Open and Distance Learning (ODL) Education in Nigeria: Challenges of Academic Quality

Edu, Marcellina I., (Ph.D)¹, Sule Sheidu A., (Ph.D)² and Nsor Eunice E., (Ph.D)³

¹Cross River State College of Education, Akamkpa, Nigeria
²University of Lagos, Akoka, Lagos, Nigeria
³Cross River State College of Education, Akamkpa, Nigeria

Abstract
This study assessed the challenges of academic quality in ODL education in Nigeria using the following parameters; exposure to Information and Communication Technology (ICT) tools, curriculum and study materials made available to the learners and the time allotted to students for self-study, online lecturing/interactions and face-to-face study. Distance Learning Institute (DLI) of the University of Lagos and National Open University of Nigeria (NOUN) served as cases. In carrying out the study, a descriptive survey research design was employed. A researcher-designed and validated questionnaire was used to elicit responses that translated to the quantitative data for this study. The sample comprised 665 students of the Distance Learning Institute and National Open University of Nigeria. Respondents were carefully selected through simple random sampling method. Data collected from the study were analyzed using Chi-Square ($\chi^2$) at 0.05 level of significance. The results of the analysis revealed that the use of ICT tools is a factor in ensuring quality in the Open and Distance Learning operations. The quality of materials made available to Open and Distance Learning students will determine the quality of education that will be received by the students. The time allotted for students for self-study, online lecturing/interaction and face-to-face study in Open and Distance Learning Institutions has a lot of impact on the quality of education the students receive. Based on the findings, recommendations were made that ODL in Nigeria should invest on ICT infrastructures as well as employ tutors with mastery of ICT to aid teaching as it is an indispensable tool. Study materials must be structured within the standard curriculum, while appropriate time should be allotted to the different forms of study interactions to aid effective study and production of high quality graduates.

Keywords: Open and Distant Learning, Quality, ICT, Face-to-Face Interaction

Introduction
Education today plays a vital role in the development of any society or nation. The level of education a society or country acquires will reflect in its national income as well as the standard of living of an average citizen of the society or country. It is often said that anyone who says that education is costly should try ignorance. These mirror the importance of education in the life of a country and its citizens. In Nigeria, the tertiary or higher education especially the university has come under searchlight on many occasions by researchers,
government and relevant agencies. This of course is because of the need to ensure the products or graduates of tertiary institutions are well baked thereby making their impact felt by their contributions to the development of their nation. For these reasons, stakeholders at all levels of education often put in their best to ensure the emergence of quality products from the system. That is why everyone that has anything to do with education at any level tries to do his/her best at ensuring that good products emerge from the systems.

Nations of the world like the United States of America (USA), the United Kingdom. (UK), South Africa, India, South Korea, etc that place high value on education make it a top priority, strongly recognize Open and Distance Learning (ODL) education as one of the forms of tertiary education systems. The same is applicable to Nigeria as stated in the National Policy on Education (NPE), 2004 Edition. Furthermore, to solve the problem of access to tertiary education, the Federal Government of Nigeria through its agencies; the Federal Ministry of Education and the National Universities Commission has therefore resorted to licensing some of the one hundred and twenty four universities to operate a dual mode university system.

The dual mode has to do with operating as both Conventional and Open and Distance Learning (ODL) institutions. Apart from this, we also have the National Open University of Nigeria (NOUN) which operates a single mode system but not as a conventional university, but as an Open and Distance Learning (ODL) institution.

Notable about these Open and Distance Learning(ODL) institutions is that, unlike the conventional universities where students attend classes regularly and interact with their lecturers over a period of time, ODL students do not undergo this type of process. They collect their materials, read on their own, interact with their lecturers, e-tutors and facilitators online, attend some week-end lectures and finally have about four-six weeks of face to face interactions at a stretch, then write their examinations and a session is done.

ODL institutions are highly dependent on Information and Communication Technology (ICT) which serves as a means of providing access to basic and tertiary education for Nigerians. A perusal through the National Policy on Education (NPE, 2004) shows that the Federal Government of Nigeria does not handle the issue of access to tertiary education lightly and perhaps the reason why she states that the goals of open and distance education shall be to:

- Provide access to quality education and equity in education opportunities for those who otherwise would have been denied.
- Meet special needs of employers by mounting special certificate courses for their employees at their work place.
- Encourage internationalization especially of tertiary education curricular.
- Ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing local experts as teachers regardless of their locations or places of work.

These goals are not laudable, but it will take a serious government in agreement with the stakeholders in education to find a means of actualizing them. This, therefore, suggests there must be a medium through which this could be achieved hence, the need for Information and Communication Technology tools. Policy makers reasoned that if online instruction is no worse than traditional instruction in terms of student outcomes, then online education initiatives could be justified on the basis of cost efficiency or need to provide access to learners in settings where face-to-face instruction is not feasible.
It is interesting to note that one of the tools recommended by the National Universities Commission (NUC) of Nigeria on the establishment and running of the open and distance learning is the use of Information and Communication Technology (ICT). NUC recommended that interactive texts supplemented with other resources such as: CDROM: DVD: or USB sticks; ebooks, simulations, assessment etc. shall be used in delivery and teaching of ODL academic programmes. It further recommended that students should have access to ICT to assist them in learning with a functional internet access required for all study centers. Ololube, Ossai & Ubogu (2006) opined that:

Information and Communication Technology (ICT) are advances in Technology that provide a rich global resource and collaborative environment for dissemination of ICT literacy materials, interactive discussions, research information, and international exchange of ideas, which are critical for advancing meaningful educational initiatives, training high skilled labor force, and understanding issues related to economic development.

As earlier indicated, distance education is seriously gaining ground worldwide. This can be attributed on one hand to suitable ICT tools or handheld devices including digital media players (e.g. iPods, MP3 players), smart phones (e.g. Blackberry, iPhone), Personal Digital Assistants (e.g. Palm, Pocket PC), computer (in whatever form-desktop, laptop, etc), internet facilities, on-line portals, radio, television and other media. In support of this, ICT allow for delivery of distance education to the learners irrespective of where they reside, (Evans, 2007). According to DLA (2013), technologies such as email, e-courses, online forums, audio and video recordings makes e-learning possible. Some distance learning institutions that use online portal platforms through Learning Management System (LMS) also fall into this category.

Another aspect of ODL that requires adequate attention is on the quality and type of learning materials used. One of the areas where controversies and ignorance set in is in the quality of the materials that the distance learners use. Some of the lecturers, e-tutors and administrative staff in many of our ODL institutions (especially in Nigeria) have limited knowledge of the quality of instructional design of their curriculum and their ICT operations of the ODL institutions. Instructional designs include development of instructional materials and activities. Bogdanovic (2012), averred that distance education could be very effective with the use of instructional materials with visual, auditory, audiovisual and multimedia content. Visual content can be in the form of text, drawings, pictures, graphics and models, etc. Instructional design also include guide to some previously published learning resources, which converts those resources into a new, specific ODL course. Duchastel (1988) cited in Commonwealth of Learning (2005) also identified four purposes for a study guide as orientation - providing an overview of the course and setting goals, task direction – setting reading tasks and activities, learning assistance – assisting the student to focus on the essential and clarifying and helping learners to structure, understand and remember new material and self-assessment.

Study time is cardinal to the academic performance of any student. In any given open and distance learning (ODL) institution, lectures are not the ultimate but rather self-study and interactions of different forms. In Nigeria, the National Universities Commission (NUC) did not specifically indicate how long ODL students should spend for lectures, interactions, online activities and self-study though it recommended that ODL programmes should be predicated on a pedagogy that is led by resources and not reliant on face-to-face interaction.
This is contrary to what obtains in the conventional university where students must attend classes for at least fourteen weeks in a semester.

In the works of Chickering & Gamson, (1987) cited in Thurmond & Wambach (2013), the concept of interaction is a core element of the seven principles of good practice in education. They educational practice of interactions identified include: encouraging faculty/students contact, developing reciprocity and cooperation, engaging in active learning, providing quick feedback, emphasizing the amount of time dedicated to a task, communicating high expectations and respecting diversity. Four types of interaction have been cited frequently in the literature: learner-content, learner-learner, learner-instructor, and learner-interface (Chen, 2002, Crawford, 1999 cited in Thurmond and Wambach, 2013). In a similar opinion Moore, (1989) cited in Foley and Miller (2013) identified three types of interaction that occur in learning, that is:- between the learner and the instructor, between the learner and other learners and between the learner and the content to be learned. Thurmond and Wambach, observed that there is a disparity between interactivity and interaction. The disparity suggests that interactivity involves the technology used in learning, while interactions describe behaviors of individuals and groups. Steuer (1992) cited in Foley and Miller, (2013) have however, defined interactivity as the extent to which users can participate in modifying the form and content of a mediated environment in real time. The real time here refers to the use of technology to drive learning. Vord and Pogue (2012) observed that the challenge has reached a crescendo where stakeholders in education often wonder whether it takes more time to teach online or offline and on which proportion if both are combined. Vord and Pogue also observed in their research work that no specific duration of time is allotted to online facilitation for instructors but that they must spend the requisite three hours per week (for a 3-credit class) in the classroom.

Ali and Leeds, (2009) in their study were of the opinion that face-to-face orientation plays an important role in raising student retention rates because these gatherings contribute positively to the building of teaching communities, which in turn provide emotional and social support for learners. Ali and Leeds, recommended that a face-to-face course orientation should be made a part of online learning. This is because face to face interaction with instructor and students aid learning and collaboration which are very important in teaching and learning process (Igwe, 2012). Collaborative learning which a form of face-face interaction is requires learners to develop teamwork skills. For meaningful interactions through discussions during face-to-face tutorials, learners may have to split into groups. Generally, it has been revealed by the results in the study conducted by Thurmond and Wambach, (2013) that distance learning students prefer learning the content from an instructor rather than the internet. This suggest that the onus lie in the hand of each distance learning institution to fashion out how to combine both the online and offline interaction and still ensure that learning takes place and that it is learner-centered, self-paced, and problem solving-based rather than being teacher-centered (Igwe, 2012).

**Statement of the Problem**

The concept of Open and Distance Learning (ODL) and quality are almost inseparable by virtue of the characterization of ODL as an 'industrialized' form of learning such that the division of labour which characterizes ODL implies inspection of its products and services to ensure their quality. The delivery systems embarked upon by Distance Learning Institutions must prove that the certificates awarded by the ODL institution is worthwhile and not less in value when compared to the ones issued by the conventional (main) universities.
In Nigeria where ICT use is below average when compared to the western world, self study not well structured and monitoring/evaluation of the ODL content and delivery system is poor, quality assurance becomes a major concern amongst ODL education stakeholders. Although assuring quality applies to both conventional and ODL institutions, the demand for evidence of quality and therefore credibility is required more from ODL institutions due to the perception that their operational parameters of openness and flexibility give room for lower quality of output. Unquestionably however for both systems, the quality of content and instructional delivery is a critical factor that determines not only quality of the teaching processes but also for achieving quality and sustenance of the learning process.

In the light of this, it is very important to assess the quality assurance strategies the institute has put in place to ensure that the people, policy, programs and processes are of standard compared to the conventional university.

**Purpose of the Study**
The purpose of the study generally is to examine the quality of education available in Open and Distance Learning Institutions in Nigeria. Specifically, the study aimed at achieving the following objectives:

1. To find out the relevance of Information and Communication Technology (ICT) to the quality of graduates produced in Open and Distance Learning Education.
2. To examine the quality of materials given to the Distance Learning students for academic purposes.
3. To know if the time given to students for self-study, online lecturing and face–to-face interaction is adequate to produce world class graduates.

**Research Hypothesis**
The following hypotheses were tested:

1. There is no significant effect of ICT usage on the quality of Open and Distance Learning (ODL) operations in University of Lagos and National Open University of Nigeria, Lagos State.
2. There is no significant relationship of between materials used for study and the quality of education received by the students of open and distance education in University of Lagos and National Open University of Nigeria, Lagos State.
3. There is no significant relationship between the time allotted for students for self-study, online lecturing/interaction and face–to-face study and the quality of education in Open and Distance Learning Institutions in University of Lagos and National Open University of Nigeria, Lagos State.

**Research Methodology**
The study employed a descriptive survey research design. Primary data from the randomly selected sample from the target population was collected. The findings were used to generalize the research results about the target population. The research area was Lagos State. Students of the Open and Distance Learning (ODL) institute of the University of Lagos and the National Open University of Nigeria (NOUN) in Lagos state that have spent at least two sessions constituted the population. The sample considered was 25% of the total population of the students in the selected institutions. Simple Random Sampling Technique was used to randomly select 665 students out of the 2660 at 300 - 500 levels of study.

The instrument used for data collection was a researcher-designed and validated Questionnaire tagged: Open and Distance Learning Institution (ODL) in Nigeria and Academic Quality Questionnaire (ODLAQQ). The instrument was faced validated by experts.
in measurement and evaluation and educational administration. The reliability index of the instrument was 0.75 (estimate of internal consistency) using the test retest reliability estimate. The questionnaire was divided into 2 sections (i.e. Sections A and B). Section A measured the bio data or demographic variables of the respondents (students), while section B contained items on the research variables. With the help of two research assistants, the instrument (questionnaire) was distributed directly to the students of Distance Learning Institute, University of Lagos and National Open University of Nigeria, who offer different programmes in their 300 to 500 levels. The items in the questionnaire were measured by 4-points Likert Scale Type with Strongly Agree (SA), Agree (A), Disagree (D) and Strong Disagree (SD). Data collected from the study were analyzed using Chi-Square ($X^2$) at 0.05 level of significance.

Results

**Ho1:** There is no significant effect of ICT usage on the quality of Open and Distance Learning (ODL) operations

Table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respondents (No)</th>
<th>$X^2$ cal.</th>
<th>$X^2$ crit.</th>
<th>df</th>
<th>Level of Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICT usage and quality of Open and Distance Learning (ODL) operations.</td>
<td>665</td>
<td>532.57</td>
<td>21.03</td>
<td>12</td>
<td>0.5</td>
<td>Ho rejected</td>
</tr>
</tbody>
</table>

*P < .05; df = 12; critical – r = 21.03

Table 1 gives the value of Chi-square ($X^2$) calculated of 532.57 to be greater than the critical value of 21.03 at 0.05 significant levels with degree of freedom of 12. This led to the rejection of the null hypothesis which states that there is no significant effect of ICT usage on the quality of Open and Distance Learning (ODL) operations in University of Lagos and NOUN in Lagos State. This implies that the respondents in this study believe that the use of ICT tools is a factor in ensure quality in the Open and Distance Learning (ODL) operations.

**Ho2:** There is no significant relationship between the materials used for study and the quality of education received by the students of open and distance education

Table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respondents (No)</th>
<th>$X^2$ cal.</th>
<th>$X^2$ crit.</th>
<th>df.</th>
<th>Level of Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials used for study and the quality of education received by students.</td>
<td>665</td>
<td>618.9</td>
<td>21.03</td>
<td>12</td>
<td>0.5</td>
<td>Ho rejected</td>
</tr>
</tbody>
</table>
*P < .05; df = 12; critical – r = 21.03

From the above (Table 2) the value of Chi-square ($X^2$) calculated is 618.9 which are greater than the critical value of 21.03 at 0.05 significant level with degree of freedom of 12. This led to the rejection of the null hypothesis which states that there is no significant relationship between the materials used for study and the quality of education received by the students of open and distance education in University of Lagos and NOUN in Lagos State. The implication of this is that the quality of the materials made available to ODL students will determine the quality of education that will be received by the students.

**Ho3:** There is no significant relationship between the time allotted for students for self-Study, online lecturing/interaction and face-to-face study and the quality of education in Open and Distance Learning Institutions

**Table 3**

Summary of Chi-square ($X^2$) result on significant relationship between the time Scheduled for students or self-study, online lecturing/interaction and face to face study and the quality of education in Open and Distance Learning Institutions (n=665)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respondents (No)</th>
<th>$X^2$ cal.</th>
<th>$X^2$ crit.</th>
<th>df.</th>
<th>Level of Sig.</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>The time scheduled for students for self-study, online lecturing/interaction and face to face study</td>
<td>665</td>
<td>206.46</td>
<td>21.03</td>
<td>12</td>
<td>0.5</td>
<td>Ho rejected</td>
</tr>
</tbody>
</table>

*P < .05; df = 12; critical – r = 21.03

The chi-square test administered to the data as shown above (Table 3) shows a calculated value of 206.46 which is greater than the critical value of 21.03 at 0.05 significant level with degree of freedom of 12. Therefore, the null hypothesis which states that there is no significant relationship between the time scheduled for students for self-study, online lecturing/interaction and face to face study and the quality of education in Open and Distance Learning Institutions in University of Lagos and NOUN in Lagos State is thus rejected. The implication of this is that the majority of the respondents agree that the time scheduled for students or self-study, online lecturing/interaction and face to face study and the quality of education in Open and Distance Learning Institutions has a lot of impact on the quality of education the students receive.

**Discussion of Findings**

Research results from 67.7% of the respondent shows that ICT tools have the potential to increase the quality of distance learning by enhancing research for lecturers and students, while 94.6% thought it will aid dependent and independent self studies. Further more on ICT, 87.5% of participants reported that ICT makes ODL learning interesting while 69.8% found the use of ICT tools easy and relevant to the teaching and learning process as materials and e-tutors were readily available and easily accessible. Design animations and variety of course materials given to ODL students (print, web-based, CD/DVD etc) has made distance learning content easy to understand as asserted by 89.5% of the respondent. However, only 43.8% ODL students who participated in this study could effectively study and have full understanding of their course materials independently, without necessarily being guided.
Furthermore, almost all the participants acknowledged that adequate teaching and learning materials, seminars, symposiums and public lectures are very necessary in the ODL programme. Time interval given to ODL students to prepare for continuous assessment and end of year examination was thought to be enough by 52% of respondent. However, 54.1% said face-to-face learning is more time consuming than online lecture while 60.5% of the respondent were of the opinion that the three hours face-to-face lecture every week was not enough for effective student learning and the 4-6 weeks residential period is not enough to cover the entire course outline for thorough learning in a session. Furthermore, 81% of the students who participated in the study reported that most of their lecturers had academic qualification and demonstrated good understanding of the concept and curriculum of ODL. However, only 40.6% suggested that their lecturers have in-depth knowledge of e-learning or ICT. While 60.5% of the respondents reported that ODL tutors are exposed to training and re-training which aid quality delivery of lessons taught.

The opinions of the respondents in this study corroborate the anchor of the policy of the National Universities Commission on the guidelines for establishing and running of distance learning institutions. It recommends that interactive texts supplemented with other resources such as: CDROM; DVD: or USB sticks, e-books, simulations, assessment shall be used in delivery and teaching of ODL academic programmes. The education agency also recommends that ODL students should have access to ICT to assist them in learning. For specific programmes, functional internet access would be required for all study centers. This same view was shared by Kim & Bonk, (2006) where they observed that many institutions of higher education in the United States are increasingly embracing online education, and that the number of students enrolled in distance programs continued its fast-paced rise in colleges and universities. Ifinedo, (2006) cited in Ololube, et al (2006) stated that the adoption of technologies that aid teaching and learning has helped both students and their instructors to engage in collaborative learning environment and gain access to information. Nagel, (2010) observed that virtually every measure of electronic learning is experiencing unprecedented growth and will continue to do so for the near future.

Another finding revealed in the study shows that the quality of the materials made available to ODL students will determine the quality of education that will be received by the students. NUC (2008) in showing how important teaching materials are recommended to ODL institutions to make available materials to distance learners and such materials are to be updated frequently at least once every five years. The same agency of education averred that students’ learning materials should be tailored to ODL, should be interactive, comprehensive, accessible and contemporary and learner friendly. What Bogdanovic, (2012) said was in tandem with the National Universities Commission’s stand because he opined that distance education can be very effective with the use of instructional materials as well other interactive materials. Commonwealth of Learning (2005), while proving that the quality of materials distance learner use is akin to their successful performance recommended a unit writing standard and suggested that every course unit shall contain important items like course number, course title and introduction. Furthermore it recommended that the course should set out what will be learnt in the unit, the importance to the learners, unit contents list, unit learning outcomes for each outcome, appropriate examples, a range of learning activities, a key points list and at least one Self-Assessment Question (SAQ). Some of the materials can be used by the students on their own because they are learners’ centered. Bailey et.al. (2013) noted that blended learning is not just another district initiative; it is a fundamental redesign of instructional models with goals of accelerating learning towards college and career readiness. To Bogdanovic, (2012), using multimedia is extremely important in distance
education as a lecturer is usually not physically present with the participants to draw their attention, motivate them to learn and explain the content when students encounter difficulties in understanding.

On the time allotted to students for self-study, the findings of the study is in agreement with the findings of Vord and Pogue, (2012) that emphasizes the importance of quality time for distance learners while accepting that enough time for both online and offline teaching and interactions should be maintained, they wondered whether it takes more time to teach online or offline and on which proportion should the two be combined. They observed in their research work that no specific duration of time is allotted to online facilitation for an instructor but an instructor must spend the requisite three hours per week (for a 3-credit class) in the classroom anytime distance learner come for face-to-face interactions. Even though the NUC (2008) did not state what proportion of time that should be allocated teaching online and offline teaching and learning activities, but it recommended that ODL programmes should be predicated on a pedagogy that is led by resources and not reliant on face-to-face interaction. While agreeing that ODL students need enough time to learn and study, Bender et al. (2004) cited in Vord and Pogue, (2012) compared a single face-to-face course in a study of 111 enrolled students and 38 teaching assistants, to an online version with 18 students and five teaching assistants. Their findings showed that instruction time was approximately equivalent, but the time required for grading and e-mail communication for the online course was significantly greater than required for the face-to-face version. Ali and Leeds (2009) suggested enough time to be given to both online and offline activities ultimately recommended that a face-to-face course orientation should even be made a part of online learning. This is because face-to-face interaction with instructor and students aid learning and collaboration which are very important in teaching/learning process (Igwe, 2012).

Finally, respondents thought that collaboration with lecturers and students of other ODL institutions help in cross fertilization of ideas.

**Conclusion**

Results of the study failed to accept the three null hypotheses earlier formulated. This implies that Information and Communication Technology (ICT) tools is an important factor in ensuring quality in Open and Distance Learning (ODL) operations. The quality of the materials made available to ODL students will determine the quality of education that will be received by the students. The time allotted to students for self-study, online lecturing/interaction and face-to-face study in Open and Distance Learning Institutions has a lot of impact on the quality of education the students receive. ODL helps to ensure that candidates who could not have had university education are privileged to do so, even at relatively reduced cost, without compromising quality. Therefore, the quality of candidates admitted, facilitators being used, materials available, facilities on ground, lectures, etc are of importance.

**Recommendations**

Consequent upon the findings from this study, it is hereby recommended that:

i. The Open and Distance Learning (ODL) institutions in Nigeria should as a matter of urgency invest on ICT infrastructure since this has been seen as an indispensable tool that is needed to drive ODL operations. By this, it implies that a robust interactive online portal has to be put in place. This is different from the normal portal that is only used for online application, admission, payment, registration and
result checking. It is a portal that will have the Learning Management System (LMS).

ii. One of the pre-requisites for employing lecturers, instructors, facilitators and e-tutors that are to teach or facilitate in ODL institutions should not be only on academic qualifications, but the ability to demonstrate a proficient use of basic ICT tools. This is very crucial as these tools are needed for online and offline interactions, online lecturing, e-learning activities, supervision and research work. ICT trainings should be given to those that are already employed. Furthermore ODL lecturers should constantly be exposed to in-service training and retraining.

iii. Special attention should be paid to the study materials prepared by ODL institutions for use by their students. They should always ensure the materials conform to the specifications set by the university education regulatory body in Nigeria, the National Universities Commission (NUC) as well as the international agencies like the Commonwealth of Learning and the likes. The course writers should be given necessary training on how to write ODL course materials. These materials should be made available and accessible to the ODL students once they are produced.

iv. Appropriate time should always be given to ODL students for self-study and other forms of learning. They should as well be grouped with their fellow course mates for both offline and online interaction moderated by e-tutors. When Tutor Marked Assignments (TMA) is given to them, feed-back on their performances should be made available to students on time. Furthermore, ODL programme organizers should be encouraged to organize seminars, symposiums and public lectures that will expand the horizon of ODL students.

References
Ali, R and Leeds, E. (2009). The impact of face-to-face orientation on online retention: A Pilot Study Online Journal of Distance Learning Administration, Volume XII, Number IV, winter. University of West Georgia, Distance Education Center.
Foley, L. and Miller, M. (2013). Center for distance and independent study understanding interactive elements in distance learning courses. University of Missouri–Columbia


http://www.nuc.edu.ng/nucsite/File/ODL%20REVISED%20GUIDELINES%20FOR%20NIGERIAN%20UNIVERSITIES.pdf (Downloaded January 2015)


