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Forestry education in Nigeria: Are forestry students unwilling to study the course and does it influence their academic performance?

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Abstract

Forestry education in Nigeria, as it is globally, is faced with several drawbacks despite the urgent need to train more professionals who can tackle the increasing issues related to forestry. One of these concerns is the reducing interest in academic forestry programs evident by low enrolment rates. However, forestry education still pools relatively good enrolment across Nigerian tertiary institutions, often due to candidates' inability to secure their initially desired courses. Meanwhile, this could have influenced their academic achievements and career progressions. This study, therefore, analysed the unwillingness of forestry students in Nigeria to study the course and its impact on their academic performance, taking the department of Forestry at FUTA as a case study. A survey was used to collect data from the students (193) on four study levels, comprising their demographics, unwillingness to study forestry, interest to further in forestry-related works and studies, and their academic performance. Descriptive and Chi-square statistics were then used to analyse the responses. The results show that majority of the students were male (56%), mainly within the ages 20-25 (60%) and had been admitted via the Unified Tertiary Matriculation Examination (63%) with no prior forestry awareness, unlike the direct-entry students who mostly had post-secondary forestry-related experience. Widely, students' perception evidenced their unwillingness towards the discipline with about 68%, 65%, and 94% of them not having prior knowledge about forestry before admission, never chose the course, and would not wish to further in any related post-study engagements, respectively. Meanwhile, only their educational background and their parents' educational level were found to have influenced their unwillingness. It was also revealed that this unwillingness impacted their academic performance significantly. Therefore, Forestry education should be made more attractive in every way possible to facilitate students' interest and consequently improve academic performance and professional competence in forestry sector.

Keywords: *Forestry education, unwillingness, interest, influence and academic performance*

Introduction, scope and main objectives

The forestry profession began about 200 years ago having perceived the significance of forests and their resources for human existence (Daramola, 2010). For this reason, the forestry education system introduced learning, researching and training of professionals who are able to tackle the several issues facing sustainable forestry globally. Despite this awareness and the imperative socio-economic values of the forests and forestry sectors in many countries, forestry education is still seriously facing setbacks globally (Sample et al. 2015; Ratnasingam et al. 2013). This setbacks make the future of forestry education in higher institutions a debating point since the late 1990s (Arevalo et al. 2012).

A critical point of concern is the reducing interest and willingness in forestry academic programs. This wide disinterest to study forestry among students and youth has been evidenced by the low enrolment rates recorded by relevant educational programs and institutions (Sample et al. 2015; Searle and Bryant 2009; Akande 2008). Meanwhile, this problem happens to be a global problem and has attracted attention in the international forestry community. Several forestry education institutions, such as in Great Britain (Burley et al. 2005), Canada (Innes 2005), Australia (Vanclay 2005), and United States (Nyland 2008; Green 2006) and even in Africa (Temu et al. 2006) have been reported with dwindling enrolment and interest. The scenario is also not any better in Nigeria as studies like Ajekigbe (2019) and Chima and Sobere (2011) had reported low interest in Forestry as a career among the qualifying secondary students in the country. This low enrolment rate for forestry education has been attributed to different reasons, mainly due to its unpromising prospects and limited opportunities for a country's career (Ogunsola et al. 2020; Ajekigbe 2019) and in many other developing nations (Temu et al. 2005). Over the years, the government has given less attention to forestry (Alao 2010), which is not only evident in the shortfall of employment opportunities for forestry graduates, but even in the poor forest management policies including lack of institutional supports to forest managers (Adeyoju 2005). Other reasons include the damaging or narrow public perception about forestry, the intensity of its practical aspect, and its vast unpopularity & ignorance of its existence as a course (Ogunsola et al. 2020; Ajekigbe 2019; Akande 2008).

Generally, low enrolment and interest in forestry education tend to directly impact on the availability and proficiency of professionals in the forestry sector. As such, Alao (2010) already observed inadequate personnel to address the current conservation issues, despite the global advocacy for sustainable forest management. Besides, the less involvement of youth is also advancing the unpopularity and ignorance of forestry and its concepts among the people (Adu et al. 2001).

Literature has shown that academic performance is widely affected by several factors, most of which are attributed to psychological conditions like depression, causing difficulties in concentration, preoccupations or fatigability, and poor attendance (Sindhu 2016; Fine and Carlson 1992). However, another critical yet unpopularly discussed factor influencing students' performance is their interest and willingness to undertake a study program. A few studies had revealed that motivation and interest in a course could positively influence students' performances (Chitra and Pradeep 2011; Vansteenkiste et al. 2005). Additionally, there is a minimal information on this trend among forestry students, both in Nigeria and globally. Besides, frequently, previous studies examining students' interest in forestry are conducted among secondary students. This study, therefore, analysed the levels of (dis)interest and (un)willingness of students who are already in forestry education – taking Nigeria as a scenario, and undoubtedly, how these influence their academic performance – which is imperative to maximising the education in their forestry careers.

Methodology

In this study, a survey instrument was used to collect data from students at one of the foremost forestry departments in Nigeria – the Department of Forestry and Wood Technology in the Federal University of Technology, Akure. A complete enumeration of students (193) in 4 out of 5 levels of study at the department was conducted to obtain information about their (un)willingness to study the course and their academic details.

The first part of the questionnaire encompassed close-ended questions on the demographic characteristics of the respondents including their gender, age, study level, parents' educational levels and occupations, as these parameters could have influenced their choice and willingness to undertake a tertiary program. The second part enquired about their academic history, prior knowledge of forestry, interest and willingness to study forestry, academic performance, interest to further in forestry-related works or post-graduate studies, etc.

The responses were further analysed using descriptive and Chi-square statistics. The former, in form of frequency and percentage distributions, was used to present the demographic information of the respondents. Chi-square test was used at a 95% confidence interval to assess the relationship between students' socio-demographic parameters and their unwillingness to study Forestry. Most pertinently, to evaluate the effect of the students' unwillingness on their academic performance.

Results

1. Demographic characteristics of respondents

More than 60% of the students were between ages 20-25 years, and they were male-dominated with a 12% difference (Table 1). The second and third-year students recorded the highest population proportions accounting for 26.9% and 23.8%, respectively. Up to about 58% of student's fathers had attended tertiary institutions while 23.3%, 10.4%, and 8.8% had secondary school, primary school and no formal education, respectively. With the acknowledgement that a parent's career can influence the children's (**un**)willingness to study a career and academic performance, the majority (46.6%) of the respondents' fathers were civil servants, while others were into some artisanal occupations like farming, trading, architecture, etc. Regarding the students' academic background, 56% of them attended private school, 42% attended public school, while only 2% completed their secondary school studies at faith-based schools. The majority of the students (62.7%) were given admission through the Unified Tertiary Matriculation Examination (UTME) – a standardised examination for prospective undergraduates with the high school qualification as the requirement. This is unlike the direct entry and diploma students, accounting for about 10% in total, who had most likely taken a post-secondary course related to Forestry or other natural resource studies before admission.

Table 1: Demographic characteristics of the respondents

Variables	Frequency	Percentage (%)
Gender		
Male	108	56
Female	85	44
Age		
<16	2	1.0
17-20	61	31.6
20-25	116	60.1
>25	13	6.7
Level		
100	60	31
200	52	26.9
300	46	23.8
500	35	18.1
Fathers' Occupation		
Civil service	90	46.6
Farming	94	22.8
Trading	28	14.5
Others	31	16.1
Fathers' highest education		
No formal education	17	8.8
Primary education	20	10.4
Secondary education	45	23.3
Tertiary institution	111	57.5
Type of Secondary school		
Private	108	56
Public	81	42
Faith-based	4	2.1
Mode of Admission		
UTME	121	62.7
Direct entry	13	6.7
Pre-degree	53	27.5
Diploma	6	3.1

2. Students' perceptions and unwillingness to study forestry

Regarding students' perception and their willingness in forestry education, Table 2 reveals that majority (67.9%) did not have any background knowledge of or insight into forestry before admission. This is not far-

fetched from the over 65% who did not choose the course at the initial stage of admission processing. More definitely, the gross unwillingness and disinterest of the students in undertaking forestry education could be substantiated by about 1 in 5 students who made efforts not to settle for the course but rather to change to departments like Agricultural Resource Economics, Food Science and Technology, which are often the top programs that forestry students can cross to in Nigerian universities due to their affiliations. In the same vein, only a few (6.2%) would wish to further in forestry postgraduate education. In comparison, a little, less than 95% of the students would like to explore other disciplines and careers outside forestry and natural resources studies, despite the claim of the majority (81.9%) to possibly assume a position to encourage youth to engage in forestry education.

Table 2: Perception and unwillingness to study Forestry

Variable	Yes		No	
	Frequency	%	Frequency	%
Did you choose Forestry?	67	34.7	126	65.3
Respondent's knowledge on Forestry	62	32.1	131	67.9
Are you a scholarship beneficiary?	12	6.2	181	93.8
Effort to change course	33	17.1	160	82.9
Can you encourage youth to study Forestry?	158	81.9	35	18.1
Furthering in Forestry post-graduate education	129	6.2	181	93.8

3. Relationship between demographics and unwillingness to choose Forestry as a course

There was no significant relationship between students' socio-demographic characteristics (age, religion, gender, level of study, and parents' occupation) and their disinterest in forestry education, at a 95% confidence interval (Table 3). However, according to the chi-square analysis, only the educational variables viz. highest level of the parent's education and the high school type could have influenced the unwillingness of students to undertake Forestry as a course and a career, due to the significance recorded.

Table 3: Chi-square analysis of respondent's demographics and unwillingness toward Forestry education

Variable	X ²	Df	P-value
Age	8.894	3	0.712
Gender	2.590	1	0.459
Level	12.000	3	0.150
Type of background school	26.573	2	0.002*
Father's occupation	4.338	3	0.888
Mother's occupation	11.979	3	0.215
Father's highest education	28.577	3	0.001*

* indicates significant relationship (p=0.05)

4. Influence of students' unwillingness to study forestry on academic performance

The chi-square analysis result in Table 4 shows the relationship between some selected statements characterizing students' willingness to study forestry and their academic performance considered by their current cumulative grade point average (CGPA). Variables like their prior knowledge about forestry ($x^2=12.182$, $P=0.007$), the resolve to enrol for forestry education ($x^2=9.447$, $P=0.024$), the mindset had upon admission into forestry ($x^2=17.565$, $P=0.041$), the willingness to study Forestry related postgraduate programme and further in the forestry career ($x^2=9.494$, $P=0.023$), were found to have a significant relationship with the academic performance of the students which could directly affect the grade they would eventually graduate with at the end of their studies. However, still at 95% C.I., other variables like type of secondary school, level of study, effort put into course change upon admission into forestry, scholarship opportunity did not have a significant effect on the academic performances of the students.

Table 4: Chi-square analysis of the relation between students' unwillingness and academic performance in the Forestry Department

Variables	X ²	Df	P-value	Decision
Type of secondary school	9.535	6	0.146	Ns
Knowledge about Forestry	12.182	3	0.007	S
Choice of Forestry as a course	9.447	3	0.024	S
Feelings when admitted	17.565	9	0.041	S
Level of study	13.291	9	0.150	Ns
Effort to change course	2.322	3	0.508	Ns
First CGPA	26.587	12	0.009	S
Decision about Forestry as a course	27.299	9	0.001	S
Scholarship opportunity	1.913	3	0.591	Ns
Willingness to do Forestry related Post-graduate programme/career	9.494	3	0.023	S

S means significant, while Ns means non-significant (p=0.05)

Discussion

Despite the wide disinterest of students at the secondary educational level in forestry education, some forestry institutions or departments still record a relatively good population of students, as many students settle for courses or disciplines they never had interests in due to various reasons. In Nigerian education system, securing admission to tertiary institutions does not usually come easy, especially to the universities. Apart from the secondary school leaving examination, prospective varsity students in Nigeria often have to take two other annually conducted entrance examinations – UTME and Post-UTME. Owing to the challenges in acing these exams at once as required, as well as the stress and costs in retaking them, many students choose to settle for any educational program they are offered, with the euphoria that they could begin higher education learning without further wasting time. This (challenge) is evidenced in this study where most of the students sampled never had any interest in forestry education and thus never chose the course initially, but often as a result of their limited entrance examinations' performances had their desired courses – mostly medical or engineering – changed to Forestry by the university's admission board. This has been a recurrent trend in Nigeria and in other Sub-Saharan African countries in order to make up for the low initial enrolment often recorded in the less competitive (i.e. Forestry) courses and other natural resources-related programs (Temu and Kiyiapi 2008). Only a low level of insight into forestry before admission was widely observed amongst the students. Apart from the direct entry students who most likely had previous knowledge about forestry and consequent positive disposition to its education (as in Ogunsola et al. 2020), most of the students initially lacked an idea of what Forestry discipline entails, thus had skewed perceptions about it and its prospects.

The retrospective perceptions and attitudes about forestry often linger among Forestry students even till graduation. This is evidenced by the large proportion of the students not interested in furthering any forestry-related activity after their first degree, unlike in other developed countries (Arevalo et al. 2012). Generally, most students would prefer to consider a career path that would give them a better chance of getting satisfying jobs and professional futures (Chima and Sobere 2011; Searle and Bryant 2009). Temu et al. (2005) had long reported that most forestry graduates ended up in non-forestry jobs, or even by observation, reverting to vocational careers. Regardless, the flair and willingness of a few of the students to choose or proceed with forestry education could be due to their informed awareness of the potentials in the field, most significantly across the international space. Another reason could be that some of these students have an intrinsic inclination to the environment, nature or forest and its management (Ogunsola et al. 2020; Sharik and Frisk 2011; Searle and Bryant 2009). Besides, their willingness, or rather, choice of forestry education could have been influenced by their parents' level of education or their educational background, as discovered in this study. While Grissmer (2003) similarly reported that parents' educational level is the most essential factor in students' career choice, Ajekigbe (2019) had a contrary finding. Ogunsola et al. (2020) however corroborate

students' education background as a significant factor, such that students became well aware and motivated about Forestry profession through their teachers.

The widespread absence of interest and motivation usually among the Forestry students in Nigeria tends to affect their academic performance, which then impedes them from maximizing the quite limited post-study opportunities in the field. Studies have shown how motivation and interest in a study program could positively influence students' academic performances (Chitra and Pradeep 2011; Balduf 2009; Vansteenkiste et al. 2005). In a case study with medical students, Kusurkar et al. (2012) modelled that motivation and interest among students positively affect their study strategy and effort, which would, in turn, facilitate good academic performance (i.e. cumulative grade point average, CGPA). Similarly, Green et al. (2012) clearly identified interest-induced attitudes or motivation towards school or any educational program as one of the most significant psycho-educational constructs that strongly determine the outcomes of any educational engagements.

This is not any different from what was obtained among the Forestry students in Nigeria where the majority of them lack the willingness, interest and motivation in forestry education which are however required to influence their active participation and commitment in the study program, thus impacting their academic performance. We found a significant correlation between the academic grades (CGPA) of the students and some factors characterizing their (un)willingness and dis(interest) in forestry. High academic performance was recorded more amongst those who were motivated with positive attitudes and had thus earlier decided to study forestry from inception, as well as those who deliberately chose to accept the course after the obliged changes, and vice versa. Meanwhile, this could have been influenced by the fact that a number of those who initially opted for the study program had prior post-secondary forestry-related educational experiences which could have eased their process of adjusting to the academic undertakings at the forestry department, especially during the first academic session. This corroborates the findings of van Rooij et al. (2017) where they reported the imperativeness of students to sustain satisfaction and interest in their degree, as this significantly influences an adequate academic adjustment in their first year, the grades of which often highly predict and determine their final academic success. Furthermore, it can be justified that students' perceptions of career prospects in forestry influence their academic performance. The majority of the forestry students lacked the inclination to further any forestry-related post-study career or degree, hence had no substantial interest or reason to put considerable efforts into making good academic grades from the degree. Meanwhile, developing interest in a discipline, expressed by good performance, helps to make and maximize its career choices or prospects (Kazi and Akhlaq 2017; Suutari 2003).

Conclusions

There is a high level of disinterest and unwillingness in forestry education in Nigeria, which even persists among tertiary students who are already in the discipline. This disinterest lingers among many forestry students until graduation as majority intend to change career paths from forestry, thus probably not necessitating much importance on the educational degree. The skewed perception and unwillingness to study the course and to further any related post-study engagements tend to influence students' academic performance which by extension limits their career progression in forestry. There is, therefore, a need to make forestry education attractive and interesting to students and university candidates by providing more career opportunities and adequate institutional supports for forestry (service) in Nigeria while improving awareness about these prospects. This would excite students' attitudes towards the academic engagements and performance, thus helping to build sound professionals to tackle variety of critical forestry issues across all spatial scales.

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