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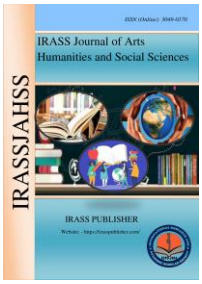

Quality of Academic Contents and Staffing Situation in B.Sc Biology Degree Programmes in Universities in North–Eastern Nigeria

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Abstract: This study investigated the quality of academic contents and staffing situation in B.Sc Biology Degree Programmes in universities in North–Eastern Nigeria. Two specific objectives, two research questions and two corresponding null hypotheses guided the study. Correlational research design was adopted for the study. The target population for this study was 1,950. The sample size is 195. Multi-stage sampling procedure was adopted for the study. The instruments used for data collection in this study were a questionnaire and checklist. Cronbach Alpha method was used to determine the internal consistency of items of the instruments. The reliability coefficient of 0.87 and 0.84 were obtained for the questionnaire and checklist respectively. Descriptive statistics of Mean and Standard Deviation were used in answering the research questions. Inferential statistics of Pearson Product Moment Correlation was used in testing the null hypotheses at 0.05 level of significance.

The findings revealed that there is a moderately significant relationship between academic content and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria. The findings revealed that there is moderately significant relationship between staffing situation and the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria. Based on the findings of the study, it was recommended that; University Administrators in conjunction with Tertiary Education Trust Fund (TETFUND) should source fund in order to provide adequate number of the recommended teaching resources in addition to the existing ones in order to effectively blend academic content and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria for improved economic development. Also, Departments of Biology, Faculties of Education in conjunction with Federal Ministry of Education and National Universities Commission should ensure Biology lecturers are recruited based on knowledge of subject matter, relevant experience and expertise as these would improve staffing situation and the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria.

Keywords: Academic content, Staffing situation and B.Sc Biology Degree programmes

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Introduction

Around the world, education comprises of planned activities that support learning environments. Every society is built on education, which is also a fundamental instrument for both individual and societal life. It is a continuous process that may be a tool for transformation and a powerful equalization of opportunities in life. Simply stated, education is a learning process that helps to provide appropriate skills, prepare young and elderly for economic, social, cultural, and political responsibility, and transmit and develop social, economic, and cultural structures that last a lifetime. In order to create and grow the skilled, productive, and adaptable workforce needed to implement and disseminate new ideas and technologies, higher education institutions like universities have a duty to create and disseminate knowledge (FRN, 2014).

According to Machumu and Kisanga (2014), nations nowadays mostly rely on knowledge, research-based evidence, technical advancements, and skills that come from universities. According to the writers, a country's ability to develop its human resources—rather than its physical resources—determines its level of riches. A country's economic progress will lag if its citizens don't improve their knowledge and abilities. Therefore, a country invests in higher education because it thinks it would help with national growth (Adamu & Adamu, 2012).

Conversely, biology is a science that studies living things. Another name for it is the science of life. Around the world, graduate and undergraduate programs provide this field of study as one of their curricular offerings (Reusia, Danilo Jr. & Andres, 2020). The authors state that a Bachelor of Science in Biology is a four-year program that can be taken full-time or in a combination of in-person and online classes. When a student successfully completes a course of study in higher education, typically at a college or university, particularly in the biological sciences, they are granted an academic degree in biology education. Although associate's and foundation degrees are offered by certain educational systems, the bachelor's degree is the most popular undergraduate degree. You normally need to finish about 120 credits during the course of a bachelor's degree program. The same is true for a bachelor's degree (Reusia et al., 2020).

The B.Sc. Biology program emphasizes natural resource management-related fields like parasitology, entomology, microbiology, and molecular biology. It is anticipated that graduates will generate graduates who will directly contribute to food production and the reduction of poverty by having a wide biological background that includes molecular biology. Additionally, the program is designed to produce capability for environmental protection, park development, and food processing industries and development, which require taxonomists as well as specialist knowledge in biology and computer mathematical modeling (Reusia et al., 2020).

Biotechnology, agriculture, human and animal health, and a clean and healthy environment, and the preservation of natural resources are just a few of the economic sectors that depend heavily on biology, a fundamental science. According to a needs assessment for BSc. Biology, there was a need for a program like this that would produce graduates with a biological science specialty who could handle some of the issues mentioned in the nation. The program has been continuously updated to reflect new national requirements and worldwide developments in the biological sciences. Graduates with a bachelor's degree in biology have the practical knowledge and abilities in the life sciences necessary to make a direct contribution to the eradication of poverty, improve health, and ensure food security. Additionally, the course is intended to develop skills for the food processing, environmental protection, and wildlife conservation sectors, all of which demand biological experts. During their first and second years of study, students in this program take additional carefully chosen, pertinent science modules designed to provide them with a more comprehensive understanding of contemporary biology.

In their third and fourth years of study, students now have more alternatives thanks to the updated curriculum. A small number of chosen students with exceptional academic achievement in their first and second years of study will be given specialization in either botany or zoology upon application. After completing a supervised individual research project, fourth-year students enrolled in the specialized program can submit a dissertation for review (Naidoo et al., 2011). The program's goals include: (a) producing graduates who are well-rounded by giving them a solid foundation in biology, including cutting-edge fields like molecular biology and biotechnology. (b) to give students the information and hands-on skills they need to actively contribute to food security, health, and the eradication of poverty in the following general areas of biology: ecology, parasitology, entomology, physiology, taxonomy, microbiology, genetics, and molecular biology. A range of in-person techniques, including lectures, tutorials, practical lessons in the lab or field, demonstrations, individual or group tasks, and presentations, are typically used to teach the program (Naidoo et al., 2011).

One of the concerns that institutions of higher learning deal with is the program relevance of an academic curriculum offering. Program relevance is the degree to which academic institutions' curricula reflect the demands and tendencies of both local and global society. Even if the job market is changing drastically in both local and global society, higher education institutions still need to prepare their graduates for the challenges of the global workforce (Naidoo et al., 2011). Additionally, the creation of pertinent academic programs can be used to assess a graduate's professional competency. The employability and performance of graduates that meet the demands of the labor market in both local and global society are used to gauge the relevance of a higher education institution's curricula. Additionally, Reusia et al. (2020) noted that the feedback given by alumni can be used to determine the program relevance of an academic program.

Since higher education (HE) has become more widespread around the world, various stakeholders have expressed concerns regarding the standard of instruction that HEIs provide to their students (Luija, Azikuru & Ezati, 2017). The idea that teaching larger than smaller courses is pedagogically difficult has served as the foundation for these worries. Nonetheless, educational theorists think that even in large courses, the quality of instruction might be improved with efficient staffing. In general, hiring was once thought to be a managerial function of the organization. However, staffing has now been acknowledged as a distinct management function in order to properly emphasize it. However, depending on the context, various researchers continue to define the term "staffing" differently (Luija et al., 2017).

Staffing is the process of filling and maintaining open positions inside a company (Akrani, 2011). This suggests that hiring, assigning, training, and developing employees while they are on the job are all part of staffing. Actually, Luija et al. (2017) restate that hiring and enabling employees to perform their jobs efficiently is the process of staffing. Staffing, according to the authors, is the entire personnel function of hiring, training, and maintaining acceptable working conditions so that employees can carry out their responsibilities. Quality of teaching is defined by Ngware, Ciera, Musyoka, and Oketch (2015) as the state of instruction provided to students during the teaching and learning process. Accordingly, effective instruction that fosters excellence and student learning outcomes through best practices is considered to be the result of good quality teaching. However, if a teacher gives instructions that don't result in the desired learning outcomes, the opposite is said to be true. This study examined how lecturers in biology degree programs instruct students, engage with them, use the time allotted to them, and generally carry out their teaching duties in order to determine the quality of instruction.

According to Luija et al. (2017), hiring, educating, and developing employees have a big impact on the caliber of instruction. The hiring and training of faculty members are precursors to high-quality instruction, claim Fernandes et al. (2013). This suggests that high-quality biology instruction and learning are correlated with efficient hiring and training of biology staff. According to Chalmers (2008), good hiring and training practices increase teachers' professionalism and knowledge, which helps them carry out their teaching duties effectively. Professional

growth is a quality determinant in industry and other facets of human efforts, according to Jimmieson et al. (2010).

The production of scientists for national development is one of the main objectives of science education in Nigeria (FRN, 2013). The quality of Bachelor of Science Biology degree programs generated appears to be declining, despite the Nigerian government's efforts to advance science education in the nation. Despite the significance of BSc Biology degree programs, it is evident that students are not performing well in these courses (BSC Biology, B.ED Biology). A shift from studying concepts and principles to studying the practical applications of science and modern technology has been brought about by the ongoing redesign of courses as a result of the realization that curricula are becoming more and more outdated (NUC, 2018).

The country as a whole is affected when quality assurance requirements are not followed. Since lecturer quality is a key factor in determining student accomplishment, one will be tempted to doubt the work done by such lecturers and their output in situations where their quality is in doubt. In certain cases, there are more students than the lecture hall can hold, which means that the NUC's student-teacher ratio is not being followed. This implies that there would be a lack of preparation for the students because the majority would be forced to skip lectures while still trying their hardest to pass the tests. These therefore call into question the students' capacity to be informed, proficient, and creative in order to compete in the job market after earning a Bachelor of Science in Biology. Based on the aforementioned, the researchers looked into the staffing condition and academic content quality in public universities in northeastern Nigeria.

Purpose of the Study

This study investigated the quality of academic content and Staffing situation in public universities in North Eastern Nigeria. Specifically, the study determine the:

- Quality of academic contents of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria.
- Quality of staffing situation in Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria.

Research Questions

The following research questions were raised to guide the study:

- How adequate is the quality of academic content of BSc Degree Programmes in Biology in Public Universities in North Eastern Nigeria?
- To what extent has the quality of staff for these programmes in universities in North Eastern Nigeria met up-with the requirement of NUC accreditation?

Hypotheses

The following null hypotheses were formulated to guide the study and tested at 0.05 Alpha level of significance:

H_{O1}: There is no significant relationship between academic content and adequacy of Bachelor of Science Degree Programmes In Biology in Universities in North Eastern Nigeria.

H_{O2}: There is no significant relationship between staffing situation and the quality of Science Degree Programmes in Universities in North Eastern Nigeria.

Methodology

This study adopted the correlational research design. The study was carried out in North-East, Nigeria. The target population for this study is 1,950. The sample size is 195. This comprised 10% of the entire population. Multi-stage sampling procedure was adopted for the study. The instruments used for data collection in this study were a questionnaire and checklist. The instrument was validated by three experts. To determine the reliability of the instruments, a pilot-testing was conducted using Cronbach Alpha method to determine the internal consistency of items of the instruments. The reliability coefficient of 0.87 and 0.84 were obtained for the questionnaire and checklist respectively. The direct delivery approach was used in administering the instruments to the respondents by the researchers with the help of four well briefed research assistants. Descriptive statistics of Mean and Standard Deviation were used in answering the research questions. Inferential statistics of Pearson Product Moment Correlation was used in testing the null hypotheses at 0.05 level of significance.

Results:

Research Question 1: How Adequate is the Academic Content of Bachelor of Science in Biology Degree Programmes in Public Universities in North Eastern Nigeria?

Table 1: Mean of Academic Content on the Adequacy of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria?

	N	$\bar{X}$	δ
Curriculum	195	3.96	1.11
Admission	195	3.55	1.02
Academic Policies	195	3.41	1.02
Assessment of Student's Work	195	3.18	1.06
Practical/Project Work	195	3.12	1.10
External Examination System	195	3.22	1.17
Grand Mean		**3.53**	

Key: $\bar{X}$ = mean scores **S δ = standard deviation scores**

Table 1 shows that 195 respondents participated in the study. The mean academic content scores of Curriculum is 3.96; with standard deviation of 1.11; Admission is 3.55; with standard deviation of 1.02, Academic Policies is 3.41 with standard deviation of 1.02, Assessment of student's work is 3.18; with standard deviation of 1.06, Practical Project Work is 3.12; with standard deviation of 1.10; and External Examination System 3.22; with standard deviation of 1.17; Thus yielding a grand mean of 3.53. There is a positive relationship between the academic contents and the quality of Bachelor of Science Biology Degree Programmes, as depicted in Table I. As academic contents more positive, the quality of Bachelor of Science Biology Degree Programmes also increases.

Research Question 2: To what extent has the quality of staff for these programmes in universities in North Eastern Nigeria met up the requirements of NUC accreditation?

Table 2: Percentage of the available Staff mix in Biology Degree programmes in Universities in North-Eastern Nigeria

Sampled Population	Staff Mix Rating by Rank			
	Prof/Reader	Senior Lecturer	Lecture 1 . Below	Remark
ADSU, Yola	4.3%	21.7%	55.1%	AI
GSU, Gombe	14.6%	10.4%	72%	AI
FU, Kashere	16.7%	16.7%	66.1%	IA
TSU	11.1%	22.2%	65.3%	IA
UNIMAID	20.0%	28.6%	45.5%	SA
NUC Standard	20%	35%	45%	

Key: SA= Slightly adequate; IA = In Adequate; Absolute Inadequate

Table 2 shows the available staff rating in percentage of each of the department of Biology of NC's standard to determine their adequacy. The table revealed that only the department of Biology in Taraba State University (TSU) slightly agrees with the National Universities commission (NUC) recommendation, while the staffing mixes of the department of Biology in University of Maiduguri were found to be adequate. The staffing mix of Adamawa State University, Mubi and Gombe State University were absolutely inadequate when compared to the National universities commission (NUC) recommendation.

Hypotheses

$H0_1$: There is no significant relationship between academic content and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria.

Table 3: Pearson Correlation Coefficient between academic content and quality of Bachelor of Science Biology Degree Programmes

	$\bar{X}$	δ	N	r-value	Sig
Academic Content	3.4051	1.05625	195	0.915	0.000
Quality of Bachelor of Science Biology Degree Programmes	3.3880	1.18680	195		

Table 3 reveales that the observed mean difference between Academic Content (3.4051) and Quality of Bachelor of Science Biology Degree programme (3.3880) was found to be significant (P = 0.00 < 0.05) at 0.05 level of significance. Therefore, the hypothesis that there is no significant relationship of academic content on the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria was rejected. Consequently, there is a moderately significant relationship of academic content on the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria

$H0_2$: There is no significant relationship between staffing situation on the quality of Bachelor of Science Biology Degree Programme in Universities in North, Eastern Nigeria.

Table 4: Pearson Correlation Coefficient between staffing situation and quality of Bachelor of Science Biology Degree Programmes

	$\bar{X}$	δ	N	r-value	Sig
Staffing	3.3350	1.08211	195	0.923	0.000
Quality of Bachelor of Science Biology Degree Programmes	3.3880	1.18680	195		

The result of the correlations in table 4 revealed that the observed mean difference between Staffing (3.3350) and Quality of Bachelor of Science Biology Degree programme (3.3880) was found to be significant (P = 0.00 < 0.05) at 0.05 level of significance. Therefore, the hypothesis that there is no significant relationship of staffing on the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria was rejected. Consequently, there is a moderately significant relationship between staffing and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria.

Findings of the Study

Based on the analysis of data, the following findings are made:

There is a moderately significant relationship between academic content and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria.

There is moderately significant relationship between staffing situation and the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria.

Discussion of Findings

The first finding of this study revealed that there is a moderately significant relationship between academic content and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria. Majorly, the study revealed that academic content scores of curriculum, admission, academic policies and assessment of student's work predicts the quality of Bachelor of Science Biology Degree Programmes. The study's findings are consistent with those of Alio (2006), who discovered that a program's standard and quality may be assessed using its average mean rating. The results support the findings of Akusoba and Okafor (2004), who found that teaching qualitative analysis through hands-on experience improves knowledge retention more than teaching the material conceptually. Also, the finding is in agreement with that of Okpoko (2004) who revealed that none formal education focuses more on practical utilities than certification, the computer center uses a combination of continuous assessment and end of term examinations, to evaluate learners on the program. The implications of this finding is that as academic contents become more positive, the quality of Bachelor of Science (BSc) Biology Degree Programmes also increases, but when the

academic contents become more negative it means the quality of Bachelor of Science Biology Degree programmes also decreases.

The second finding of this study revealed that there is moderately significant relationship between staffing situation and the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria. Majorly, the findings revealed that only the Department of Biology in Taraba State University (TSU) and Department of Biology in University of Maiduguri were found to be adequate when compared with the National Universities commission (NUC) recommendations. This finding agrees with Obasi and Nwakaire (2015) who examined the teaching and evaluation process in sandwitch B.Ed degrees programmes at University of Abuja (UNIABUJA} and University of Nigeria Nsukka (UNN) and found out that an increase in the staff strength of lecturers in the Universities reduce workload of lecturers for more programme effectiveness. Ologunde, Asaola & Elumilade (2009) who examined the phenomenon of labour turnover among University lecturers in southern Nigeria. Also agrees with this work as it pointed out the importance of Universities employing adequate and quality staff to handle the production of their graduates and also ensuring that these staff is given good working condition that can eliminate staff attrition. The present study further revealed that the staffing mixes Adamawa State University, Mubi and Gombe State University were absolutely inadequate when compared to the National universities commission (NUC) recommendations. This finding is in agreement with Idoko (2001) who revealed that inadequate curriculum development experts, and implementers of the curriculum. The implications of this finding is that as academic contents become more positive; the quality of Bachelor of Science (BSc) Biology Degree Programmes also increases. The reverse is also true, when the quality of staffing is more negative, the spirit and drive for quality of Bachelor of Science (BSc) Biology Degree Programmes also decreases.

Conclusion

Based on the findings of this study, it was established that the standard of academic content and quality of staffing situation goes a long way in enhancing the quality of Bachelor of Science in Biology Degree Programmes in Universities in North Eastern Nigeria. it was therefore envisaged that from the checklist that the staffing mix in Biology Degree Programmes are not up to the NUC standards for all programmes, and the available facilities are moderately available in the sampled Universities, which can guaranty quality products.

Recommendations

Based on the findings of this study, the following recommendations were made:

- That University Administrators in conjunction with Tertiary Education Trust Fund (TETFUND) should source fund in order to provide adequate number of the recommended teaching resources in addition to the existing ones in order to effectively blend academic content and the quality of Bachelor of Science Biology Degree Programmes in Universities in North-Eastern Nigeria for improved economic development.
- Departments of Biology, Faculties of Education in conjunction with Federal Ministry of Education and National Universities Commission should ensure Biology lecturers are recruited based on knowledge of subject matter, relevant experience and expertise as these would improve staffing situation and the quality of Bachelor of Science Biology Degree Programmes in Universities in North Eastern Nigeria.

References

1. Adaboh, S. (2014). An evaluation of the bachelor degree in accounting program in a Ghanaian private university. Andrews University.
2. Adamu, A. Y., & Addamu, A. M. (2012). Quality assurance in Ethiopian higher education: Procedures and practices. Procedia-Social and Behavioral Sciences, 69, 838-846.
3. Akrani, G. (2011). *What is Staffing? Meaning Definition Factors Affecting*, downloaded on 20/01/2017 from http://kalyan-city.blogspot.ug/2011/07/what-is- staffing-meaning-factors.html.
4. OKPOKO, J. (2013). Developing Communication Institutions and Environment for Development Communication. Ebonyi State University Journal of Mass Communication. ISSN: 2449-0369 Vol, 1, 99-108.
5. Akusoba, E. U., & Okafor, C. O. (2004). Effects of practical work in chemistry on students' performance, knowledge and retention of ordinary level qualitative analysis. *Journal of Education Research*, *1*(1), 1-9.
6. Alio, A.N (2006). *Enhancing the Competency of Electronics of informal Sector of Economy in Enugu State.* [Unpublished Ph.D Thesis]. Vocational Teacher Education, University of Nigeria Nsukka.
7. Chalmers, D. (2008). Teaching and learning quality indicators in Australian Universities. Programme on institutional management in higher education (IMHE). Outcomes of higher education: quality, relevance, and impact. 8 th Sept. 2008 Paris, France OECD.
8. Federal Republic of Nigeria (2014). *National Policy on Education (6th Ed.).* Abuja: NERDC.
9. Federal Republic of Nigeria (2013). *National policy on education*. Lagos: Nigerian Educational Research Development Council.
10. Fernandes, C., Ross, K., & Meraj, M. (2013). Understanding student satisfaction and loyalty in the UAE HE sector. International Journal of Educational Management, 27(6), 613-630.
11. Idoko, C. E. (2001). *Evaluation of the implementation of the primary education science core curriculum* (Unpublished doctoral thesis). University of Nigeria, Nsukka.
12. Jimmieson, N. L., Hannam, R. L., & Yeo, G. B. (2010). Teacher organizational citizenship behaviours and job efficacy: Implications for student quality of school life. British journal of Psychology, 101(3), 453-479.
13. Azikuru, L. M. E., Onen, D., & Ezati, B. A. E. A. (2017). Staffing and the quality of teaching in universities. European Journal of Education Studies.
14. Kisanga, H. J. M. S. H. (2014). Quality assurance practices in higher education institutions: Lesson from Africa. Quality Assurance, 5(16), 267-278.
15. Naidoo, J., Jackling, B., Oliver, B., & Prokofieva, M. (2011). Identifying the employment expectation-performance gaps of early career accounting graduates. Victoria University: unpublished.
16. Ngware, M. W., Ciera, J., Musyoka, P. K., & Oketch, M. (2015). Quality of teaching mathematics and learning achievement gains: evidence from primary schools in Kenya. Educational Studies in Mathematics, 89(1), 111-131.

17. N.U. C (2018). *"NUC's Approved Summary of Scores for NUC's Accreditation Rating.* Department of Quality Assuarance ".
18. Obasi, S. N. & Nwakaire, N. O. (2015). A Comparative Study of the Teaching and Evaluation Processes in Sandwich Degree Programmes in two Nigerian Universities. I*nternational Journal of Engineering and Advanced Technology Studies, 3*(7), 64-73.
19. Ologunde, A.O, Asaolu, T.O. & Elumilade, D.O. (2011). Labour Turnover among Universities in Southwestern Nigeria. Issues, Solutions and Lessons. 1-21.
20. Reusia, D. H. R., Danilo Jr, V. R., & Andres, K. P. (2020). Science education graduates of a state university from 2008-2018: A tracer study. The Normal Lights, 14(1).