# Evaluation of Distance Education and Widening Access to Higher Education in Kwame Nkrumah University of Science and Technology

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*Abstract:-* **The Kwame Nkrumah University of Science and Technology is one of the public universities in Ghana which runs distance education. Distance education has come to stay. This is because many people want to climb the educational ladder and due to large numbers of qualified applicants who cannot further their education by attending the traditional university, they opt for distance education. Although the university started running distance education programmes in 2005, no evaluation has been done except a few studies by Osei *et al.,* in (2013) and Badu *et al.,* (2007). In every country, education is of great importance because it plays a major role in the life of the individual and the country as a whole. Whatever manpower the country needs could be attained if the curriculum of the education system is well structured and geared towards its manpower needs.**

*Key Words:* **Distance Education, instruction, access, interchangeably, evaluate**

## I. INTRODUCTION

Distance education has been defined by various authorities. To cite as an example, Moore and Kearsley (1996) say that distance education is education that is planned and it usually takes place in a different setting and not the normal classroom setting. It therefore needs special patterns of designing the course, delivering instructions, unique styles of communication together with organizational and administrative arrangements. To them, the concept is seen as both students and teachers being separated by time and distance. Due to limited resources, universities turned a lot of qualified applicants down until such a time that the Ghana government policy on tertiary institutions made it possible to consider distance education as an alternative to widening access. The developed countries took the lead in offering distance education.

One can easily tell that in the case of widening access to education, taking into consideration higher educational institutions such as the universities, distance education happens to be one of the ways to make education open and more accessible. The issue of the universities evaluating distance education is not often done. For this reason, this research is conducted in order to evaluate distance education in KNUST and also to find out how to make distance education in KNUST more accessible.

Distance education, which is also referred to interchangeably as distance learning, is not a new instructional phenomenon (Simonson, *et al.,*, 2014). Researchers like Jonassen *et al.,* (2008) assert that distance education has a history that spans almost two centuries; and this time period represents significant changes in how learning occurs and is communicated. Distance education generally refers to providing learning resources to remote learners which involves both distance teaching and distance learning (Palloff*et al.,* 2001). UNESCO defines distance education as 'an educational process and system in which all or a significant portion of the teaching is carried out by someone or something removed in space and time from the learner. This definition implies that when organizing distance education, there is the need for well-structured planning, well designed courses, special instructional techniques and methods of communication by electronic and other technology, organizational and administrative arrangements (UNESCO, 2006). This will, in effect assist the learner to access information.

Access refers to ways whereby educational institutions and policies seek to make sure that students have equal and equitable opportunities to take absolute advantage of their education. Again, access may be looked at from the point of view of educational institutions ability to render services to students or do away with any problems that are likely to prevent some students from equally enrolling in academic programmes of their choice (Isman *et al.,* 2004). Factors such as race, religion, gender, sexual orientation, disability, past academic performance, special education, status, English language ability and family income or educational attainment levels may all have effects on access to education. Other factors such as the type of community students reside, geographical location or school facilities may contribute to some category of students having less 'access' to educational opportunities than other students.

Widening access becomes necessary as more people now have the desire to climb the educational ladder.Widening access to education has to do with making education more accessible so that a lot of students can further their education. Widening access in education therefore gives the implication that more avenues should be opened for more students to be able to enrol on programmes of their choice no matter their race or socio-economic backgrounds. Technology is catching up fast in Ghana as well as other developing countries. With

Technology, the way we behave and live keep on changing. Almost all Higher Education Institutions (HEI) are either 'beginning to explore the use of technology or widening access to programmes. Universities are critical to the development of any nation. In the developing countries, they are often the only institutions with the capacity for the development of high-skilled manpower, technology transfer and generation of new knowledge. Prodan *et al.,* (2015) contends that in terms of higher education, access to education could be understood as entry or admission to a higher education institution as well as retention and successful completion of studies by the student. To this end, Zidderman (2013) who shares the same view, addressed the concept of access to education from four main perspectives as:

a. The broadening of access – Growth of the number of potential number of students entering higher education;
b. The deepening of access – Ensuring significant proportions of students from non-traditional social classes- the working class and ethnic minority;
c. Retention and successful completion of the studies – Analysing the factors that would lead to dropout such as the increase in tuition fees or the downturns in the economy and
d. Maintaining freshmen enrolment levels -the need to provide loans to students.

In terms of widening access to higher education, Zidderman (2013) says the solutions are a continuous international concern which led to a research whose conclusion included issues such as moderate tuition fees together with providing financial support as an effective way for countries to increase access to higher education (OECD, 2012)

*Objectives of the Study*

The study was carried out to evaluate distance education in the Kwame Nkrumah University of Science and Technology and also find out how education can be made more accessible.

## II. METHODOLOGY

Interviews were used to solicit information from respondents. The reason is that the interviewees were found to be those who were most appropriate and suitable to respond to the research questions used. The interviewees were first consulted and the researcher booked an appointment for the interviews at the convenience of the interviewees. Their informed consent was sought as Cohen *et al.,* (2002) posits that participants should not be coerced into taking part in a study. The interviews were conducted and transcribed in order to aid its analysis. As it was qualitative, the software for analyzing qualitative interview known as the Nvivo was used in addition to Poon *et al.,* (2003) information on analyzing qualitative data.

*The Sampling Technique*

The target population of the study were all distance education staff of the Kwame Nkrumah University of Science and Technology (KNUST). As the study was purely qualitative in nature, the purposive sampling technique was employed.The researcher selectedfive (5) members from the management team.The management team are staff of the university as well as the Institute of Distance Learning.

*Instruments Used*

The interview guide was used for the management team. The researcher studied the C-RAC questions and decided to adapt them into five main teams. These five main themes were used as the interview guide for the management team. Personal and demographic data were placed at the beginning before the rest of the interview guide.

*Data Analysis and presentation*

A total number of five people from the management team comprising the Director, Registrar, Accountant, Co-ordinator, and Examination Officer in KNUST were interviewed. The interview schedule was adapted from Guidelines for the Evaluation of Distance Education, a document which was developed by the Council of Regional Accrediting Commissions (C-RAC). The questions were later summarized and modified into five major sections which sought to answer the research questions of the study.

## III. PRESENTATION AND ANALYSIS OF DATA

The presentation and Analysis of Data for Research Questions 1-5 for KNUST are discussed as follows.

*Biodata of Interviewees*

Altogether, five members of the management team were interviewed. Four were male and one was a female. Four (4) of the intervieweeswere within the age range of 40-49.

Only one of them was within the age range of 50-59. With the college they belong to, they are all in the Institute of Distance Learning. However, the Director's Department is the Computer Engineering, the Examination Officer is from the Department of

Theoretical and Applied Biology, whilst the Co-ordinator is with the University Information Technology Services.

*Tabular Presentation and Analyses of Information from Interview Guide*

The data from the interview schedule are presented and analysed for KNUST.

Table 1.0: Tabular Presentation of Information from KNUST Interviewees

: Code of Informant: A- Director, B-Registrar, C-Exam Officer, D- Co-Ordinator, E-Accountant

| ITEM | INFORMANT | INFORMATION | VALUE (+ve, -ve) |
|---|---|---|---|
| **How distance education is organised in KNUST** | | | |
| 1. From your expert view, comment on how distance education is organised in KNUST | A | 'Yes, we have recruitment and admissions procedures and these support distance education programmes and we have a target population.' | Positive, +1 |
| | B | Yes and No. There is a policy document on how IDL should run. A committee was instituted to review the policies. | Positive/Negative, 0 |
| | C | 'Yes, they do. Staff go on outreach to contact people who are working. All postgraduate admissions are handled by graduate school. The hybrid form of distance education is used and so there are two face-face sessions within the semester and the block system is used after which students write their end of semester examinations. They also have the Learning Management System.' | Positive, +1 |
| | D | 'Yes, looking at how the adverts are made, there are zonal coordinators at the various zones and they are there to go around and market the programmes to get the students target group.' | Positive, +1 |
| | E | 'We have IDL strategic plan, policy on thesis supervision and oral examinations for thesis and these are not significantly different from what the main university employs.' | Positive, +1 |
| **Resultant View of interviewees on the question of how distance education is organised is +4 meaning that their views were high.** | | | **+4 (80%)** |

| ITEM | INFORMANT | INFORMATION | VALUE (+ve, -ve) |
|---|---|---|---|
| **Type of student support services rendered to KNUST students** | | | |
| 2. Based on your management practices, describe the type of student support services rendered to students and their impact on students learning. | A | 'KNUST students have full access to the internet and the MOODLE used by both facilitators and students when the need arises even though they have challenges. All these are put in place to help the learner improve on his/her performance.' | Positive +1 |
| | B | 'Each student is given a user name and a password to enable him access the LMS (MOODLE). Orientation is organized and provosts are asked to monitor the system to make sure things are done right. Students assess their facilitators online.' | Positive +1 |
| | C | 'Structures are put in place to help management organize seminars and workshops to address concerns that students raise in evaluation. There are end of semester examinations as well for the last block of lessons. | Positive +1 |
| | D | 'Students address their concerns through the co-ordinators as a first point of contact.' | Positive +1 |
| | E | 'The support services rendered are mostly administrative support and academic support.' | Positive +1 |
| **Resultant View of interviewees on research question 2 on the type of student support services rendered to KNUST students is +5 meaning that their views were high            +5 (100%)** | | | |

Table 2.0: Tabular Presentation of Information from KNUST Interviewees cont'd:

Code of Informant: A- Director, B-Registrar, C-Exam Officer, D- Co-Ordinator, E-Accountant

| ITEM | INFORMANT | INFORMATION | VALUE (+ve, -ve) |
|---|---|---|---|
| **Type of instructional delivery methods employed by distance education facilitators in KNUST** | | | |
| 3 Considering your knowledge of distance education, evaluate the type of instructional delivery methods employed by distance learing facilitators in KNUST | A | *'Instruction is delivered by the mixed-mode where there are some face-face sessions and online sessions. Instructional materials are prepared.'* | Positive +1 |
| | B | *'Distance Education students are provided with some video recordings which they can play back. They are also given online activities on the LMS.'* | Positive +1 |
| | C | *'Yes, we use the interactive platform between the learner and the faculty members who facilitate.'* | Positive +1 |
| | D | *'Students do express their satisfaction with the quality of instruction delivered by the distance learning facilitators.'* | Positive +1 |
| | E | *'Yes, the distance education student goes through the same curriculum and the same laboratory work depending on the student's programme'* | Positive +1 |
| **Resultant View of interviewees for research question 3 concerning instructional delivery methods is +5 meaning that their views were HIGH. +5 (100%)** | | | |

Table 3.0: Tabular Presentation of Information from KNUST Interviewees cont'd
Code of Informant: A- Director, B-Registrar, C-Exam Officer, D- Co-Ordinator, E-Accountant

| ITEM | INFORMANT | INFORMATION | VALUE |
|---|---|---|---|
| **Objective 4: The type of Professional Development Programmes that have been useful to distance education facilitators in KNUST** | | | |
| 4 Considering your knowledge of professional development, examine the type of Professional Development Programmes that have been useful to distance education facilitators in KNUST | A | *'Workshops used to be something that was organized every year but it has been suspended. For workshop on online studies, we intend doing it regularly'* | Negative 0 |
| | B | *'Yes, Facilitators workshops are run but now, we do not organise it regularly.'* | Positive +1 |
| | C | *'Workshops are periodic. It is done once a year. For theses supervision, seminars are conducted for both facilitators and students.'* | Positive +1 |
| | D | *'For the facilitators, theses supervision workshops are also organised for facilitators who supervise students' theses before the beginning of the semester. This is periodic.'* | Positive +1 |
| | E | *'The type of professional development programmes that have been useful have been periodic and consistent. Workshops are organized for both old and new facilitators. Experts are invited to teach on learning pedagogy.'* | Positive +1 |
| **Resultant Views of interviewees for research question 4 on the type of professional development programmes that have been useful to facilitators is +4 meaning that their views were HIGH** | | | **+4 (80%)** |
| **How access to tertiary education can be widened** | | | |
| 5 Looking at the number of students accessing education, suggest ways of making distance education accessible to tertiary education students. | A | *'By creating more software and encouraging students to use the learning management system'* | Positive +1 |

| | B | 'By going solely digital' | Positive +1 |
|---|---|---|---|
| | C | 'By reducing the school fees a bit' | Positive +1 |
| | D | 'By encouraging learners to use the internet' | Positive +1 |
| | E | 'By encouraging students to use their mobile phones if they can afford to buy data' | Positive +1 |
| **Resultant Views of Interviewees on research question 5 concerning how access to higher education can be widened is +5 meaning that their views were HIGH** | | | **+5 (100%)** |

As part of the analysis, views were ranked and rated for the overall views of the interviewees and the information given. This is in line with Poon *et al.,* (2004) and Lim *et al.,* (2008) who indicate a value of between 1.0-2.9 to be equal to low level, 3.0-3.9 for moderate level and 4.0- 5.0 to be high level.

*Presentation of Data for KNUST Interviewees*

*Research Question 1: Organization of Distance Learning*

For KNUST, the interview guide was however modified and summarized to reflect the five major research questions. Questions 1-5 were mainly the biodata of the interviewees. With questions relating to how distance education is organized in the university selected. Generally, the interviewees said that they have recruitment and admissions programmes and these support distance education programmes and they have a target population. Staff go on outreach to contact people who are working. The administrative staff are trained to respond to students' challenges and they have planning documents which are explicit on increasing number of admissions. They have a minimum number of applicants who should apply before a programme is mounted. For the undergraduate programmes, the minimum number is 25 and the postgraduates is 15. Programme validation is done. Stakeholders are invited and social media is used to inform facilitators on what is going on. Interviewees touched on the fact that currently, all postgraduate admissions are handled by the Graduate School and so what pertains in the university is what is done for the Institute of Distance Learning (IDL) students. The same facilitators are used, except for courses that are really widespread. There is a policy document on how DE should run and there is a committee instituted to review the policy document which when followed by management, there would not be challenges when it comes to implementation. There is also a strategic plan which is used as a guide and only demand-driven programmes are run. When they go outside the country Ghana where there is a need for partnership, then management enters into a contract with them; and that is how come they have off-shore centres. The hybrid form of distance education is used and so there are two face-face sessions within the semester and the block system is used after which students write their end of semester examinations. They also have the Learning Management System known as the MOODLE and both students and facilitators make good use of it to help them improve on their teaching and learning.

*Research Question 2: Type of Student Support Services Rendered to Students*

For the type of Student Support Services,the analyses revealed that students of KNUST have full access to the internet and the Learning Management System (LMS) which is used by both facilitators and students when the need arises even though they have challenges. All these are put in place to help the learner improve on his/her performance. According to (Eshun and Osei-Poku, 2013), the amount of support services that any institution can render to its students mostly depend on that particular institution's capacity and resources at its disposal. Each student is given a user name and a password to enable him accessthe LMS. Orientation is organized and provosts are asked to monitor the system to make sure things are done right. Students assess their facilitators online. Again, structures are put in place to help management organize seminars and workshops to address concerns that students raise in evaluation. There are end of semester examinations as well for the last block of lessons. Students address their concerns through the co-ordinators as a first point of contact. Structures are put in place and some students are called by IDL to find out whether they are still on the programme. To this end, Dodd and Rosenbaum (1986) posit that student support services should be offered before the student enrols, continue throughout the course, and include help in finding ways to follow up and apply what has actually been learnt. The support services rendered are mostly administrative support and academic support. These support services are rendered in order to assist learners to make good use of their time and learn effectively as stated by (Dodd & Rosenbaum, 1986).

The technology management planning becomes a challenge when management moves from the main centres on campus to the other centres so more computers should be assembled in the other centres outside the main centres on campus. Students are provided with extra help by facilitators when the need

arises. Students are also given the opportunity to register for and write the supplementary examinations to enable them pass and complete their programme successfully.

*Research Question 3: Type of Instructional Delivery Method employed by facilitators*

For objective 3, the type of instructional delivery methods employed by facilitators is such that at the end of the day, there is no difference between the regular students and the distance education students. The distance education student goes through the same curriculum and the same laboratory work depending on the student's programme. Instruction is delivered by the mixed-mode where there are some face-face sessions and online sessions. Instructional materials are prepared and facilitators consider the learning theories such as the behaviourism, constructivism, social learning and cognitivism theories since they all have a part to play in assisting to shape and define the outcome of instructional materials. The behaviourists, for instance, believe that more often than not, external factors contribute to shape the learning of an individual rather than the characteristics of the individual learner himself (Crawford, 2009). Distance Education students are provided with some video recordings which they can play back. They are also given online activities on the LMS. For instance, where the population using the technology has a limited mastery of technology and show some anxiety with the instructional tool, the delivery of the content can be adjusted to support inexperienced users (Passerini and Granger, 2000) Students also discuss their assignments on the LMS and this informs the lead facilitator to assist when the need arises. Again, both permanent and casual staff as well as Technicians of the University Information Technology Services (UITS) has been employed and they stay in late to address concerns of both facilitators and students. Students do express their satisfaction with the quality of instruction delivered by the distance learning facilitators. It is worth noting that generally, the advantage of distance learning is that anyone who qualifies can pursue one's choice of education during any time of his life (Abraha and Mukhtar, 2015).

*Research Question 4: Professional Development Programmes that have been Useful to Distance Education Facilitators*

For research question 4, the interviewees commented that the type of professional development programmes that have been useful have been periodic and consistent. Workshops are organised for both old and new facilitators. Experts are invited to teach on learning pedagogy. Facilitators are also given training as to how to use the LMS and they are motivated to do so. These supervision workshops are also organised for lecturers who supervise students' theses before the beginning of the semester. Professional Development also incorporates tested good practices because experts in such areas are invited to handle the workshop and impart knowledge. This, in effect assist them to be empowered. It would also help them to raise the name of their institution as well as the development of

their institution and their students (Kirschner*et al.,*, 2011) Management has the intention of organizing online training regularly for facilitators so that all facilitators will be well versed in the use of the LMS. This pre-supposes that continuing career-long professional development is relevant for all teachers and lecturers/facilitators alike in order to be abreast with change as well as to renew and review their own knowledge, skills and visions for good teaching (Day, 1999)

*Research Question 5, the interviewees discussed their views concerning accessibility as follows:*

- *'By creating more software and encouraging students to use the learning management system'*
- *'By going solely digital'*
- *'By encouraging students to use their mobile phones if they can afford to buy data'*
- *'By encouraging learners to use the internet'*
- *'By reducing the school fees a bit'*

*Analysis and Discussion of Interviews (KNUST)*

For Research question 1, the interviewees admitted that they have recruitment and admission procedures. These help management to have a focus and work within their target. It is good for the administrative staff to be well trained in order to assist them handle prospective students' challenges.

For research question 2, regarding the type of support services rendered to students, the interviewees commented that these are mainly administrative and academic. The ability of the institution to give each student a user-name and a password is laudable because it is a starting point for every student to try and use the learning management system. To this end, Dodd and Rossenbaum (1986) posit that the support services are rendered in order to assist students to make good use of their time and learn effectively.

For research question three, the interviewees said that instruction is delivered in the dual mode. This is characteristic of most distance education run in developing countries. The video recordings are helpful as students can listen to them for greater understanding of their content in their courses.

For research question 4, it would be better if workshops are regularly organised for facilitators. This would help them to be abreast with the frequent technological changes occurring in the society and would make them more efficient.

For research question 5, it will be in the interest of management to create more software, and reduce the tuition fees a bit. This would encourage more students to enrol on programmes. Again, students using their mobile phones would help them research and gain more knowledge in their area of content.

The Nvivo results gave a pictorial picture of the responses of the interviewees indicating the 100 most frequently used words of the interviewees.

Figure 4.1: Word Cloud: 100 most frequently used words during the time of the interview

## IV. CONCLUSION

To conclude, Hope and Guiton (2005) confirm that distance education is especially important with the introduction of the United Nations Sustainable Development Goals in 2015 with the fourth goal seeking to extend access and equity to higher education by 2030. It is worth noting that sooner or later, information will become the main raw material in the future, and technology will definitely be the most important tool for dissemination of information.

## V. RECOMMENDATIONS

Government should come out with a policy which would allow Higher Education Institutions running DE to operate Open Distance Education where students who are qualified can come on board at any time and graduate any time. It will be in the right direction for the Government to institute scholarship schemes for brilliant but needy students who enrol on distance education programmes to help minimize the stress some of them go through after payment of their first-year tuition fees.

Management of Distance Education Institutions should consider integrating distance education into the culture of the institution in order that institutional rules and regulations, budgetary, and student support services, as well as administrative decision-making processes are aligned with the needs of distance education students.

Libraries outside the main centres could be well stocked with relevant resources in terms of inter-connectivity as well as reading materials and experienced staff, who would be able to grant distance education students the needed assistance for any research work they may want to carry out.

Professional development programmes should be regular and more consistent to enable facilitators of distance education programmes to be abreast with the use of the universities learning management systems and also have an upper hand to handle students' challenges when the need arises.

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