

Article

Academic Challenges Faced by Radiography Students in Tertiary Institutions in Nigeria

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Abstract: Academic challenges faced by students can be very demanding because the student is also faced with the responsibility of managing their workload and time, learning and completion of assignments and projects in strict deadlines. This study aims to identify the academic challenges faced by Radiography students at Nnamdi Azikiwe University. Questionnaires were used for data collection and a sample of about 267 respondents was used to evaluate this problem. Descriptive analysis was primarily used to analyze the data. The mean response of the challenges encountered by radiography students were, Lectures (challenges pertaining to lecturers), Lectures, Classroom/Lecture halls, Curriculum, and inadequate machines available for practicals. The mean and standard deviation of the data recovered, showed that the male gender and respondents in the age group 30-34 years are more prone to the above stated five challenges. Chi-square test, there was no significant relationship between the challenges encountered and the socio-demographics of the respondents. The study showed that Radiography students of Nnamdi Azikiwe university face a significant number of academic challenges. Major challenges faced are Lectures, Classroom/Lecture halls, Curriculum, and Others. The study can be used to generalize the academic challenges faced by Nigeria students.

Keywords: Academic Challenges, Radiography Students, Tertiary Institutions in Nigeria, Lecturers.

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1. Introduction

Radiography is an imaging technique using x-rays, gamma rays, or similar ionizing radiation and non-ionizing radiation to view the internal form of an object [1]. The impact of this technique in the society has been immense with application in fields including Medicine, Food inspection, Archeology, and non-destructive testing. A quantity of x-ray beam is produced by the x-ray generator and is directed towards an object. A proportion of the x-rays produced are absorbed by the body tissue depending on the density and composition of the body area [2].

Radiography is used in both medical and industrial field. According to the Radiographers Registration Board of Nigeria (RRBN) handbook, medical radiography is defined as the art and science of the applications of the various forms of radiant energies and waveforms on human beings in order to promote health, treat diseases and produce various diagnostic images including conventional imaging, radionuclide imaging, ultrasonography, thermographic imaging, computed tomography and magnetic resonance imaging [3].

According to [4] of Contemporary English (6th edition), Radiography is defined as taking x-ray photographs of the inside of people's bodies for medical purposes. The

Radiography program provides students with a comprehensive education and prepare them to enter the radiography profession as competent entry level diagnostic radiographers [3].

Education is stated by the National policy on education as an instrument “par excellence” for effecting national development. It is also an important instrument of change and any fundamental change in the intellectual and social outlook of any society must be preceded by educational revolution [5].

This study is designed to identify the academic challenges faced by Radiography students of Nnamdi Azikiwe University during their program. The study of the academic challenges is an important research option that can be used to evaluate students’ performance in the Radiography study program and other university programs in Nigeria.

According to the Oxford Advanced Learners Dictionary, challenge is defined as a new or difficult task that tests somebody’s ability and skill. Academic challenges faced by students can be quite demanding because, the student is faced with scarcity of resources, insufficient time for projects and assignments [6]. This requires a lot of self-motivation and dedication. The intellectual challenge of studying at university is stimulating and enjoyable for some students and quite the opposite for some other students [7]. Approaches to learning are determined by students’ perceptions, motivations, intentions, abilities and learning experiences.

1. Some challenges faced by students include:
2. Financial uncertainty
3. Difficulty managing commitments
4. Inadequate academic preparedness
5. Accessibility/ Disability challenges
6. Living Environment Challenges
7. Mental Health and Wellness Issues [8].

The academic challenges faced by students most times lead to poor academic performances, lack of concentration and poor attendance rate to lectures. Some students, due to these challenges or more faced during their study, tend to switch to other department was perceived decreased workload or drop out of the institution entirely [9].

According to [10], Nigerian universities lack four major indicators of quality education, accounting for the present sorry state of the sector. First, while the world’s top universities operate with sizable budgets, Nigerian universities lack adequate and regular funding, not just to pay staff salaries but also to fund research and provide cutting-edge facilities and an environment conducive to teaching and learning. Save for a few private universities into which their proprietors pumped huge resources, often for take-off, Nigerian university campuses and research facilities leave much to be desired.

Federal and state governments have consistently starved the education sector of funds, with the Federal Government allocating less than 10 per cent of the national budget to education, while states average below 15 percent [11]. It is quite understandable then why public universities in the nation experience very deep cuts to their budgets. Even the slashed budgets are never paid in full or on time. The last three years have been particularly biting, with staff salaries going into arrears, in some cases for over six months! As a result, the universities have stagnated, save for the occasional intervention of TET Fund and other government parastatals [11].

Second, good quality universities feature world class teachers, researchers, and students, who invest in one another through stimulating lectures, seminars, workshops, conferences, and other academic activities. True, Nigerian premier universities started out this way, but Nigerian universities today suffer from poor quality teaching, reflecting the low quality of lecturers, substandard research output, and unqualified students, who are ill-prepared for the job market [12]. Third, as the preceding paragraph already indicates, Nigerian universities have a management deficit, leading to poor governance [12]. This is due partly to the politicization of the appointment of key managers of university affairs, from members of Governing Councils, some of whom see the universities as a kind of parastatal from which to make money, to vice chancellors and other principal officers. The situation is further complicated by the parochialisation of the recruitment of academic and administrative staff [13]. The result in most cases is square pegs in round holes. As opposed to advanced countries

where university managers often push for the best for their institutions, there are deficient university managers in Nigeria, who collude with bursars to mismanage university funds and lack the ability to manage union-management relations. This is not to excuse the militancy of university unions, which leads to the fourth major problem with university education in Nigeria today [14]. Recurrent strikes by various university unions are often responses either to government's failure to honor its financial obligations or to poor governance in the universities.

To be sure, there are exceptions here and there, but the general national outlook is discouraging. You have universities where most lecturers either lack a doctorate or have not attained Senior Lecturer rank; where university teachers make it to the top by publishing in obscure journals in India, Pakistan, Malaysia, and other unknown places; and where unqualified students are admitted and matriculated, leading to a national outcry against a jaundiced admission bazaar [15].

The curriculum should be one that develops the student's intelligence and overall ability. The aim of developing curriculum is to provide students with skills needed to be successful global citizens. Students most times find it difficult to adjust to new curriculum and tend to face challenges during their academic program. The location of the institutions and unconducive atmosphere demotivates students to achieve academic success [16]. This is so because remotely located institutions are inadequately provided for with structures and facilities that aid learning.

Interpersonal relationships among the personnel and students in the school setting may also help to promote a conducive environment for teaching – learning situation. The healthy relations which exist will attract and sustain the academic interest of the learners. Poor academic performance is also attributed to low retention, low achievement, motivation, and association with the wrong peer group.

The academic challenges faced by Radiography students in Nnamdi Azikiwe University has not been completely ascertained. Some radiography students spend more years than necessary before acquiring their university degree. Some radiography students are not consistent in their academic performance. Some face challenges in academic performance, motivation, and the overall learning experience. Therefore, we accessed the academic challenges faced by radiography students in the school which many be common among other Nigeria university students.

2. Materials and Methods

Research Design

This is a prospective cross-sectional design carried out at Nnamdi Azikiwe university, Anambra state, Nigeria. It is a federal tertiary institution located at the south-eastern part of Nigeria.

Population

1,140 radiography students of Nnamdi Azikiwe university served as the population for the study.

Sample Size Determination

A sample size of 296 was drawn from a total population of 1,140 using Yaro Yamane formula for calculation of sample size

$$n = N / [1 + (N) (e^2)]$$

Where n = sample size

N = total population

e = imaginary errors which is set for 0.05

$$n = 1140 / [1 + (1140) (0.05^2)]$$

$$n = 1140 / [1 + (1140) (0.0025)]$$

$$n = 1140 / [1 + 2.85]$$

$$n = 1140 / 3.85$$

$$n = 296.1038$$

$$n \approx 296$$

Sampling Technique

Convenient sampling technique was adopted for this study.

Inclusion Criteria

This study included all consenting radiography students at Nnamdi Azikiwe university Nnewi campus.

Exclusion Criteria

The study excluded non-Radiography students at Nnamdi Azikiwe university Nnewi campus.

Instruments for Data Collection

A self-structured electronic questionnaire was used for data collection. This questionnaire contains 37 questions (both open and closed-ended), divided into three sections. Section A contained closed ended questions which encompasses demographic data such as age, sex, and level of study. Section B contained both open and closed-ended questions. The questions bother on the academic challenges faced by radiography students. Section C contained an open-ended question. The respondents are allowed in this section, to give suggestions that will help to minimize the challenges.

Method of Data Collection

The electronic questionnaire link was forwarded to the respondents on WhatsApp Messenger and via email. The responses from the questionnaire were electronically collected through the google forms platform in form of a spreadsheet.

Method of Data Analysis

Descriptive analysis was primarily used to analyze the data. All data analysis was carried out using the statistical package for social sciences (SPSS) version 21. Content analysis of some of the respondents' comments in the open-ended section of the questionnaire was done stating them in the frequency of occurrence. Chi-square test was used at a statistical significance level of less than 0.05.

3. Results and Discussion

Results

Distribution Showing the Level of Study of Respondents

Table 1. Frequency Table Showing Level of Study, Sex and Age group

Level of Study	Frequency	Percent
100 Level	48	16.2
200 Level	66	22.3
300 Level	67	22.6
400 Level	55	18.6
500 Level	60	20.3
Total	296	100.0

From Table 1 above, 67 (22.6%) of the respondents were in 300 level, followed by 200 level 66 (22.3%), 500 level 60 (20.3%), 400 level 55 (18.6%), and 100 level with the least number of respondents at 48 (16.2%).

Distribution of the Sex of The Respondents

Table 2. Frequency Table Showing Sex of Respondents

Sex	Frequency	Percent
Female	149	50.3
Male	147	49.7
Total	296	100

Table 2 Shows the respondents level of study, Gender, and Age Group. Majority of the respondents were Females with 134 (50.3%) respondents, while males were 133 (49.7%) respondents.

Distribution of the Age Group of Respondents at Nnamdi Azikiwe University

Table 3. Frequency Table Showing Age group of Respondents.

Age Group	Frequency	Percent
15-19	81	27.4
20-24	172	58.1
25 – 29	40	13.5
30 -34	3	1.0
Total	296	100.0

From Table 3, the Age Group with the most respondents is the 20-24 years Age Group with about 172 (58.1%), followed by 15-19 years at 81 (27.4%), 25-29 years with 40 (13.5%), and finally, 30-34 years with 3 (1.0%).

Table 4. Showing the Mean Response of Challenges encountered by Radiography Students

Variables	Mean±SD
Lecturer	3.08±0.78
Lecture	3.05±0.64
Classroom	2.70±0.79
Curriculum	3.04±0.58
Others	3.24±0.55
Total Mean±SD	15.11±3.34
Aggregate Mean±SD	3.02±0.67

Table 4 above shows the mean response of the challenges encountered by radiography students from the distributed questionnaire. The variable “Others” encompassing challenges like inadequate machines provided for practical, and so on has the highest mean response 3.24±0.55 to the other variables.

The next variable on the table with a high mean response is the “Lecturer” variable which encompasses challenges caused or related to the lecturer followed by the “Lecture” variable (challenges associated with duration of lecture, using videos and projections during lectures.), “Curriculum”, and “Classroom” respectively.

Table 5. Showing Mean responses of gender commonly prone to the challenges

Variables	Female (Mean±SD) N=149	Male (Mean±SD) N=147
Lecturer	2.97±0.73	3.19±0.81
Lecture	2.99±0.64	3.12±0.63
Classroom	2.60±0.79	2.80±0.80
Curriculum	2.97±0.58	3.11±0.57
Others	3.22±0.61	3.26±0.49
Total	14.75±3.35	15.48±3.30
Aggregate	2.95±0.67	3.10±0.66

Table 5 show the relation between the challenges and the gender of the respondents. According to the analysis, the male is more prone to these challenges than their female counterparts.

Table 6. Showing Mean responses of age group commonly prone to the challenges

Variables	15-19 (Mean±SD) N=81	20-24 (Mean±SD) N= 172	24-29 (Mean±SD) N=40	30-34 (Mean±SD) N=3
Lecturer	2.99±0.75	3.10±0.78	3.12±0.84	3.56±0.38
Lecture	2.97±0.64	3.11±0.62	3.02±0.71	2.94±0.35
Classroom	2.58±0.81	2.73±0.74	2.76±0.99	3.28±0.59
Curriculum	2.83±0.57	3.11±0.54	3.14±0.67	2.97±0.70
Others	3.17±0.57	3.28±0.51	3.22±0.70	3.40±0.69
Total	14.54±3.34	15.33±3.19	15.26±3.91	16.15±2.71
Aggregate	2.91±0.67	3.07±0.64	3.05±0.78	3.23±0.54

Table 6 above shows the mean responses in relation to their age. The age group 30-34 years has the highest mean and lowest standard deviation which means that respondents of this age group are more prone to these academic challenges than the other age groups.

Table 7. Chi-square table showing the relationship between Socio-demographic and Challenges

Variables	χ^2	df	p-value	Remark
Age group				
Lecturer	37.93	36	0.38	N/S
Lecture	52.59	63	0.82	N/S
Classroom	75.73	69	0.27	N/S
Curriculum	114.12	93	0.07	N/S
Others	57.99	48	0.15	N/S
Sex				
Lecturer	20.40	12	0.06	N/S
Lecture	23.61	21	0.31	N/S
Classroom	24.43	23	0.38	N/S
Curriculum	33.87	31	0.33	N/S
Others	16.10	16	0.45	N/S
Level of Study				
Lecturer	59.22	48	0.13	N/S
Lecture	108.25	84	0.39	N/S
Classroom	108.06	92	0.12	N/S
Curriculum	132.38	124	0.23	N/S
Others	68.23	64	0.34	N/S

Note: alpha value = 0.05 (5% significance).

N/S = No Significance / Significant relationship.

The above Chi-square table (Table 7) shows the relationship between Socio-demographic and Challenges which includes:

Age Group

1. Challenges relating to or caused by lecturers – p = 0.38
2. Challenges due to inadequate lectures and lecture schedules – p = 0.82
3. Challenges due to inadequate number classrooms – p = 0.27
4. Challenges due to curriculum – p = 0.07
5. Other challenges – p = 0.15

Sex

1. Challenges relating to or caused by lecturers – p = 0.06
2. Challenges due to inadequate lectures and lecture schedules – p = 0.31
3. Challenges due to inadequate number classrooms – p = 0.38

4. Challenges due to curriculum – $p = 0.33$
5. Other challenges – $p = 0.45$

Level of study

1. Challenges relating to or caused by lecturers – $p = 0.13$
2. Challenges due to inadequate lectures and lecture schedules – $p = 0.39$
3. Challenges due to inadequate number classrooms – $p = 0.12$
4. Challenges due to curriculum – $p = 0.23$
5. Other challenges – $p = 0.34$

All the contents of the Chi-square table show no significant relationship meaning the challenges are independent on the socio-demographics.

Discussions

Higher institutions in Nigeria are confronted with several challenges. The challenges face the Nigeria higher institutions are complex. It is a combination of limited access to certain educational amenities, increased cost, decreasing quality and inflexibility in course selection. We all know that an educated citizenry is crucial to the social, political, economic, and cultural vitality of our communities and the entire country. Struggling economies, outdated academic equipment and obsolete organizational structures are among the issues facing university education in Nigeria today [17]. This study was aimed at accessing the perception of academic challenges faced by radiography students at Nnamdi Azikiwe university.

The main perceived challenges according to this study were Lecturers (which encompasses challenges caused by lecturers or directly involved the actions of lecturers), Lectures (which contains challenges like; inadequate lectures per semester), Classroom (overcrowded lecture halls, uncomfortable chairs, inadequate classrooms), Curriculum, Others (encompassing challenges like inadequate machines provided for practicals).

The variable "Others" encompassing challenges like inadequate machines provided for practicals, and so on has the highest mean response to the other variables. This means that it is the most perceived academic challenge by respondents of this survey. The researcher was able to check if there was a relationship between the gender and perceived challenges, they found out that the male gender was prone to these challenges than their female counterparts.

Using the mean and standard deviation, the researcher found out that the age group 30-34 years has the highest mean and lowest standard deviation which means that respondents of this age group are more prone to these academic challenges than the other age group. Using the Chi-square test, the researcher was able to find the relationship between the main challenges perceived and the respondents Socio-demographics.

In relation to the age group to the challenges and according to the remarks of all the challenges, none of them are dependent on the age group meaning that these challenges affect all age groups mentioned used in this survey. Considering the challenges to the gender of the respondents and according to the remarks made, none of the challenges were dependent on the genders of the respondents.

The third part of the chi-square table relating same challenges as the other two parts prior but in this case, to the level of study of the respondents shows that none of the challenges were dependent on the level of study recorded from the respondents meaning that the challenges affect all the level of study recorded from the respondents.

From the content analysis of this study, inadequate lecturers, inadequate lecture days and lectures, non-conducive classrooms for learning, and unsatisfactory curriculum are the major perceived academic challenges faced by radiography students. This is in line with the study by [18] who reported that only 30% of the Nigerian student population had adequate access to classrooms, lecture theatre, laboratories, workshops, and libraries. He also reported that students need to have all basic infrastructure and conducive environment for active learning to take place. The study accessed the perception of academic challenges faced by radiography students at Nnamdi Azikiwe University and

how various students' characteristics influence their perceptions. The main challenges encountered by radiography students at Nnamdi Azikiwe University according to the analysis was: Lecturers (problems or challenges relating to lecturers), Lectures (inadequate lectures per semester), Classroom (inadequate classrooms, uncomfortable seats), Curriculum, and Others (inadequate machines provided for practicals). The gender commonly prone to these academic challenges according to the analysis was the Male respondents. The age group commonly prone to these challenges was between 30-34 years. The academic challenges are not dependent on the socio-demographics of respondents (age, sex, and level of study).

4. Conclusion

The study found out that majority of the Radiography students at Nnamdi Azikiwe University were faced with one academic challenge to another. The major perceived challenges were Lecturers (problems or challenges relating to lecturers), Lectures (inadequate lectures per semester), Classroom (inadequate classrooms, uncomfortable seats), Curriculum, and Others (inadequate machines provided for practicals). We also showed that none of these challenges are dependent on the socio-demographics of the respondents/students. The study can be used to generalize the academic challenges faced by Nigeria students.

Recommendations

1. Infrastructures: More facilities like well-equipped digital libraries, internet facilities, comfortable lecture halls should be provided to foster adequate learning of students.
2. Introduction of teaching aids: By providing; projectors, public address systems, constant power supply, and modern radiography equipment and machines.
3. Employment of adequate lecturers: New and competent lecturers should be employed into the department.
4. Curriculum adjustments: Adjusting the curriculum to provide time for practical testing like clinical postings. The time and duration of lectures should be moderate because students tend to lose concentration in long lectures, or they don't attend at all.

REFERENCES

- [1] S. Watts and L. Roundy, "Stakeholders in education: Overview, types, and role," Nov. 21, 2023. [Online]. Available: <https://study.com/academy/lesson/what-is-a-stakeholder-in-education-definition-examples.html>. [Accessed: Nov. 1, 2023].
- [2] S. J. Decker et al., "Research challenges and opportunities for clinically oriented academic radiology departments," *Academic Radiology*, vol. 23, no. 1, pp. 43–52, 2016. [Online]. Available: <https://www.researchgate.net/publication/284713090>. [Accessed: Nov. 1, 2023].
- [3] Radiographers Registration Board of Nigeria, *RRBN Handbook*, vol. 1. Nigeria, 2019, p. 1.
- [4] Longman, "Radiography," *Longman Dictionary*. [Online]. Available: <https://www.ldoceonline.com/dictionary/radiography>. [Accessed: Jan. 19, 2024].
- [5] Organisation for Economic Co-operation and Development (OECD), *Responding to New Demand in Tertiary Education*. [Online]. Available: <https://www.oecd.org/education/skills-beyond-school/35755396.pdf>. [Accessed: Nov. 1, 2023].
- [6] V. Jain, "Unveiling the crucial roles of stakeholders in higher education: Key insights and strategies," 2023. [Online]. Available: <https://www.linkedin.com/pulse/unveiling-crucial-role-stakeholders-higher-education-key-jain>. [Accessed: Nov. 1, 2023].
- [7] A. C. Ugwu, A. C. Ukwueze, O. F. Erondu, and E. Nwokorie, "Affective and cognitive learning outcomes of radiography students in a Nigerian university," *The South African Radiographer*, vol. 48, no. 2, pp. 13–16, 2010.
- [8] Watermark Insights, "Top challenges students face," Jul. 31, 2023. [Online]. Available: <https://www.watermarkinsights.com/resources/blog/the-top-challenges-students-face>. [Accessed: Jun. 23, 2023].

- [9] M. Ukonu, J. Wogu, and P. Obayi, "Problems and challenges facing university students in the use of the UNN digital library," *IOSR Journal of Humanities and Social Science*, vol. 23, no. 2, pp. 4–12, 2012.
- [10] V. Bere, "Challenges radiography students face in a small Midwest technical college," *Leadership Education Papers*, vol. 3, no. 1, pp. 2–39, 2017.
- [11] C. Reilly, "The biggest challenges facing higher education in 2022/2023," Aug. 31, 2022. [Online]. Available: <https://www.seatsoftware.com/the-biggest-challenges-facing-higher-education/>. [Accessed: Nov. 1, 2023].
- [12] A. O. Asikhia, "Students' and teachers' perception of the causes of poor academic performance in Ogun State secondary schools (Nigeria): Implication for counselling," *European Journal of Social Sciences*, vol. 13, no. 2, pp. 226–242, 2010.
- [13] H. Chiegwu, D. C. Ugwuanyi, and C. F. Ofokansi, "Factors that affect teaching and learning among undergraduate radiography students in two Nigerian universities," *Journal of Radiography and Radiation Sciences*, vol. 33, no. 1, pp. 6–12, 2019.
- [14] B. A. Babatope, "Problems of facilities in South-West Nigerian universities and the way forward," *Journal of Education Administration and Policy Studies*, vol. 2, no. 2, pp. 39–43, 2010.
- [15] C. J. Ifedili and N. Marchie, "Managing students' mentoring services in Nigerian universities," *European Journal of Educational Studies*, vol. 3, no. 2, pp. 1–45, 2011.
- [16] O. Aluede, P. O. Idogho, and J. S. Imonikhe, "Increasing access to university education in Nigeria: Present challenges and suggestions for the future," *The African Symposium*, vol. 12, no. 1, pp. 3–12, 2012.
- [17] E. Ogu, "Challenges facing Nigerian universities," Sep. 30, 2008. [Online]. Available: <http://nigeriaworld.com/article/2008/sep/300.html>. [Accessed: Dec. 17, 2023].
- [18] P. Okebukola, *The State of University Education in Nigeria*. Abuja, Nigeria: National Universities Commission, 2002.