# Benin Journal of Educational Studies

# Benin
# Journal of
# Educational Studies

Volume 19, Numbers 1 & 2

January and July, 2009

ISSN 0189-2819

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# NON-COGNITIVE PREDICTORS OF UNDERGRADUATES' ATTITUDES TO ACADEMIC WORK IN NIGERIAN UNIVERSITIES

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## ABSTRACT

*This study investigated the relationship between non-cognitive variables, selection criteria scores, academic environment factors and attitude of undergraduates to academic work. Six instruments were administered on 348 undergraduates composed of 191 males and 157 females from three universities in Nigeria. The study revealed that academic environment factors, study habits and use of academic materials were significant predictors of undergraduates' attitude to learning various course works. These findings spell implication for counselling services for freshmen undergraduates, faculty administrators, lecturers and those in administrative capacities in tertiary institutions.*

## INTRODUCTION

Interest in non-cognitive variables as measures explaining academic success of students have increasingly engaged the interest of educationists and researchers in the field of education. The interest in non-intellectual factors would seem to have stemmed from the idea that "man is a complex whole", that is, man is made- up of intellectual, emotional, affective and psychological traits. For man to develop and reach his full potential in life, these traits must be understood, harnessed, and catered for by the school.

The idea that man is a complete entity is not recent as several educationists have laid emphasis on the development of the whole individual. Farrant (1964) contends that too often in child study, educationists are tempted to over-concentrate on certain aspects of the child's make-up at the detriment of the others. He also argued that an intimate relationship exists between the individual's body, mind and spirit and as such the teacher should see the student as a complete whole that needs assistance to "grow into a healthy, well-balanced adult". Farrant explained further that a teacher's understanding of the wholeness of his student is a necessary prerequisite to overcoming the weaknesses in the student. Obemeata (1996, 2003) while talking on education and the neglected aspect of quality education in Nigeria contends that such development should include policy enactment and curriculum improvement that emphasis training in religion and

morals, values and attitudes, and the proper training of teachers to adequately implement curricula delivery in schools. Yoloye (1996) argue for the education of the complete and incomplete man from the perspective of the provision of sound mental health education for the physically challenged.

Ellis (1975) also expresses the view describing the assessment of an individual's success solely on personal factors as inadequate. She explained that the realisation that there is an interrelationship between intellectual development with total development has led to a growing concern regarding the interaction of personal attributes and environmental characteristics both in the larger community and in the college environment to explain academic achievement. As if to corroborate these views, Obemeata (1984), in discussing the importance of assessing non-cognitive characteristics of students, pointed out that such studies would afford the teacher a basis for diagnosing the strength and weaknesses of students, as these characteristics may have positive or negative influence on the rate and level of learning a subject matter as well as determining how these students respond qualitatively and quantitatively to instruction. Assessment of non-cognitive variables, he stressed, would enable teachers to properly diagnose both educational and psychological problems of students and to adequately counsel them. In addition, such assessments would provide information about the personality of students, since students' achievements are the results of the functioning of their whole personalities.

Many researchers have examined the relationship between non-cognitive variables and several measures of attitudes to learning various school subjects. With respect to cognitive style, Lin and Davidson (1994) focused on the effects of linking structures, cognitive style on achievement and attitude. They reported that there was no significant interactive and main effect between linking-structure types with either performance or attitude. In an experimental study into the effects of some non-cognitive variables on the learning of physics materials, Onwuegbu (1998) reported a significant main effect of cognitive style on students' attitude towards physics with the analytical subjects having more favourable attitudes than subjects classified as global in their cognitive styles. However, Olagbaju (1995) reported a non-significant main impact and a no significant main effect of cognitive style on attitude towards secondary school Biology and to Science attitude respectively. Similarly, other non-cognitive variables have been found to be positively related to attitude of students. For instance, Adedayo (1995) and Pelemo (1995), have found that self concept is a good predictor of attitude to mathematics and science - related courses respectively. The findings of Pascarella (1985) and Lin and Davidson (1994) contradict these other studies.

With respect to academic environment, Ellis (1975) examined the extent to which selected personality factors and satisfaction with college environment differentiated among lower divisional black students who were classified according to achievement level. She reported that high achieving female students were significantly more satisfied with the college faculty than were the low achieving female students. However, when compared with their male counterparts, gender was not significantly affected by the college adjustment of the lower achieving black students than their perception of the college environment. On the whole, her findings seemed to indicate that personality traits were far more important to the college adjustment of the lower achieving black students than their perception of the college environment. In spite of the fact that some other studies such as Winteler (1981) and Ramsden (1979) have helped a great deal in the understanding of various college environments, they have failed to examine how the self report of students' perception of their academic environment are related to various learning outcomes.

Researches on study habits, as they affect attitude to learning, would seem to suggest a positive relationship between these two variables. For instance, Pelemo (1995) and Owolabi (1996) reported an indirect positive relationship between study habits and attitude to learning science-related courses and Economics respectively.

However, there appears to be a serious dearth of related literature on the relationship between traditional measures such as admission test scores (UME) and secondary school examination scores (SSCE) and attitude of students to academic work in tertiary institutions in Nigeria. The few ones available are concentrated on achievement of students in various school subjects at the lower level of education and to a lesser extent on tertiary course work. A dearth of previous studies in this area is disheartening even though it was argued by Obemeata (1986) while referring to Burt (1921) that scores of tests of achievement form a rough, though uncertain estimates of the ability of students with average intelligence to acquire more knowledge at a future date.

It would be seen from the foregoing, that studies in non-cognitive research are inconclusive as there are no consensus in their findings. Consequently, the present study investigated the relationship between various non-cognitive and environmental variables, selection criteria scores, and attitudes of undergraduates to learning various courses in the university. Specifically, the study sought answers to the following research questions:

(i)     To what extent would non-cognitive variables such as self-concept, study habits, cognitive style, academic environmental factors and use

of academic materials in addition to selection criteria scores predict attitude to academic work of undergraduate students?

(ii)     What is the relative contribution of the variables to the prediction?

## Methodology

***Sample:*** This consisted of 348 final year students who were made up of 191 males and 157 females. These subjects who were in their final year were admitted into five departments of — English, Mathematics, Chemistry, Economics and Education respectively, in three universities randomly selected on the basis of status. These were the universities of Ibadan, Ilorin, and Olabisi Onabanjo University.

***Instruments:*** Six instruments were constructed, validated and used to collect data for the study. The instruments were: Self-concept Scale for Adults (SCSA); Study Habits Inventory (SHI) - Bakare (1977); Cognitive Style Test (CST); Scale on Academic Environment Factors (SAEF); The Scale on the Use of Academic Materials (SUAM) and Attitude Towards Academic Work Scale (ATAWS). These instruments were pre-tested on some final year undergraduates from five departments -Mathematics, Economics, Physics, Biochemistry and Social Studies of Obafemi Awolowo University, Ile-Ife. The trial testing afforded the opportunity of eliminating ambiguities in the instruments. The psychometric properties as established for these instruments by Okwilagwe (1999 and 2004) were: a Cronbach Coefficient Alpha of 0.82, 0.71 and 0.64 for SCSA, SHI, SUAM respectively; a construct validity and reliability estimates of between 0.53 - 0.77, and 0.53 -0.71 for SAEF and ATAWS respectively; and a test-re-test reliability, estimate of 0.94 for CST.

***Data Collection and Analysis:*** The six instruments were administered to the students in the last semester of their final year with the assistance of two trained research assistants. The scores for the UME and SSCE were also collected from the records of the respective universities. The data were analysed using the step wise multiple regression procedure to examine the relationship between attitude to academic work and self-concept, study habits, cognitive style, academic environment factors, use of academic materials and selection criteria scores.

## *Results and Discussion*

The results of the study show that a combination of the variables (academic environment, study habit and use of academic materials) seems to effectively predict students' attitude to work, with an observed F-ratio of 25.911,

which was significant at $\alpha = 0.01$. As indicated in Table I, the obtained multiple correlation of 0.56 and an $R^2$ of 0.35 show that 35% of the total variance in students' attitude to academic work was explained by this group of variables.

**Table I: Summary of Multiple Regression Analysis for Predicting Attitude to Academic Work**

| | |
|---|---|
| Multiple R | = .59 |
| $R^2$ | = .35 |
| Adjusted $R^2$ | = .34 |
| Standard Error | = 5.63 |

**Analysis of Variance**

| Source | DF | SS | MB | F-ratio |
|---|---|---|---|---|
| Regression | 7 | 5751.0624 | 821.5804 | 25.911** |
| Residual | 340 | 0780.8572 | 31.7084 | |

** Significant at P< 0.0 I

In the stepwise multiple regression, three variables were significant in predicting attitude to academic work. These are academic environment, study habit and use of academic materials. This result is presented in Table 2.

**Table 2: Summary of Stepwise Multiple Regression Analysis for Predicting Attitude to Academic Work**

| Step | Variable Entered | R | R2 | % | F |
|---|---|---|---|---|---|
| 1 | Academic Environment | 0.51 | 0.26 | 26% | 121.536** |
| 2 | Study Habits | 0.05 | 0.07 | 7% | 85.398** |
| 3 | Use of Academic Materials | 0.02 | 0.01 | 1% | 59.277** |
| A combination of the variables | | 0.58 | 0.34 | 34 | |

*Significant at P<0.01

**Table 3: Summary of Relative Contribution of the Variables to the Prediction**

| Step | Variable Entered | Relative Contribution |
|------|------------------|----------------------|
| I. | Academic Environment | 0.5099 |
| 2. | Study Habits | -0.2741 |
| 3. | Use of Academic Materials | 0.1036 |

In relative terms, Table 3 shows that academic environment seems to be the most effective predictor of undergraduate attitude to academic work followed by study habits and the use of academic materials in that order. However, self-concept cognitive style, and the selection criteria scores did not contribute significantly to the prediction.

## Discussion

Academic environment exemplified by the climate in departments was observed to be positively related to students' attitude to academic work. It is in this light that Winteler (1981) probably described the academic environment as the 'academic home' of students. There are indications that attitudes of students to various school subjects (Jonaman-Ibeagha 1986; Okpala, 1985; & Pascarella 1980); and attitudes about college experience and satisfaction with college (Endo and Harpel 1982) can be significantly modified through school experience and informal student-faculty contact. By implication, the findings in this study would seem to suggest that when students are exposed to a supportive atmosphere by teachers who are committed to their academic work, under a less threatening environment they are likely to do better academically, their attitudes having been favourably influenced.

The findings with respect to study habits would appear to be inversely related to attitude to academic work. By implication, it would seem that the students' study habits were poor or conversely that their attitude to work was poor. However, this is not so. The plausible explanation for this relationship may be found in the fact that the effectiveness of the study method adopted by students would depend largely on what Bakare (1971) identified as the physical and psychological preparedness, judicious use of time, course content (volume of work to be covered), concentration, teacher consultation and the environment in which the study takes place. While a combination of all these would seem to constitute a good study habit, that could positively relate with favourable attitude

to academic work (Owolabi 1996, Bakare 1977; & Akinboye 1973), a defective study habit would mean anything short of these procedures and hence even if attitude to academic work were favourable, it could give rise to the results so obtained. Since the responses of students used in this study, cannot be held constant in absolute terms, the inadequacies in human factor could have resulted in the inverse relationship so observed, even if both attitude to work and study habits of these students were perfect. Consequently, the findings in this study are at variance with those of Owolabi (1996), Bakare (1977) and Akinboye (1971). Essentially, it should be noted that the inverse relationship between study habits and students' attitude to academic work explains the fact that study habits are acquired, practiced and perfected behavioural skills. The willingness to work or the good attitude to academic work will not automatically translate into reasonable academic achievement in the absence of the critical intervening variable of positive study habits that can enhance the learning process and learning achievements.

These exerted a positive influence on attitude to academic work. This finding most especially at the university level of education would seem entirely new in education research in Nigeria, although, there are indications that the use of academic materials at the lower levels of education is predictive of attitude to learning various school subjects (Onocha 1985; Idowu 1991). This finding goes to support the claims of Farrell and Heyneman (1989) that academic materials are important and consistent contributors to improved quality of education at all levels of the educational development, as well as supports the Baguada seminar (1980) claims on the use of the library by undergraduates.

## Conclusion and Recommendations

The purpose of this study was to predict attitude of undergraduates to academic work using various non-cognitive, environmental factors, and selection criteria scores. Using a sample of 348 final year students from three universities in Nigeria, the study revealed that three of the set of factors predicted attitude to academic work at this level. The implications of the findings on academic environment lie on the provision of conducive learning environment in these institutions. The nature of the learning environment whether 'supportive' or 'inhibitive' determines to a large extent the attitudes that students hold about their learning environment. Therefore, lecturers' commitments to making students learn and the provision of a supportive academic environment should be paramount. Students on their part should develop effective study habits (could be enhanced through counselling services), and judiciously use academic materials to enhance

their academic performance. Perhaps these would probably reduce the incidence of dropouts due to non-completion of courses, carrying over of courses and outright extension of graduation year. The university administration should extend their monitoring eyes to the issues raised in this study for proper implementation.

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