RELATIONSHIP BETWEEN NON-COGNITIVE VARIABLES AND ACADEMIC ACHIEVEMENT OF UNDERGRADUATES OF THE UNIVERSITY OF LAGOS

Sola ALETAN
Department of Educational Foundations,
University of Lagos, Akoka
solaaletan@yahoo.com; maletan@unilag.edu.ng

Abstract

The study examined the relationship between individual characteristics and academic achievement of the undergraduates of University of Lagos. Three research hypotheses were formulated and tested to guide the investigation in the study. The descriptive survey as well as expost-facto research designed was adopted in the study. A sample size of 276 undergraduates in 300 level were randomly selected from four faculties from University of Lagos, through simple random and proportional sampling techniques. A structured self-designed questionnaire titled "Students' Characteristics and Academic Achievement Questionnaire (SCAAQ) with reliability coefficient of 0.83 was used to collect data for the study. The hypotheses were tested using the Pearson Product Moment Correlation Coefficient at 0.05 level of significance. The findings of the study revealed that there is a significant positive relationship between: (i) achievement motivation and academic achievement of Undergraduates; (ii) study habit and academic achievement; and (iii) students' self-concept and academic achievement of Undergraduates. Based on the findings, one the recommendations put forth was that the counselling unit of the University should organize conferences and motivational lectures that will impact of undergraduates' self-concept and academic motivation.

Keywords: Study habits, Self-Concept, Motivation, Academic achievement, Non-Cognitive variable.

Introduction

The classroom is made up of individuals from diverse backgrounds and different characteristics, trait, ability and interest. As a result, learners' personal, social, cognitive and academic varies. Learner characteristics are important in learning since it allow design and create tailored instructions during instructional delivery. It is expected that by taking account of the characteristics of learners, more efficient, effective and/or motivating instructional materials can be designed and developed.

Academic achievement is associated with the extent to which a learner has achieved set goals or objectives after round of classroom activities and instructions from teachers. Consequently, the extent to which such classroom activities and learning take place is judged using the students' academic achievement (Alade, Aletan & Kuku, 2016).

Yazdani and Godbole (2014) refer to academic achievement as how well a learner is accomplishing his or her academic task. Besides, the researchers submitted that quite a number of factors determine the level of quality of learners' academic achievement. In addition, Dev (2016) reported that academic achievement of students is not only a pointer of effectiveness or otherwise of schools but a major determinant of the future of youths in a particular country and the nation at large. The main role of schools and other educational institutions is to work towards the attainment of academic excellence (Adeyemo, 2001). However, the level of academic achievement as observed by Aremu and Sokan (2003) has become a phenomenon of interest to all and sundry.

Students with different types of personality may likely be successful in different field of study in the universities and there are well established links between motivation, self-concept, study habits and academic achievements (Reddaway, 2008). A high achievement motivation is a non-cognitive factor, which is associated with greater academic achievements. Motivation is generally defined as internal condition that stimulates, direct and maintains behaviour. Awan, Noureen and Naz (2011) observed a strong relationship between learning and motivation. As a result, Awan et al. (2011) defined motivation as an internal condition that stimulates, direct and maintains behaviour. Tucker, Zayco and Herman (2002) perceived motivation as an academic engagement which deals with cognitive, emotional and behavioural indicators of students' investment in and attachment to education. Yazdani and Godbole (2014) and Okolo and Bahr (1995) identified motivation as one of the important factors impelling academic achievement. Hence, Kaplan (2008) achievement motivation denotes the processes leading to behavior that aims to achieve a certain criterion or standard while Reddaway (2008) perceived it as the motivation behind accomplishment. The criterion as observed by Kaplan (2008) can be any goal or objective, formal or informal, set by an individual or by others, in any professional or leisure domain (such as school), which provides a guide for evaluating success and failure.

Besides, self-concept has been identified by researchers as another important non-cognitive determinant of academic achievement (Ajayi, Lawani & Adeyanju, 2011; Chamundeswari, Sridevi & Kumari, 2013; Coover & Murphy, 2010; Delvok 2013). Ayodele (2010) perceived self-concept as the way an individual thinks, feels, acts, values and evaluates himself or herself in relation to academic task. Self-concept is the general confidence that individuals felt about themselves and the levels of an individual's self-concept predict whether or the extent to which he or she was able to accomplish academic tasks successfully or unsuccessfully (Wang & Lin, 2008). Awan, Noureen and Naz (2011) reported that much of the earlier interest in the self-concept versus achievement relationship stemmed from the belief that academic self-concept had motivational functions and thus, changes in academic self-concept would lead to changes in subsequent academic achievement.

Study habit is also a non-cognitive factor associated with students' academic achievement. The way students study will definitely affect their performance (Alade & Kuku, 2016; Chamundeswari, Sridevi, & Kumari, 2014; Al-Hilawani & Sartawi, 2012;

Olaoye, 2009) and this will invariably affect their interest, attitude and choice of subject (Ilogu, 1998; & Okoli 1995). Adeyemo (2005) defined study habit as a well-planned and deliberate form of consistency on the part of the student towards the understanding academic subjects. Isangedighi (2007) and Saxena (2013) in their separate studies observed that study habits have a high relationship with academic achievement and performance in all the streams of schooling activities. Besides, poor or bad study habits have been observed to be responsible for low achievement among students (Beedawat, 2011).

Learners' past academic performance in the form of grades have been used as a major determinant upon which measure the quality of educational system (Adeyemi, 2008). It is also used as a criterion by which all teaching/learning activities are measured, using some standards of excellence and the acquisition of particular grades in examinations to measures candidate's ability, mastery of the content, skills in applying the knowledge acquired to a particular situation (Aremu, 2001). In the same vein, there has been variation in student's cognitive abilities and skills which explains the gap in academic performance among students of varied racial and ethnic backgrounds (Ayodele, Aladenusi & Akinlana, 2014). Yet such abilities and skills may not fully explain their academic achievement, suggesting that there are other pertinent factors at play in determining student's academic achievement. It is in this context that the non-cognitive correlates of academic performance, such as academic motivation and study habits/skills have been found to play a pivotal role in student's school performance (Ayodele, et al., 2014).

Factors such as study habit, achievement motivation and self-concept may have as much or more to do with grades, retention, and graduation than how well a student writes or how competent a student is. In university system in Nigeria, there could be so many factors that influence the ability of students to cultivate effective and efficient study habit. Besides, self-concept and achievement motivation are other factors that may be capable of influencing the academic performance of university students. The University of Lagos has in her mission, the provision of a conducive environment for teaching, learning, research and development, where staff and students will interact and compete effectively with other counterparts globally. In addition, the institution has core values that should impact on the students' self-concept, achievement motivation and study habits that will ease the accomplishment of her mission. Excellence in learning and character, integrity and respect, commitment and loyalty as well as ethical conduct at all times and in all things (University of Lagos, 2018) are the core values of the institution. As a result, this study investigated the relationship between non-cognitive factors (such as self-concept, achievement motivation as well as study habits) and academic achievement among undergraduates of the University of Lagos.

Hypotheses
1. The following null hypotheses were formulated to guide the investigation:
2. There is no significant relationship between achievement motivation and academic achievement of Undergraduates of University of Lagos.
3. There is no significant relationship between students' study habit and academic achievement of Undergraduates of University of Lagos.
4. There is no significant relationship between students' self-concept and academic achievement of Undergraduates of University of Lagos.

Methodology

The study adopted the expost-facto research design. The method was used because the non-cognitive skills under investigation already exist and are being compared with academic achievement. The population of the study comprised all undergraduates in the University of Lagos. The target population consists of all year three undergraduates of the Faculties of Arts, Business Administration, Education and Social Science. A sample size of 276 year three undergraduates in 2016/2017 academic session were selected through simple random sampling technique; hat and draw method was employed. The names of all the faculties in University of Lagos were written on pieces of papers and folded, while the researcher picked four faculties at random. Thereafter, proportional sampling technique was used to select respondents who were in year three in each of the faculties earlier selected. Table 1 shows the distribution of the respondents across the faculties.

Table 1: Distribution of Respondents across the Faculties

SN	Faculty	Department	Number of Respondents	Total
1	Education	6	12	72
2	Arts	6	12	72
3	Business Administration	5	12	60
4	Social sciences	6	12	72
		Total		276

Twelve respondents were selected in each of the departments in the earlier selected faculties. A sum 276 respondents were selected for the final study.

The researcher's designed instrument titled "Students' Characteristics and Academic Achievement Questionnaire (SCAAQ)" was used to gather data for the study. It has three sections namely A, B and C. Section A was devoted to the respondents' bio-data such as gender, age and faculty, while Section B were items on achievement motivation, study habit and self-concept with 4-point Likert response format (*Strongly Agree* as *SA*, *Agree* as *A*, *Disagree* as *D* and *Strongly Disagree* as *SD*). The statements in the instrument contained both negative and positive statements. In scoring the positive responses to strongly agree (SA), agree (A), strongly disagree (SD) and disagree (D), 4,

3, 2 and 1 respectively, while the negative items 1, 2, 3, and 4 were scored in reverse order. Section C contained options on estimated Cumulative Gross Percentage Average (CGPA) to measure the academic achievement. The CGPA were confirmed from the selected students' Level Adviser. The content validity of the instrument was ascertained by colleagues in Measurement and Evaluation Unit, Department of Educational Foundations. For the test of reliability, SCAAQ was administered to 30 undergraduates of 300 level in Lagos State University. Using split-half method, Cronbach Alpha was used to determine the internal consistencey of the instrument and co-efficient of 0.83 was obtained. Data collected were analysed using Pearson Product Moment Correlation Coefficient (PPMCC). All hypotheses were tested at 0.05 level of significance.

Results

Hypothesis One: There is no significant relationship between achievement motivation and academic achievement of Undergraduates of University of Lagos. In testing this hypothesis, the Pearson Product Moment Correlation Coefficient (r) statistical tool was used. The result of the analysis is presented in Table 2.

Table 2: Pearson Product Moment Correlation showing relationship between achievement motivation and academic achievement of undergraduates

Variables	X	SD	N	df	r-cal	r-crit	Sig
Achievement motivation	14.87	3.46	276	274	0.67	0.195	0.000
Academic Achievements	3.27	1.43	276				

$P < 0.05$, df = 274; r-crit = 0.195

Figures from Table 2 show that a positive correlation coefficient value of 0.67 was derived as the relationship between achievement motivation and academic performance. This means that as achievement motivation increases, students' performances increases. In addition, the value of r-calculated (r-cal= 0.67) is significantly greater than the value of r-critical (r-crit = 0.195) given 274 degrees of freedom at 0.05 level of significance. This led to the rejection of null hypothesis and the acceptance of the alternative hypothesis. This shows that there is a significant relationship between achievement motivation and academic achievement of undergraduates.

Hypothesis Two: This hypothesis in the null form states that there is no significant relationship between students' study habit and academic achievement of Undergraduates of University of Lagos. In testing this hypothesis, the Pearson Product Moment Correlation Coefficient statistical tool was used. The result of the analysis is presented in Table 3.

Table 3: A Pearson Product Moment Correlation Coefficient (r) table showing relationship between students' study habit and academic achievement of Undergraduates

Variables	X	SD	N	df	r-cal	r-crit	Sig.
Study Habit	15.11	3.12	276	274	0.74	0.195	0.000
Academic Achievements	3.27	1.43	276				

P < 0.05, df = 274; r-crit = 0.195

Observations from Table 3 show that a high and positive relationship exists between study habits and academic performance. This is indicated by a correlation coefficient of 0.74. The value of r-calculated (r-cal=0.74) is significantly greater than the value of r-critical (r-crit=0.195) given 274 degrees of freedom at 0.05 level of significance. This led to the rejection of the null hypothesis and acceptance of the alternative hypothesis. This shows that there is a significant relationship between students' study habit and academic achievement of Undergraduates.

Hypothesis Three: This hypothesis in the null form states that there is no significant relationship between students' self-concept and academic achievement of Undergraduates of University of Lagos. In testing this hypothesis, the Pearson Product Moment Correlation Coefficient statistical tool was used. The result of the analysis is presented in Table 4.

Table 4: Pearson Product Moment Correlation Coefficient (r) table showing relationship between students' self-concept and academic achievement of Undergraduates

Variables	X	SD	N	Df	r-cal	r-crit	Sig.
Self-concept	16.81	3.92	276	274	0.76	0.195	0.000
Academic performance	3.27	1.43	276				

P < 0.05, df = 274; r-crit = 0.195

Figures from Table 4 show that a high positive correlation coefficient of 0.76 arises as the relationship between self-concept and academic performance. Also, the value of r-calculated (r-cal=0.76) is significantly greater than the value of r-critical (r-crit=0.195) given 274 degrees of freedom at 0.05 level of significance. Consequently, the null hypothesis was rejected. This shows that there is a significant relationship between students' self-concept and academic achievement of Undergraduates.

Discussion of Findings

The result of the findings in hypothesis one revealed that there is a significant relationship between achievement motivation and academic achievement of Undergraduates of University of Lagos. This finding supports Bigge and Hunt (2014) who noted that expectations of success are a crucial component influencing achievement-related performance and are assumed to be influenced by perception of competence and by goals held by individuals. Such perceptions and goals are influenced by individuals' interpretations of their own previous achievement. In other words, expectations of success and outcomes of achievements presumably have a cyclical influence on each other. That is, individuals' expectations of success influence their achievements and their achievements further influence their future expectations. Nenty (2008) noted that achievement motivation is a society related factor and has the highest relationship with, and is the most valid prediction of students' academic performance. Weiner and Potepan (2012) reported that school or academic success is associated with high achievement orientation, low anxiety, self-attribution of success to both effort and ability and a belief that failure is not caused by lack of ability. Awan, Noureen and Naz (2011) reported that achievement motivation and self-concept are significantly related to academic achievement. Academic success, academic performance and academic achievement are all indicators of academic engagement. Abubakar, Tarmizi, Mahyuddin, Elias, Luan and Ayub (2010) revealed a positive significant correlation between students' attitude towards learning and achievement motivation. This is also consistent with Broussard (2012) who states that higher levels of mastery motivation are found to be related to high achievement in third graders and first graders. In short, the achievement motivation contributes to enhance achievement level.

Findings also revealed that there is a significant relationship between students' study habit and academic achievement of Undergraduates. This supports Isangedighi (2007) who reported strong correlation between study habits and academic achievement of high school students. Al-Hilawani and Sartawi (2012) found that good study skills and habits are fundamental for student's academic performance. Concerning study time, Saxena (2013) reported that study times were positively related to performance in all the streams of the study. Beedawat (2011) reported that poor and bad study times were solely responsible for under performance among undergraduates.

It was further revealed that there is a significant relationship between students' self-concept and academic achievement of Undergraduates. This is in consonance with Chamundeswari, Sridevi and Kumari (2013) that students with high self-concept tend to approach school related tasks with confidence and success of those tasks reinforces this confidence and high academic performance. Coover and Murphy (2010) found that the higher the self-concept and self-schema, the more positive the self-descriptions, the better the academic achievement. The study also showed that self-identity improves through social interaction and communication with others, which would enhance achievement. Delvok (2013) views self-concept of academic ability to have positive relationship overtime with achievement.

Conclusion

The study showed that academic achievement has a noteworthy relationship with self-concept, study habit and achievement motivation. In addition, a direct relationship exists between academic achievement and each of achievement motivation, study habit and self-concept.

Recommendations

Based on findings of this study, it was recommended that the University Counselling Unit should be involved in taking constructive guidance and counselling that will increase students' self-concepts. Organising individual and group counselling, motivational lectures by experts from different fields of human endeavours as well as conference would help in motivating and building students' self-concepts. In addition, university lecturers should constructively engage undergraduates in activities that will involve them in concepts learnt in class. Such engagement would immensely contribute to students' studying habits.

References

Abubakar, K., Tarmizi, R., Mahyuddin, R., Elias, H., Luan, W., & Ayub, A. (2010). Relationships between university students' achievement motivation, attitude and academic performance in Malaysia. *Procedia Social and Behavioral Sciences*, *52*, 4906–4910.

Adeyemi, T. O. (2008). Predicting students' performance in senior secondary certificate examinations from performance in junior secondary certificate examinations in Ondo State, Nigeria. *Middle-East Journal of Scientific Research, 3*(2), 73-81.

Adeyemo, B. J. (2005). *Effects of study habits modification and test taking strategies on academic performance of secondary school students in Nigeria* (Unpublished Ph.D. thesis), University of Ado-Ekiti, Ekiti State.

Al-Hilawani, Y. A. & Sartawi, A. A. (2012). Study skills and habits of female university students, *College Student Journal*, *61*, 537-544.

Ajayi, K. O., Lawani, A. O., & Adeyanju, H. I. (2011). Effects of students' attitude and self-concept on achievement in senior secondary school mathematics in Ogun state, Nigeria. Journal of Research in National Development, 9(2), 202-211.

Alade, O. M., & Kuku, O. O. (2017). Impact of frequency of testing on study habit and achievement in mathematics among secondary school students in Ogun State, Nigeria. *Journal of Educational Research and Practice, 7*(1), 1-18. DOI:10.5590/JERAP.2017.07.1.01

Alade, O. M., Aletan, S. M., & Kuku, O. O. (2016). Effect of Frequency of Testing on Achievement in Mathematics among Secondary School Students in Ogun State, Nigeria. *African Journal of Educational Management, 17*(1), 293-312.

Aremu, O. A. (2001). Developmental and validation of academic performance 5-factor inventory. *Ibadan Journal of Educational Studies, 1*(2), 321-334.

Awan, R., Noureen, G. & Naz, A. (2011). A study of relationship between achievement motivation, self-concept and achievement in English and Mathematics at secondary level. *International Education Studies, 4, 3*, 72 – 78.

Ayodele, O. J. (2011). Self-concept and Performance of Secondary School Students in Mathematics. *Journal of Educational and Developmental Psychology, 1*(1), 176-183. Doi:10.5539/jedp.v1n1p176

Ayodele, K., Aladenusi, O., & Akinlana, T. (2014). Personality factors, academic emphasis, and students-lecturers' relationship as determinants of undergraduates' academic achievement goal orientation: The Nigeria experience. *Journal of Humanities And Social Science (IOSR-JHSS), 19, 1,* 4-11.

Adeyemo, D. A. (2001). Teachers' job satisfaction, job involvement, career and organizational commitments as correlates of student-academic performance. *Nigerian Journal of Applied Psychology, 6* (2), 126–135.

Aremu, O. A., & Sokan, B. O. (2003). A multi-causal evaluation of academic performance of Nigerian learners: Issues and implications for national development. Department of Guidance and Counselling, University of Ibadan, Ibadan.

Beedawat, S.S. (2011). A study of academic under achievement among students. *Indian Dissertation Abstract*, *43, 4*, 187-188.

Bigge, I. & Hunt, Z. (2014). Environmental influences on adolescent educational aspirations. *Youth & Society*, *94,* 52-70.

Broussard, A. (2012). Individual and social dimensions of Filipino students' achievement goals, *International Journal of Psychology*, *43, 5,* 886-891.

Chamundeswari, S., Sridevi, V., & Kumari, A. (2014). Self-Concept, Study Habit and Academic Achievement of Students. *International Journal of Humanities Social Sciences and Education (IJHSSE), 1*(10), 47-55.

Coover, G. E., & Murphy, S. T. (2010). The communicated self. *Human Communication Research, 46, 7*, 125-148.

Delvok (2013). Psychological parameters of students' social and work avoidance goals: A qualitative investigation. *Journal of Educational Psychology, 93, 1*, 35-42.

Dev, M. (2016). Factors affecting the academic achievement: A study of elementary school students of NCR Delhi, *India. Journal of Education and Practice, 7*(4), 70-74.

Hamachek, E. (1995) College student performance and credit card usage. *Journal of College Student Development, 42, 1*, 49-58.

House, M. & Dekalb, E. (1997). *How college affects students revisited: A third decade of research.* San Francisco, CA: Jossey-Bass.

Ilogu, G. C. (1998). *Classroom learning and instruction.* Lagos: Raytel Communication Ltd.

Isangedighi, A. J. (2007). A comparison of study habits among the underachieving, the achieving and over-achieving junior secondary one student. *West African Journal of Educational Restructuring, 11*, 114-119.

Kaplan, A. (2008). Achievement Motivation. Retrieved from https://www.researchgate.net/publication/258507973_Achievement_motivation.

Kumari, A., & Chamundeswari, S. (2013). Relationship between study habits and academic achievement among hostel living and day scholars' university students. *British Journal of Humanities and Social Sciences*, *3, 2*, 34 – 42.

Nenty, J. H. (2008). Factors that relate to causal attribution of performance in mathematics by secondary school students in Cross River State. *Calabar Educator, 3, 1*, 95 – 106.

Olaoye, R. A. (2009). Study Habit, Self-Concept and Science Achievement of Public and Private Junior Secondary School Students in Ogun State, Nigeria. *African Research Review, 3*(4), 492-506.

Okoli, C. E. (1995). *Technique of behaviour modification.* Lagos: Behemi Press and Publishers.

Okolo, C. M., & Bahr, C. M. (1995). Increasing achievement motivation of elementary school students with mild disabilities. *Intervention in School & Clinic, 30*(5), 279-286.

Reddaway, F. (2008). Classrooms: Goal structure and student motivation. *Journal of Educational Psychology*, *4*(8), 21 – 27.

Saxena, P.C. (2013). A study of interests, need patterns and adjustment problems of over and under achievers. *Indian Dissertation Abstracts*, *37, 8,* 259-265

Tucker, C. M., Zayco, R. A., & Herman, K. C. (2002). Teacher and child variables as predictors of academic engagement among low-income African American children. *Psychology in the Schools, 39*(4), 477-488

University of Lagos (2018). *About us*. Retrieved from https://unilag.edu.ng/about-us.

Wang, J., & Lin, E. (2008). An Alternative Interpretation of the Relationship between Self-Concept and Mathematics Achievement: Comparison of Chinese and US Students as a Context. Evaluation & Research in Education, 21: 3,154-174

Weiner, P. & Potepan, T. (2012). *Work psychology: Understanding human behaviour.* London: Clay Publishers.

Yazdani, K., & Godbole, V. S. (2014). Studying the role of habits and achievement motivation in improving students' academic performance. *European Online Journal of Natural and Social Sciences, 3*(4), 827-839.