

# APPRAISING THE AWARENESS OF GEOMATICS PROFESSION AMONG SENIOR SECONDARY STUDENTS IN BENIN CITY, EDO STATE, NIGERIA.

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## Abstract

*Following advancements in digital data processing together with the integration of computer science technology with Earth sciences, the scope and horizon of the Surveying profession have changed. The recent adoption of the name Geomatics by many institutions including the University of Benin is bound to have effect on its popularity. This study therefore seeks to appraise the level of awareness of Geomatics profession among senior secondary students in Benin City, Edo state, Nigeria. The target population for this study consists of senior secondary schools in public schools in Benin City. The research used stratified sampling technique to select three secondary schools spread among the three local government areas within the Benin City. Well-structured questionnaires were administered to five randomly selected secondary schools in Benin City. The data collected were statistically analysed using statistical program for social sciences (SPSS). The study revealed low awareness rate of Geomatics profession and further recommended that proper sensitization and awareness exercises be carried out in secondary schools by the relevant bodies in order to increase the level of awareness and understanding of Geomatics profession in secondary schools.*

**Keywords:** Geomatics, digital data, Earth sciences, Surveying, SPSS

## 1. Introduction.

The changing demands on how spatial information is provided together with the rapid advancement in the technologies used to collect, process and analyse spatial information has resulted in Geomatics being one of the fastest growing technology market at a worldwide level. The field of Geomatics encompasses the acquisition,

storage, analysis, dissemination and management of geographically referenced information for improved decision making. Changes over the last 10 years to the title from land surveying to Geomatics have resulted in a lack of understanding or appreciation by the general public as to what the role of the Geomatics Surveyor is. This is a worldwide phenomenon which needs to be addressed on a global scale. It is

acknowledged that the term 'Geomatics' is relatively new but it was found that the term Land surveying was fairly unknown. It was also found that some people confused land surveying with quantity surveying (Mhlanga, 2015).

The surveying profession worldwide is faced with the necessity of having to redefine its role in the society. It is threatened with marginalization, down grading to a service provider and potentially loss of professional status unless a new professional profile is developed and supported by educational and professionals alike. (Ruther, 2003).

Although there continues to be a steady intake of students into the profession and invariably there has been excellent demand for its graduates over the years, for Geomatics discipline to thrive in Nigeria and other parts of the world, it needs to continue to attract high quality applicants. (O'CONNOR, 2001). In most cases, only 'left over' students who fail to secure their choice professions and are unaware of the course Geomatics/ Surveying are 'dumped' into the various departments of our institutions.

Similar vulnerability is experienced by Geomatics educational courses worldwide with many being forced to close. (O'

CONNOR, 2001). At the core of this problem is a severe lack of awareness of what Geomatics encompasses both as a discipline and as a potential career path. Indeed, many senior secondary school students, their parents and the general public do not appreciate what the Geomatics discipline is and indeed how integral Geomatics is to the society. (O'CONNOR, 2001). This study therefore aims at appraising the level of awareness of the Geomatics profession with a view of increasing its popularity among secondary schools in Benin City.

## **2. Current Situation of Geomatics/Surveying Education in Africa/Nigeria.**

Many Educational Institutions in Nigeria suffer from having few numbers of students in their departments. This renders the departments or units relatively insignificant within their respective institutions. A brief assessment of the situation of Survey/Geomatics Departments in the sub Saharan region shows the reality of the situation. As the most populous country in Africa and one of the most populous in the world, Nigeria is a huge market for surveying services however, the profession

appears to be witnessing a gradual but steady decline in quality and quantity of people studying it (Balogun et al, 2012). In West Africa, there are two countries with University Survey Department, Ghana and Nigeria. In Ghana, there is Survey Department at the University of Kumasi while Nigerians has a virtual glut of Survey departments. Reports from these countries also indicate a dearth of resources in Geomatics department. (Ruther, 2003). In 2014, the Department of Geomatics was introduced at the University of Benin. In the admission exercise of the 2016/2017 academic session, only 25 students applied to study Geomatics in the University of Benin. In the UNN, only 15 applied (Field Survey, 2017). This situation will similarly be obtained in other institutions in Nigeria. It is also noteworthy that out of 68 private Universities in Nigeria accredited by NUC, only one offers Surveying, out of 85 government owned Universities in Nigeria, only 18 offer Surveying/Geomatics (campusportal.ng,) and out 109 polytechnics in Nigeria, only 34 offer Surveying/Geomatics (NABTEB, 2017). This has resulted in the paucity of Surveyors in Nigeria where we have about 3000 Surveyors to service the need of about 160 million Nigerians. The President of the

Nigerian Institution of Surveyors, Akinloye Oyegbola, in an interview with punch newspaper, said the surveying profession is not popular because of the peculiarity of the profession. 'Our profession is such that does not advertise itself. So people know very little about what a surveyor does and even with the little they know about what we do, which we call cadastral surveying, they are reluctant to use surveyors and would rather use unqualified surveyors. This makes it imperative for us to educate people, sensitize them and so on. Over the years, we had sat back and believed we had a profession and maybe we did not appreciate the peculiarity of our profession'. (Punch, 2016). People already know who a doctor or a nurse is from the time they were toddlers because they give drugs and injections and as toddlers, they played with the doctor's stethoscope. When you see buildings, you know you have seen the work of an architect, If you call a surveyor to do a job for you, after paying him, he comes back with a piece of paper- a plan'. (Punch newspaper, 2016). This situation needs to be addressed urgently to prevent the dearth of Geomatics/ Surveying education.

### 3. Methodology

Benin City is the capital of Edo State in Southern Nigeria. The city is approximately 40 kilometres north of the Benin River. Benin City is the centre of Nigeria's rubber industry. It lies in the equatorial climate region between latitude  $6^{\circ}47'$  and  $7^{\circ}15'$  and longitude  $5^{\circ}.49'$  and  $6^{\circ}14'$  at an elevation of 88 meters above sea level. Benin City is densely populated and houses many institutions of learning, churches, markets, hostels, restaurants and other commercial centers and occupies a land area of about 17,802 square kilometres. Benin City is home to institutions of higher learning in Nigeria namely, University of Benin located at Ugbowo and Ekenwan, College of Education Ekiadolor, Igbinedion University, the Benson Idahosa University and Well Spring University. Benin City houses a lot of secondary schools in Nigeria which include: Edo Boys High School (Adolor College), Western Boys High School, Edokpolor Grammar School, Immaculate Conception College, University of Benin Demonstration Secondary School, Idia College, Federal Government College, Benin City, Itohan Girls Grammar School. Etc.

The target population for this study consists of senior secondary schools in public schools in Benin City. The research used stratified sampling technique to select three secondary schools spread among the three local government areas within the Benin City. Random sampling technique was used to select students from the three schools and this constitutes the sample size for this study. Structured questionnaires were randomly administered to the target population to collect data in line with the research objectives. The Survey approach was used for this study and the results were analysed using Statistical package for Social Sciences.

One hundred and fifty (150) questionnaires were distributed; one hundred and forty (140) were completed and returned. The questionnaires were structured to examine the level of awareness of the respondents to Geomatics and Surveying, the duty of a Surveyor/ Geomatics professional, their knowledge of the subject combination for UTME/JAMB entry examinations required to gain admission to study Geomatics/ Surveying. The result from the analysis of these data forms the basis for inference.

Table 1: Questionnaire Administration

Questionnaire Administration	Frequency	Percentage (%)
Distribution	150	100.0
Retrieval	140	93.3

Table 1 indicates that out of the 150 questionnaires distributed, 140, indicating 93.3% were retrieved. Since this represents a very high response rate, it was used as the basis for the opinion of this study.

#### 4. Results

The results from the analysis of the data obtained from the respondents using SPSS are presented in Tables 2 to 7

Table 2: Socio-demographic characteristics of respondents (Source: Field Survey, 2017).

Variables	Frequency	Percentage (%)
<b>Category of Students</b>		
Science students	93	66.7
Arts Student	67	33.3
<b>Total</b>	<b>140</b>	<b>100.0</b>
<b>Age</b>		
13-14 years	46	32.5
15-17 years	77	55.0
18- 19 years	17	12.5
<b>Total</b>	<b>140</b>	<b>100.0</b>
<b>Gender</b>		
Male	75	53.5
Female	65	46.5

<b>Total</b>	<b>140</b>	<b>100.0</b>
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Table3: Respondents’ Awareness of Geomatics; Previous knowledge of Surveying; Level of Understanding of duties of a Geomatics professional; and Level of understanding of what Surveyors do. (Source: Field Survey, 2017)

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Awareness of Geomatics</b>		
Yes	22	15.8
No	118	84.2
<b>Total</b>	<b>140</b>	<b>100</b>
<b>Awareness of Surveying</b>		
Yes	101	72.4
No	39	27.6
<b>Total</b>	<b>140</b>	<b>100.0</b>
<b>Knowledge of what Geomaticians do</b>		
High	1	0.5
Low	6	4.5
Very low	133	95.0
<b>Total</b>	<b>140</b>	<b>100.0</b>
<b>Level of understanding of what Surveyors do</b>		
High	17	12.0
Low	22	15.9
Very low	101	72.1
<b>Total</b>	<b>140</b>	<b>100.0</b>

Table 4 Respondents' knowledge of UTME subjects for Geomatics. (Source: Field Survey, 2017)

Variables	Frequency	Percentage (%)
Very High	5	3.6
High	5	3.5
Low	6	4.2
Very Low	124	88.7
<b>Total</b>	<b>140</b>	<b>100.0</b>

Table 5: Respondents knowledge of UTME subjects for Surveying (Source: Field Survey, 2017)

Variables	Frequency	Percentage (%)
Very high	28	20.2
High	21	14.2
Low	7	4.9
Very low	84	60.3

Table6: Respondents who are willing to study Geomatics in the University. (Source: Field Survey, 2017)

Would you like to study Geomatics?	Frequency	Percentage (%)
Yes	3	2.2
No	136	97.0
Not sure	1	0.8



<b>Total</b>	<b>140</b>	<b>100.0</b>
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Table7: Respondents who are willing to study surveying in the University. (Source: Field Survey, 2017)

<b>Would you like to study Surveying?</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	3	2.4
No	134	96.0
Not sure	3	1.6
<b>Total</b>	<b>140</b>	<b>100.0</b>

Table8: Respondents' knowledge of the relationship between Geomatics and Surveying. (Source: Field Survey, 2017)

<b>Do you think that there is a relationship between Geomatics and Surveying?</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	45	32.4
No	90	64.4
Not sure	5	3.2
<b>Total</b>	<b>140</b>	<b>100.0</b>

## 5. Discussions

The study revealed that 66.7% of the respondents are science students while 33.3% are arts inclined. It could also be seen

from the results presented in Table 2 that 32.5% of the respondents fall within the ages of 13-14 years, 55% are between the ages of 15-17 years while 12.5% are between the ages of 18-19years. Also, 53.5%

are males while 46.5% are females. This shows that majority of the respondent were within the acceptable age for senior secondary school certificate examination.

Table3 showed that 84.2% of the respondents indicated that they have not heard of Geomatics while only 15.8% signified that they have previous knowledge of Geomatics. Only about 0.5% of the respondents are aware of the duties of a Geomatics professional, 4.5% have vague idea of their duties while 95% of the responds are completely unaware of the duties of a Geomatics professional. Results presented in Table3 also showed that 72.4% of the respondents indicated a clear knowledge of the profession called Surveying, while 27.6% signified that they have no previous knowledge of Surveying. However, only 12.0% of these respondents have previous knowledge of the duties of a Surveyor, 15.9% have low knowledge of what surveyors do while a large majority of 72.1% have no idea of the duties of a Surveyor. This collaborates the findings made by George Mhlanga (2015) who opined that it is acknowledged that the term “geomatics” is relatively new, but it was found that even the term “land surveying” was fairly unknown. He went further to say

that the reason for this is lack of public awareness in this industry.

When asked if they would like to study Geomatics in the higher institution, 97.0% answered no Only 2.2% responded that they would like to pursue a career in Geomatics while 0.8% were not sure as shown in Table6. Findings also revealed that only 2.4% of the respondents signified their intention of studying Surveying in the higher institution, 96.0% signified that they will not pursue a career in Surveying while 1.6% were yet unsure. This is a representation of the reality where very few candidates apply to study surveying in the University as collaborated by Fajemirokun et al (2009). Reasons attributed to this include the very low regard for the profession of surveying in the Country, the perception of poor job prospects for Graduates in Surveying, perception of the students that Surveying is difficult and boring amongst others (Balogun et al, 2012). The findings in this study also revealed that 32.65% of the respondents acknowledged that there is a relationship between Surveying and Geomatics while 67.35% said that there is no relationship between Surveying and Geomatics as shown in Table 7. This is in line with discoveries made by Mills et al that school leavers are not aware of Geomatics,

they do not know what it is and what it involves.

## **6. Conclusion and Recommendations**

This study has shown that 'Geomatics' is almost unknown while the Surveying Profession is fairly known among senior secondary school students in Benin City. The study also revealed that majority of the students within the study area was unaware of what Surveyors do and are ignorant that it is closely related to Geomatics which encompasses Surveying. The study found that the percentage of students that understood the subject combination for JAMB/UTME before they could be admitted to study Geomatics or Surveying into Nigerian tertiary institution is very low. The respondents that indicated interest in pursuing a career in Geomatics and Surveying is not encouraging. The study therefore recommends the following:

1) The Nigerian Institution of Surveyors (NIS) and the Surveyors Council of

Nigeria (SURCON) need to device effective ways to enlighten secondary school students about Geomatics and Surveying targeted at correcting the ill perceived impressions about the Profession through the media and other channels.

- 2) Young Surveyors Network (YSN) should conduct visits to selected schools and municipalities in Benin City aimed at creating awareness of Geomatics and the Surveying profession
- 3) Government should employ more guidance and educational counsellors in secondary schools who are knowledgeable enough to enlighten and guide the students on different disciplines and professions as they prepare to choose their career.
- 4) Stringent admission requirements that are unnecessary should be removed so as to broaden the doors of entry to higher institutions.

Scholarships should be made available to school leavers who are willing to pursue a career in Geomatics.

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