

**THE COST OF TRAINING FOR THE NIGERIA CERTIFICATE IN
EDUCATION (NCE) THROUGH DISTANCE EDUCATION
PROGRAMME IN NIGERIA**

James O. Ezema, Ph.D

*Department of Educational Foundations,
Enugu State University of Science and Technology,
Agbani, Enugu*

Abstract

The study investigated the cost of training for the Nigeria Certificate in Education (NCE) through distance education programme in Nigeria. A descriptive survey research design employing stratified random sampling was used to sample 588 NTI-NCE distance learners from Ebonyi and Enugu States. One research question and one hypothesis guided the study. Questionnaire was used for data collection. The questionnaire was face validated by experts in the field of education. Reliability co-efficient of 0.76 was obtained using Cronbach alpha method of determining internal consistence of instrument. The research question was answered using mean and standard deviation while the hypothesis was analyzed using t-test statistic. The research revealed that the NTI-NCE programme was capital intensive, but relatively cheaper than regular academic programme, due to economies of scale. Recommendations were made among others that the establishment of more open and distance learning (ODL) institutions by government – private partnership arrangements to provide more access to education by working adults should be encouraged.

Keywords: Perception cost of training and distance education.

State and school budget deficits, and revenue strategies are often given for delays in distance education implementation. Budget problems are hindering distance-learning programmes, including, their development time, size of their budgets, and the scope of the projects. Many

states, however, are using budget deficits as a justification for developing educational telecommunications projects (Hezel Associates, 2010). The rationale is that share telecommunications systems can deliver scarce, yet needed, instructional programmes less expensively than a live, in-person,

traveling together, if such a teacher is even available to teach the courses (Nevada State Department of Human Resources, 2012).

Various interactive technology systems for delivering distance education are seldom compared on a cost benefit basis. The primacy of live video, as a delivery system has resulted in large expenditures on technology with little critical analysis of the benefits of the system in comparison with other potential systems, such as videotape distribution, audio-conferencing, and computer-based instruction and messaging.

Cost effectiveness studies are found on at least two assumptions: (1) the value of the system can be expressed in monetary terms; and (2) that the evaluation of effectiveness validly measures educational outcomes. The analysis requires that all categories of costs be fully assessed, including capital costs, operating cost, and human cost, which may be translated into monetary costs. The comparison of cost and benefits assumes that outcomes can be measured in some quantifiable way, either as number of students enrolled, amount of time driving, course performance on a test, or productivity gains.

As states are adopting more stringent academic requirements at the K-12 level, especially in America, and as schools recognize the need to prepare qualified students for the workplace, like in Nigeria, the discussion about distance education may move away from strict

cost comparisons to a consideration of the educational value of the programme or course (Spargell, 2007). In some remote area of USA, telecommunications is the only means of delivering some scarcely available courses to students.

There is a growing concern about cost effectiveness of distance learning systems (DLS). Yet, simultaneously, there is a growing awareness, especially among telecommunications specialists, that cost is not the only criterion for evaluating the effectiveness of telecommunications – educational value is the important criterion. Nevertheless, ignoring a proper cost effectiveness evaluation can be expensive.

Several approaches to cost effectiveness – evaluation have been used in education. Levin (2011) has described educational applications of cost effectiveness, cost feasibility, cost utility and cost benefit analysis. The analysis can also be applied at various stages of planning, assessment, and evaluation of distance education. Cost feasibility studies are typically executed at the early stages of project planning, while cost utility, cost benefit, and cost effectiveness analysis are completed as elements of the project evaluation.

Despite the stakes involved, educational institutions seldom employ rigorous cost effectiveness analysis in their evaluations of telecommunicated distance education programmes and projects. In fact, only recently have cost effectiveness studies and their

importance – become evident in the literature because of the high capital and operating costs involved and because of the considerable political and funding stakes.

Hulsman (2010) defined cost effectiveness as the capacity of a system to attain the goals determined by the system. Cost effectiveness maximizes the rationale of outcome/cost of inputs. In simple terms, efficiency means reducing the cost of input for a given outcome. Outcome is viewed in educational contexts, since in most cases in the education system, the objectives are both numerous and impossible to measure with the same yardstick. Creed (2012) stated that one of the most important questions on effectiveness analyses is how do the cost of conventional and distance education compare? Bartley and Golek (2011) are also of the opinion that the question that is most delaying is how to determine the cost effectiveness of education programmes offered via the distance when compared with the traditional medium.

Rumble (2013) argued that the factors affecting the cost of face-to-face education include whether small tutorials, seminars, lectures, independent and resource-based learning strategies are adopted, but it is important to note that the technology adopted also plays a crucial role in the determination of aggregate costs of education system. In most conventional institutions in Nigeria where face – to face instructional

method is in use, the application of technology is extremely limited.

The technology used for delivering of instruction such as radio, television, audio cassettes and videotape is not among the instructional materials popularly used in higher institution in Nigeria. In developing countries, the high cost associated with computer mediated communication (CMC) has greatly prevented the use of computers in teaching and learning, especially in the conventional education setting. In most of the approaches adopted in the dissemination of instruction in the conventional system, there is little or no application of instructional media, whatsoever and where they are used, all the learners usually make use of them corporately. Thus, it is not a learner-centred instructional method.

Rumble (2013) also mentioned that a system would be more cost efficient than another if the unit cost of its output is lower than the unit cost of the system with which it is being compared. When one considers the fact that each of the technologies adopted in the instructional processes of open and distance learning education has its own associated cost implications, it is easy to see why studies have shown (Hulsman, 2010, Rumble, 2013, UNESCO, 2014) that the costs per average student of distance education is more expensive than that of the traditional setting. UNESCO (2014) found that open and distance education is not necessarily the most cost efficient approach, but the greatest benefit is that it opens access to

certain target audiences. Moreover, an examination of the cost implications of the programmes at the National Open University of Nigeria (NOUN) reveals that there may be some form of institutional subsidy for the programmes given the federal government stand. This is also corroborated by the experience of a sister institution like the National teachers' Institute (NTI) in Nigeria.

This is so, considering the fact that distance education programmes have been found to be costly at the initial stage and gradually become cheaper due to economies of scale (Hulsman, 2010). Many stakeholders in the education sector are interested in the open and distance learning scheme because it allows greater access to educational opportunities.

UNESCO (2014) stated that open and distance learning is not necessarily the most cost-efficient approach-but then there is no reason why it should necessarily be. Distance education methods may be the only way to reach some target audience, in such case lowering the cost of education will not necessarily be an objective of distance education. This will allow for enhancement of opportunities that support Education for All (EFA) and life long learning and so also provide avenues for the acquisition of flexible and qualitative education for all categories of learners to justify the crave for learners achievement.

Education is today becoming increasingly expensive because of the increasing number of people to be

catered for, in many developing countries; education is provided and funded by governments. This is made even more expensive because of the practice of providing accommodation, food, transport and other allowances to college and university students (Saint, 2012). Most governments, whose budgets are already under pressure, can no longer support this and many are looking for more cost effective measures.

To establish a distance education and open learning programmes, there is no need according to Perraton (2006) for the kind of physical structures needed to establish a conventional institution. There is no need for halls of residence, for many classrooms or lecture halls, and there is no need to pay students travel and subsistence allowance. This could cut down the cost of distance education and open learning although it must be remembered that distance education and open learning require structures that conventional institutions may not. For example, distance education and open learning require high initial investments in terms of technology and student support and in physical and management structures.

Not many cost analysis studies have been done (Orivel, 2014) but Perraton (2006) presents some examples with indicative comparative costs. According to those studies, distance education was cheaper than conventional education in the case of junior secondary education in Malawi

The Cost of Training for the Nigeria Certificate in Education (NCE) through Distance Education Programme in Nigeria - James O. Ezema, Ph.D

and Zambia, India National Open School, and Mexico Telesecundaria. Perraton (2006), however, adds that in case where numbers were very low, distance education and open learning was more costly.

It is clear that distance education and open learning are likely to be costly initially because of high initial investments in developing study materials and establishing student support structures as well as in the technologies themselves. This is one of the issues that have been ignored by a number of policy makers to the detriment of distance education and open learning. It is also one of the problems faced in many countries in Africa. The cost of the programme is also likely to be dependent on the technology used. Technology that encourages high two-way interaction (synchronous) is likely to be costlier than programmes with only one-way interaction (asynchronous). In addition, for instance, distance education and open learning to be cost effective there should be high student enrolments. Unless local computer centres are available country wide, this may be difficult to achieve.

Implementation of distance education is resources-intensive. Sufficient money and time must be allocated to deliver whatever courseware was promised. Schlosser and Anderson (2012) note that because funds come from the district, not from individual schools, distance education enterprises need to show a high degree of fiscal

accountability. Legislatures, as well as government and non-government funding agencies, expect, to get the most for their funds.

It has been noted that if money is short, then there are two options: either downsize the project or extend the timeframe. Holloway and Ohler (2011) note that many proposals are written without regard to the time it will take to resolve development and delivery problems. People also require resource and time to build an effective team, to start and maintain the instructional development project, to develop a plan for formative evaluation, and to obtain a commitment on compensation issues. Once developed, the programme schedule may not fit in with the school schedule. Programmes may be too long, too short, or broadcast at the wrong time, resulting in loss of real time, interactivity. One may always videotape the programmes and show it later. However, it is important to realize that interactivity costs a lot more than videotape.

The cost/benefit of technology can vary significantly with the specific characteristics of schools and students. A successful programme in one location may be less successful elsewhere. Pournelle (2012) notes that, while technology often improves educational quality, it is necessarily cost-efficient. Citing a report by Danish researcher: Hans Siggard Jensoen of the Copenhagen Business School, Pournelle comments that teacher productivity can be raised only if the instructors behave

The Cost of Training for the Nigeria Certificate in Education (NCE) through Distance Education Programme in Nigeria - James O. Ezema, Ph.D

as if they are in a virtual classroom (i.e. facilitating knowledge building among all distant sites simultaneously), rather than deal with point-to-point or one-on-one communication situations. He notes that, though video conferencing is effective, many classrooms lack access to dedicated telephone lines and modems, much less several thousand dollars worth of software and proprietary hardware.

In the formative evaluation of Vancouver's New Directions in Distance Learning Pilot Project, Porter (2011) shifts the focus from the relative difference in the dollar cost per student to the increase in completion (success rate) of distance education programmes by students.

As completion and success rates improve; as students continue with their education, gain access to courses previously unavailable to them, and as they increase their chances of going on to post-secondary education to work place training, the benefits to the system and to society as a whole can begin to be factored into the policy options and decision equations.

Many issues patterning to cost/benefits of distance education have been reviewed to support this present study. The review revealed that there are not many works on evaluation of distance education programmes as to show case clearly the accessibility, affordability and impact of the numerous resources available including the new information communications technology (ICTs) like the computer, WWW, E-

mail etc which are used as resources in the business of teaching-learning process in distance learning education.

Purpose of the Study

The purpose of this study was to determine the cost of training for the Nigeria certificate in Education (NCE) through distance education in Nigeria. Specifically, the study sought to: investigate the perceptions of students in Ebonyi and Enugu states on the cost of training for Nigeria Certificate in Education (NCE) through distance education programme.

Research Question

The following research question guided the study.

1. What are the mean perceptions of NTI-NCE learners in Ebonyi and Enugu States on the cost of training for the Nigeria Certificate in Education (NCE) through distance education programme?

Hypothesis

The following hypothesis, tested at .5 level of significance guided this study.

Ho₁ There is no significance difference between the mean scores of NTI-NCE students in Ebonyi and Enugu states on perception of cost of training for the Nigeria Certificate in Education (NCE) through distance education programme.

Research Method

The design of the study was survey. This was because the study was concentrated on discussing the events as they were

without any interference on what was observed. The population for the study was 5877 students currently enrolled at the centres in the two states.

The instrument for data collection was a 6 itemed four point scale response option questionnaire, with a response format of strongly agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) and numerical values of 4, 3, 2, 1 respectively. The instrument was validated by two experts in the field of education, one from measurement and evaluation and the other from distance education. Based on their comments, some items were reconstructed. The reliability of the instrument was determined using Cronbach alpha formula and internal consistency reliability co-efficient of 0.76 was obtained. The questionnaire was administered on the respondents at their study centres, with the help of trained research assistants.

The research question was answered using mean and standard deviation, while the hypothesis was tested using t-test statistic at 0.5 level of significance. The decision rule for answering the research question was arrived at by finding the average of four point scale $4+3+2+1 = 10/4 = 2.50$. Therefore, the item with 2.50 and above was accepted which will show that the learners generally agreed with all the statements relating to the cost of training for the Nigeria Certificate in Education (NCE) through distance education programme in Nigeria.

Result

The results of data analysis were presented in tables according to the research question and hypothesis.

Research Question

What are the mean perceptions of NTI-NCE learners in Ebonyi and Enugu States on the cost of training for Nigeria Certificate in Education (NCE) through distance education programme?

Table 1: Perception of NTI-NCE Distance Learners on the Cost of Training for the Nigeria Certificate in Education (NCE) through Distance Education Programme in Nigeria.

N = 588

S/	Items	X̄	SD	Decision
1.	Various interactive technology systems for distance education are seldom compared on a cost benefit analysis basis.	2.8	1.0	Agree
2.	Cost effectiveness maximizes the notion of outcome/cost inputs	2.8	1.0	Agree
3.	The cost of distance education programmes becomes cheaper due to economics of scale.	2.8	1.0	Agree
4.	Implementation of distance education is capital intensive at the beginning	2.9	1.0	Agree
5.	Sufficient money and time must be allocated to deliver whatever course ware that was promised.	2.8	1.1	Agree
6.	The cost/benefit of technology can vary significantly with the specific characteristics of schools and students	2.8	0.9	Agree
	Grand mean	2.8	0.8	Agree

The table shows that a grand mean of 2.86 was obtained. This is an indication that the learners generally perceived the cost of training for the Nigeria Certificate in Education (NCE) through distance education programme

in Nigeria as cost intensive, but relatively cheaper than regular academic programme, due to economics of scale.

Hypothesis

There is no significance difference between the mean scores of NTI-NCE students in Ebonyi and Enugu States on perception of cost of training for the Nigeria Certificate in Education (NCE) through distance education programme.

Table 2: t-test of Difference Between the Mean Scores of NTI-NCE Students in Ebonyi and Enugu States regarding the cost of Training for Nigeria Certificate in Education (NCE) through Distance Education Programme.

State	n	\bar{X}	SD	D	t-cal	t-	Decisi
Enugu	35	2.91	0.90	586	1.36	1.96	Do
Ebonyi	23	2.81	0.86				

The table shows that the calculated “t”-value is 1.36 and the critical value of “t” is 1.96. Since the calculated value of “t” is less than the critical value of “t”, the null hypothesis was not rejected. This means that there is no significant difference between the mean perception responses of NTI-NCE students in Ebonyi State and those of their counterparts as in Enugu State with

regards to the training for the Nigeria Certificate in Education (NCE) through distance education programme in Nigeria.

Discussion of Findings

The findings from the research question revealed that the respondents generally perceived the training for the Nigeria Certificate in Education (NCE) through distance education programme in Nigeria to be capital intensive, but relatively cheaper. For instance the respondents agreed that the programme is capital intensive, but relatively cheaper than regular academic programme, due to economics of scale. This is in agreement with UNESCO (2012) who found that open and distance education is not necessarily the most cost efficient approach, but the greatest benefit is that it opens up access to certain target audiences.

This agrees with the philosophy that the adult student generally enters the learning environment, whether traditional or distant, with a high degree of motivation (Smith, 2011). Sparachs’ (2013) learner-focused theory of andragogy suggests that much of ‘adults’ intentional learning activity is motivated by the desire to move from their current level of proficiency to a new, higher level which encourages students to pay for the cost of their education provided through open distance learning system (ODL).

The result from the null hypothesis tested at .05 level of significance showed that significant

difference does not exist between perception responses of NTI-NCE students in Ebonyi and Enugu States with regards to the cost of the programme. This finding may be as a result of some factors usually affecting the establishment of distance education and open learning programmes, such as physical structures, halls of residence, many classrooms or lecture halls and payment of students' travel allowance in conventional institutions. This could cut down the cost of distance education and open learning although it must be remembered that distance education and open learning require structures that conventional institutions may not.

This implies that cost effective analyses in distance learning are based on two assumptions: (1) that the value of the system can be expressed in monetary terms; and (2) that the evaluation of effectiveness validly measures educational outcomes because capital costs, operating costs, and human costs are usefully assessed before embarking on distance learning programme.

Secondly, the comparison of cost and benefits assumes that outcomes can be measured in some quantifiable way, either as number of students enrolled, amount of time driving, course performance on a test, or productivity gain.

However, cost feasibility studies permit judgments about the potential value of projects prior to their complete development and implementation because decision about whether to contrite distance education programmes,

technology systems are aided during implementation by cost effectiveness and cost/benefit analysis. Ultimately, the aim of cost/benefit analysis is to answer the important question. "Is the cost worth the outcome?" And are our constituents deriving value from their investment?

Technical system for distance education in particular often require evaluation of cost effectiveness because of the high capital and operating costs involved and because of the considerable political and funding stakes. It has also been found that the high cost associated with distance education technologies like computers in developing countries have greatly affected the use of modern technologies in distance education programmes.

Conclusions

The findings show that the NTI-NCE students in Ebonyi State and those of their counterparts in Enugu State indicated that the NTI programme is capital intensive, but relatively cheaper than the regular academic programmes. As a result of this, the study concluded that cost effectiveness studies are founded on at least two assumptions:

- i. That the value of the system can be expressed in monetary terms; and
- ii. That the evaluation of effectiveness validly measures educational outcome.

Recommendations

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

1. Distance education programmes should not be capital intensive
2. Distance education programmes should be made to be cost friendly
3. Distance education programmes should maximize the law of economics of scale.

References

- Bartley, S. J., & Golek, J. H. (2011). *Evaluating the cost effectiveness of online and face-to-face instruction. Educational Technology and Society*, 7 (4), 167 – 175.
- Creed, M. (2012). *Cost of teaching at a distance*. London: Keegan Paul.
- Hezel Association. (2010). *Planning for educational telecommunication: A state-by-state analysis*. Syracuse, Ny: Author.
- Holloway, R. & Ohler, M. R. (2011). *Use of new technology alternative*. London: Longman.
- Hulsman, T. (2010). *Costing open and distance learning*. Canada: Col.
- Levin, H. M. (2011). *Cost effectiveness: A premier*. California: Sage.
- Nevada State department of human resource. (2012). *Project Network Final Report*. Syracuse, NY: ERIC.
- Orivel, K. M. (2014). *New waves in computer education*. New York: Praeger.
- Peroaton, H. (2006). *Planning and evaluating systems of open and distance Learning*. Cambridge: Routledge.
- Porter, D. (2011). *Distance Education*. London: Keegan Paul.
- Pournelle, M. F. (2012). *From bulletin boards to electronic universities: Distance education, computer-mediated communication, and online education*. University Park: The America centre for study of Distance Education.
- Rumble, C. (2013). *Designing distance learning programmes*. London: Croom Helm.
- Saint, J. S. (2012). *The social life of information*. Cambridge, MA: Harvard Business School.
- Schlosser, C. A. & Anderson, M. L. (2012). *Distance education: A review of the literatures*. Ames: Iowa State University Press.
- Smith, J. (2011). *Definitions, Perspectives and theories on the evolution of distance learning*. London: Longman.

Sparach, B. (2013). High costs of teaching. *Journal of distance education studies*, 2 (1), 38 – 38.

Spargell, B. (2007). Quality access in distance education: Theoretical considerations. In D. Keegan (ed). *Theoretical principles of distance education*. London: Routledge.

UNESCO. (2012). *Open and distance learning: trends Policy and strategy consideration*. Paris: Authors.

UNESCO. (2014). *World Education report: teachers and teaching in a changing World*. Paris: Authors.