TEACHING AIDS, QUALITY DELIVERY, AND EFFECTIVE LEARNING OUTCOMES IN A NIGERIAN PRIVATE UNIVERSITY

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Abstract

Globally, Universities exist to teach, carry out research and engage in community service. As knowledge centers and major contributors to the manpower resources of the nation's economy, the place of teaching, effective learning and quality delivery should not be underestimated. One of the key performance indicators (KPI) for World University Ranking by the Times Higher Education is teaching. Although teaching involves a series of activities to enhance learning, past studies have shown that students or learners get easily bored with long lecture sessions and worse still retain less than 25 percent of what is taught. Thus, new skills, processes and information intended may not be maximized. There is a suspicion that Universities in most of Africa, including Nigeria may not have appealed to the senses of the students through a multi-modal approach including the use of teaching aids. This study intends to examine the role of teaching aids (gadgets, resources and materials) in enhancing effective teaching outcomes and quality delivery at Covenant University, a Nigerian Private University with a view to drawing some lessons. The study has identified the range of teaching aids and processes adopted by the University in her drive towards the fulfillment of a global mandate of becoming one of the first ten Universities in the world. The study adopts the social learning theory and survey design for data collection. Results from the questionnaire administered to selected teaching staff and students as well as interviews of key personnel of the University formed the basis for conclusions and recommendations in this study. It is intended that the wider sociological, and technological implications will be emphasized just as we position teaching as an aspect of strategic communication.

Keywords: Teaching Aids, Effective Learning, Quality Delivery, Private University, Covenant University.

1 INTRODUCTION

Teaching is one of the key performance indicators (KPI) for World University Ranking by the Times Higher Education (THE). Globally, universities exist, to teach, carry out research and impact her community. The social learning theory explains teaching as a learning process which includes exchange of ideas, skills, knowledge and vital information between the teacher and the learner (students). In other words, teaching involves a series of activities and different processes of disseminating and transferring knowledge, skills and information to a targeted audience. Among the core functions of Universities as knowledge centers is teaching and quality delivery of needed skills and information to students the future manpower of the nation's ever growing economy. Primarily, the objectives of the University are to teach, offer training in the acquisition of skills, carry out research and other sundry services. A university therefore, ought to be proactive, dynamic and innovative due to the dynamic nature of the society and the need for continued relevance globally [1]. Previous studies on university systems tend to focus on inadequate funding, infrastructure, autonomy and academic freedom. This study however, examines the effectiveness of the use of modern teaching aids aided with technology in students' learning outcomes and quality delivery by the teachers. The study examines the role of teaching aids (gadgets, resources and materials) in enhancing effective teaching outcomes and quality delivery in Covenant University, a Nigerian Private University with a view to drawing some lessons. It identifies the range of teaching aids and processes adopted by the University in her drive towards the fulfillment of a global mandate of becoming one of the first ten Universities in the world.

1.1 The Promise of Higher Education in Nigeria

There has always been the expectation of many African nations, including Nigeria that investments in higher education would trigger rapid development of the newly independent nations. The different commissions set up by the colonial administrations recommended the establishment of Universities and other tertiary institutions in Africa. The Program Director, Higher Education and Libraries in Africa, International Programs, Carnegie Corporation of New York, [2], has argued that:

... the University in Africa and higher education in general remain a significant part of the overall social, economic and cultural constitution of societies and nations... contributing to the formation and deployment of human capital...etc. -- pp. 6

Incidentally, the initial approach favoured government-established institutions. There is evidence that these earlier generations of universities in Africa have not provided the required impetus for the rapid development of the continent. This reality has encouraged the emergence of private universities. Investments in private education in Africa have been based on three compelling theories which have also drawn from broader international higher education reforms. These theories, according to Osagie [3], are - the public failure theory, the demand absorption theory and the choice theory. The public failure theory highlights the progressive decay of public institutions on the continent since independence. This failure has been the reason for the calls for transformational governance by African nations.

The demand absorption theory captures the failure of the public higher education institutions to absorb the increasing number of applicants. It also shows the shortfall in quality. It has been noticed that the admission capacity of our public universities has not exceeded 30% of all qualified candidates. At the quality dimension, it has been observed that public universities have been principally concerned with teaching, certification, research, text production, community service and enlightenment commentary. There is a very weak co-ordination of these activities as quality differs across board. There is hardly any sustained platform for vision sharing. Indeed, many attempts to produce blueprints for strategic development in our universities have remained bogus and inconclusive. There are speculations that the products of our higher institutions are not competitive at the global level. The ranking profiles of Nigerian universities tend to justify these speculations.

The choice theory naturally flows from the availability of a wide range of opportunities for the prospective student. It has become fashionable for most parents to send their wards to private primary and secondary schools. Therefore, private universities offer themselves as viable options in the current dispensation. The essence of these theoretical considerations has been brilliantly articulated by the former United States Permanent Representative to the United Nations, Ambassador Andrew Young [4] at the maiden convocation lecture of Nigeria's first private University of Technology – Bells University of Technology, Ota. According to Young [4], Nigeria has placed too much emphasis on government, as against what obtains in the United States where big corporations run things. The private sector, according to him, has to be made strong, with a carefully worked out balance between governance and business.

1.2 Input, Process and Product Factors in Nigerian Private Universities

Okebukola has identified the input factors in the university education process as the students, the staff, the managers, the curriculum, facilities, finance, instructional materials and other general resources [5]. These are combined in the process of teaching, research, use of time and spaces, student services, administration, leadership, community impact and quality assurance. As output, we have skilled and employable graduates, responsible citizens, economic and social development, and creation of new knowledge. The most visible input of the university seems to be the teaching qualities since many students come to be taught things related to attitudes, skills and research orientation.

1.2.1 Teaching Mechanism and effective learning in Science and Engineering Programs

The role of teaching mechanisms to enhance learning capacity of students in science and engineering technology is vital to the development of students' skills which ultimately reflect in their output. One of the observable critical problems facing most developing nations today is the non-availability of adequately trained and well-motivated professionals with the capacity to solving problems of national development. Many University graduate professionals complain of unemployment. However, there exist substantial employment opportunities in Africa and other developing nations but the major challenge being that the skills to match up with imminent challenges are missing. As for Covenant

University, a Nigerian Private University, being a knowledge center and major contributor to the manpower resources of the nation's economy, the place of teaching, effective learning and quality delivery are not underestimated. Processes adopted by the University in her drive towards the fulfillment of a global mandate of becoming one of the first ten Universities in the world is in identifying the range of teaching aids and processes for effective learning, skill acquisition and capacity building. For effective teaching in science, engineering and technology programs, the tools to learning are not be limited to the usual trend of using black board, chalk, white board, markers, projectors, and power point presentations. The science and engineering programs introduce practices and skills through supervised hands-on workshop and laboratory exercises. These exercises include familiarization with basic tools that relates to each discipline in science and engineering so as to entrench basic knowledge in the students. The benefits that internship, Student Work Experience Scheme (SWEP) and Industrial training have brought to enhance students' capacity in learning can never be undermined. These programs also support the knowledge base of the students such that when class work is taken, it makes learning more interactive and impactful. The student at Covenant University embarks on a 12 weeks SWEP program that equips them with skills in all practical engineering programs that is being offered in the University. However, the skills acquired in SWEP cannot be compared with experienced gained when the students go for a six (6) months industrial training, where they are exposed to real life practical that is related to the profession of their choices. Returning to class after this program empowers the students and situates them in a position to rub minds with their instructors. At this point, they are not only being taught, but also sharing their own experience and understanding on any subject matter. This makes learning more interactive than the usual one way teaching of instructor to students that does not allow any feedback. As regards capacity building and development aspect within the science, technology and engineering education, the application of the respective technical knowledge, obtained through lectures, site works and workshop practices are of major essence in collaborative design projects. In this way, the sustainability component of the designs in the laboratories, studios, engineering workshop practice help the class teaching to be well situated.

1.2.2 Teaching in the Humanities

Using Covenant University, as a case study, humanities involve programmes such as Mass communication, languages, Sociology and Psychology. In teaching these programmes, teaching aids engaged by lecturers include: multimedia projectors, white boards, electronic boards, wireless microphones, e-learning and other teaching aids gadgets. Power point presentation and slides are commonly used in the class rooms to project the lecture materials and contents. The practical courses such as languages, mass communication and psychology have separate laboratory for teaching practical and facilitating hands on as part of the course. At other times, pictures, films may be used to drive home the points being emphasized depending on the course objectives. Once in every session, educational tours and excursions are organized for the students across programmes and levels of study. This is to further enhance the students' knowledge and skills about the real world outside the four walls of the classroom.

1.2.3 Audio Visual Tools

In devising the most effective way by which knowledge content can be delivered, the national policy on education in Nigeria presented the objectives of education. These objectives are expected to acquire technical skills, expose students to career awareness by exploring usable options in the world of work, enable students to have an intelligent understanding of the increasing complexity of technology and stimulate creativity. In order to enhance learning activities, and avoid the situation of getting students bored during lecture sessions, thereby retaining less of what is taught, the faculty and all other teaching staff are encouraged to use pictures, short video clips on any subject matter, connecting to social media like YouTube, twitter, Facebook, and so on. These help students to have a vivid picture or real scenario of a particular context. The significance of teaching and learning through this medium have the potential to facilitate almost any educational experience, allowing learners use virtual video and other audio visual facilities with peers anywhere in the world, use specialized software and tools, and collaborate on shared documents, among many other things. It is expected of every instructor to have a good understanding and full grasp of their subject. This will enhance quality delivery and effective learning outcomes. Instructors are also encouraged to connect to the World Wide Web for any other information that could be useful in enhancing students' total understanding of the subject. Internet is made available to support this drive.

1.3 Study Objectives

The main objective of this study is to examine the role of teaching aids (gadgets, resources and materials) in enhancing effective teaching outcomes and quality delivery in a Nigerian Private University. The specific objectives are as follows:

1. To identify the range of teaching aids and processes adopted by the University.
2. To ascertain the effectiveness of the adopted teaching aids in enhancing learning outcomes and quality delivery in the University.

2 RESEARCH QUESTIONS

With a view to achieving the stated objectives, some research questions were posed. These include:

1. Is there a relationship between teaching aids adopted by the University and students' learning outcomes?
2. How can teaching aids enhance learning outcomes and quality delivery in the University systems?

2.1 Study Hypotheses

The following hypotheses in the alternate form are stated for the study.

1. There is a significant relationship between teaching aids adopted by the University and students' learning outcomes.
2. Teaching aids enhances learning outcomes and quality delivery in the University systems.

2.1.1 Instrument for Data collection

The survey questionnaire was the primary instrument for data collection in this study. Two sets of questionnaire one for students and the other for teaching staff was designed for the study. The first was a twenty-one (21) item questionnaire while the second was twenty-nine (29) item instruments, containing closed ended questions administered to students and teaching staff in various programmes, schools and colleges of the university. The instrument was divided into two sections (A & B). Section A contained questions on respondents' socio-demographic data such as (age in years, gender, college, school and students' programme of study as well as the current level of study). Section B part of the questionnaire, engaged the five (5) Linkert scale questions having options including strongly agree (SA), agree (A), undecided (U) strongly disagree (SD) Disagree (D) relating to the study objectives on teaching aids, learning outcomes and quality teaching delivery in the University context. The aim was to elicit relevant data and first hand information on the research topic from personnel that utilizes these gadgets in teaching. Of the 600 questionnaire administered to students representing 10percent of the estimated students' population of over 6,000, a total of 539 questionnaire representing a high response rate of 89.9 percent were found useful for analysis. Additionally, 40 teaching staff of the University representing 10 percent of the university teaching population was sampled across various departments and cadre.

2.1.2 Research Design and Study Population

Questionnaire being the principal research instrument engaged by the study was administered mainly to undergraduate students across the existing two colleges i.e College of Development studies (CDS) and College of Science and Technology (CST) in the University. There are a total of six (6) schools and thirty-one programmes/departments in the university. The teaching staff from various cadres (Professors, Associate Professors, Senior Lecturers, Lecturer 1, Lecturer11 & Assistant Lecturers) engaged in teaching constitute part of the study population while undergraduate students of the University across disciplines currently at different level of study formed the bulk of the study population. The essence was to ascertain the import of the teaching aids engaged by lecturers on teaching, learning outcomes and quality delivery in the University system. The next section presents the discussion and findings of study. The data collected through questionnaire were compiled and analyzed by using percentages and proportions as well as Statistical Package for Social Sciences (SPSS).

Table 1 presents the socio-demographic data of the undergraduate students of Covenant University that were purposively selected and sampled for this study. Of the 539 students sampled, 56 percent were female while 44 percent were male. This shows that there were more female respondents than males in the sample. Of these respondents, majority were in the age bracket of 19-21years representing 71 percent of the total sample. Only 7 students (1%) were below 15years old.

Table 1: Socio-demographic characteristics of Respondents (Students).

1	Gender	Frequency	Percentage (%)
	Male	236	43.8
	Female	303	56.2
	Total	539	100
2.	**Age (in years)**		
	Less than 15	7	1.3
	16-18	62	11.5
	19-21	381	70.7
	Above 22	89	16.5
3	**Colleges of Study**		
	Development Study (CDS)	192	35.6
	Science and Technology (CST)	347	64.4
	Total	539	100
4	**Schools**		
	School of Social Science	22	4.1
	School of Business	67	12.4
	School of Human Resource Development	66	12.2
	School of Engineering	116	21.5
	School of Natural Science	204	37.8
	School of Environmental Science	64	11.9
5	**Level of Study**		
	100	53	9.8
	200	38	7.1
	300	102	18.9
	400	257	47.7
	500	89	16.5
	Total	539	100

As shown in Table 1, the College of Science and Technology (CST) had the highest respondents representing 64 percent. The fact that the college had more students' population in terms of admission and programmes when compared to the College of Development Studies (CDS) possibly accounted for this high number. This is also reflected in the highest number of students' respondents of 204 from the school of natural sciences which is also domiciled in the CST. A total of 346 final year students (257 and 89 students in 400 and 500 Levels respectively) across the two colleges were sampled for the study. It is believed that having spent four and five years respectively in the university system, these set of graduating students are in a vantage position to comment on teaching aids, lecture delivery and teaching outcomes which is the focus of the research. Students in the lower levels of 100 & 200 have new experiences, minding the fact that they are invariably new to some of the teaching aid technology that may not have been provided when they were in the high schools.

Table 2: Usage of modern teaching aids by Lecturers.

Opinion on whether lecturers teach students with modern teaching aids	Frequency	Percentage
Strongly Agree	194	36.0
Agree	297	55.1
Undecided	32	5.9
Strongly Disagree	13	2.4
Disagree	3	.6
Total	539	100.0

From Table 2, more than half of the respondents representing 55 percent agree that lecturers use modern teaching aid for lecture delivery which makes lecture very interesting and interactive.

Table 3 shows that over 40 percent of the students expressed that teaching aids make lecture interesting and interactive. This finding is a pointer to the fact that the use of modern teaching aids such as multimedia, projector, white board, wireless microphone, e-learning and other gadgets are key to learning outcomes. The introduction of these teaching aids tends to appeal to the senses of students, in addition to justifying the cost on investment of such resources.

Table 3: Teaching Aids make lecture interesting and interactive.

Opinion on whether teaching aids make lecture interesting and interactive	Frequency	Percentage
Strongly Agree	233	43.3
Agree	237	44.1
Undecided	48	8.9
Strongly Disagree	10	1.9
Disagree	10	1.9
Missing item	1	.2
Total	539	100.0

Table 4 clearly shows that 52 percent agree while 32 percent strongly agree that the teaching aids employed for teaching are user friendly. The fact that the gadgets are user friendly may account for why most teaching staff in the sampled University freely engage them for teaching. One of the likely causes of low usage of teaching aids by lecturers may be due to sophistication of the gadgets and low technical-no-how in manipulating such gadgets for teaching. However, the university from time to time does training and workshop on how to use the aids effectively through the center for system and information science unit of the university. When teaching aids employed are user friendly, it is expected that usage will be maximized.

Table 4: Teaching Aids are user friendly.

Opinion on whether teaching aids are user friendly	Frequency	Percentage
Strongly Agree	180	32.4
Agree	282	52.3
Undecided	59	10.9
Strongly Disagree	13	2.4
Disagree	3	.6
Missing item	2	.4
Total	539	100.0

Table 5 shows that 44 percent of the respondents agree that lecture materials aided by teaching gadgets before the class enhance better performance and assimilation by students. This implies that students have access to lecture materials well ahead of lectures and this will in no doubt assist them in studying the materials and assimilate the contents for high performance. This is makes learning better than when they are given same lecture material at short notice. This is one area Covenant University is faring well in terms of making available course modules, and lecture notes are sent to students via university portal system.

Table 5: Opinion on lecture materials aided by teaching gadgets for better Assimilation and performance by students.

Opinion on lecture materials aided by teaching gadgets for better assimilation and performance by students	Frequency	Percentage
Strongly Agree	213	39.5
Agree	236	43.8
Undecided	69	12.8
Strongly Disagree	14	2.6
Disagree	6	1.1
Missing item	1	.2
Total	539	100.0

Table 6 shows that a significant proportion of the respondents agree that the use of multi-modal approach in using modern teaching aid appeals to the senses of students. This implies that students enjoy the use of teaching aids. This is makes learning better than when they do not have access to such facility.

Table 6: Opinion on the Use of Multi Modal Approach in Using Modern Teaching Aid Appeal to the Senses of Students Thus Enhancing Learning Outcomes.

Opinion on whether the Use of Multi Modal Approach In Using Modern Teaching Aid appeals to students senses	Frequency	Percentage
Strongly Agree	200	37.1
Agree	280	51.9
Undecided	45	8.3
Strongly Disagree	8	1.5
Disagree	6	1.1
Total	539	100.0

Table 7 shows the perception of students on the need for an E-learning center. This makes the entire program to be more coordinated. The finding from the survey reveals that teaching aid enhances quality lecture delivery and academic performance as stated by 84 percent of the sample. Thus, the use of multi-modal approach in using modern teaching aid appeals to the senses of students which consequently enhance learning outcomes.

Table 7: Opinion on proper coordination of E-learning and Teaching tools.

Opinion on proper coordination of E-learning and Teaching tools	Frequency	Percentage
Strongly Agree	168	31.2
Agree	287	53.2
Undecided	46	8.5
Strongly Disagree	13	2.4
Disagree	24	4.5
Total	539	100.0

3   CLASS ATTENDANCE

Before the introduction of modern teaching aids, findings reveal that students get easily bored and seldom look forward to attending classes and consequently affect academic performance. While university encourages independent study on the part of students, regular and punctual class attendance of lectures, tutorials and practical laboratory or field work sessions is expected in all courses. Every lecturer has the responsibility to maintain an accurate and up to date record of each student's attendance throughout the semester.

4   CONCLUSION AND RECOMMENDATION

Both students and lecturers sample agree that the cost implication of providing teaching aids especially modern gadgets to enhance teaching is high but it is worth the investment in the long run. The significance of teaching and learning through the use of teaching aid have the potential to facilitate almost any educational experience, allowing learners use new technology and modern. For sustainability and maximum learning outcomes to be achieved, there is need for proper coordination. Universities ought to have a designated centre for e-learning and teaching aids as suggested by 82 percent of the respondents.

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