre prospective study. *PLoS one*, 5(9), e12492.
- [8] Barac, K. (2012). Learning approaches to the study of auditing followed by prospective South African chartered accountants. *Southern African Business Review*, 16(2), 47-68.
- [9] Birkett, B., & Mladenovic, R. (2009). The study process questionnaire: theoretical and empirical issues for accounting education research. *Practices, Profession and Pedagogy in Accounting: Essays in Honour of Bill Birkett*. Sydney University Press, Sydney, 423-50.
- [10] Biggs, J., Kember, D., & Leung, D. Y. (2001). The revised two-factor study process questionnaire: R-SPQ-2F. *British Journal of Educational Psychology*, 71(1), 133-149.
- [11] Birenbaum, M. (2007). Assessment and instruction preferences and their relationship with test anxiety and learning strategies. *Higher Education*, 53(6), 749-768.
- [12] Byrne, M., Flood, B., & Willis, P. (2004). Validation of the Approaches and Study Skills Inventory for Students (ASSIST) using accounting students in the USA and Ireland: A research note. *Accounting Education*, 13(4), 449-459.
- [13] Cano, F. (2007). Approaches to learning and study orchestrations in high school students. *European Journal of Psychology of Education*, 22(2), 131-151.
- [14] Cano, F. (2005). Epistemological beliefs and approaches to learning: Their change through secondary school and their influence on academic performance. *British Journal of Educational Psychology*, 75(2), 203-221.
- [15] Donald, J., & Jackling, B. (2007). Approaches to learning accounting: A cross-cultural study. *Asian Review of Accounting*, 2(2), 12-18.
- [16] Duff, A. (2004). The revised approaches to studying inventory (RASI) and its use in management education. *Active learning in higher education*, 5(1), 56-72.
- [17] Entwistle, N. J. (1987). 'A model of the teaching-learning process'. In J. T. E. Richardson, M. W. Eysenck, & D. Warren Piper (Eds.). *Student learning: Research in education and cognitive psychology*. London: S.R.H.E./Open University Press (pp. 13-28).
- [18] English, L., Luckett, P., & Mladenovic, R. (2004). Encouraging a deep approach to learning through curriculum design. *Accounting Education*, 13(4), 461-488.
- [19] Entwistle, N., Tait, H., & McCune, V. (2000). Patterns of response to an approach to studying inventory across contrasting groups and contexts. *European Journal of psychology of Education*, 15(1), 33.
- [20] Entwistle, N.J., & Ramsden, P. (2003). *Understanding student learning*. London: Croom Helm.
- [21] Flood, B., & Wilson, R. M. (2008, September). An exploration of the learning approaches of prospective professional accountants in Ireland. In *Accounting Forum* 32(3), 225-239.
- [22] González, J. M. G., Montañó, J. L. A., & Hassall, T. (2009). Bologna and beyond: A comparative study focused on UK and Spanish accounting education. *Higher Education in Europe*, 34(1), 113-125.
- [23] Gijbels, D., Van de Watering, G., Dochy, F., & Van den Bossche, P. (2005). The relationship between students' approaches to learning and the assessment of learning outcomes. *European Journal of Psychology of Education*, 20(4), 327.
- [24] Hall, M., Ramsay, A., & Raven, J. (2004). Changing the learning environment to promote deep learning approaches in first-year accounting students. *Accounting Education*, 13(4), 489-505.
- [25] Justicia, F., Pichardo, M. C., Cano, F., Berben, A. B. G., & De la Fuente, J. (2008). The revised two-factor study process questionnaire (R-SPQ-2F): Exploratory and confirmatory factor analyses at item level. *European Journal of Psychology of Education*, 23(3), 355-372.
- [26] Jackling, B., & De Lange, P. (2009). Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence. *Accounting Education: An international journal*, 18(4-5), 369-385.
- [27] Kyndt, E., Dochy, F., Struyven, K., & Cascallar, E. (2011). The direct and indirect effect of motivation for learning on students' approaches to learning through the perceptions of workload and task complexity. *Higher Education Research & Development*, 30(2), 135-150.
- [28] Lucas, U. (2001). Deep and surface approaches to learning within introductory accounting: a phenomenographic study. *Accounting Education*, 10(2), 161-184.
- [29] Lietz, P., & Matthews, B. (2006). Are values more important than learning approaches? Factors influencing student performance at an international university. *Australian Association for Research in Education*, 3(9), 32-38.
- [30] Minbashian, A., Huon, G. F., & Bird, K. D. (2004). Approaches to studying and academic performance in short-essay exams. *Higher Education*, 47(2), 161-176.
- [31] Marton, F., & Booth, S. A. (1997). *Learning and awareness*. NJ, Psychology Press.
- [32] Marton, F., & Säljö, R. (1976). On qualitative differences in learning: I—Outcome and process. *British Journal of Educational Psychology*, 46(1), 4-11.
- [33] Owusu, G. M. Y., Kwakye, T. O., Bekoe, R. A., & Welbeck, E. (2019). Approaches to learning of accounting students in Ghana. *UCP Management Review (UCPMR)*, 3(1), 69-93.
- [34] Phan, H., & Deo, B. (2007). Approaches to learning in educational psychology and mathematics: A comparative analysis in the South Pacific region. In *AARE 2006 International Education Research Conference Proceedings*. AARE: Australian Association for Research in Education.
- [35] Ramsden, P. (1979). Student learning and perceptions of the academic environment. *Higher education*, 8(4), 411-427.
- [36] Rodriguez, L., & Cano, F. (2007). The learning approaches and epistemological beliefs of university students: A cross-sectional and longitudinal study. *Studies in Higher Education*, 32(5), 647-667.
- [37] Teixeira, A. L., Leal, J. P., & Falcao, A. O. (2013). Random forests for feature selection in QSPR Models—an application for predicting standard enthalpy of formation of hydrocarbons. *Journal of cheminformatics*, 5(1), 1-15.
- [38] Trigwell, K., & Prosser, M. (1991). Improving the quality of student learning: the influence of learning context and student approaches to learning on learning outcomes. *Higher education*, 22(3), 251-266.
- [39] Volet, S. E., & Chalmers, D. (1992). Investigation of qualitative differences in university students' learning goals, based on an unfolding model of stage development. *British Journal of Educational Psychology*, 62(1), 17-34.
- [40] Zeegers, P. (2001). Approaches to learning in science: A longitudinal study. *British Journal of Educational Psychology*, 71(1), 115-132.

AUTHORS

First Author – Leticia Sam, Department of Business and Social Sciences Education, University of Cape Coast, Ghana.