Students' Assessment of Course Delivery Systems of National Teachers' Institute (NTI), Kaduna, Study Centres in South/South Geo-political Zone, Nigeria

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THEME: TOWARDS SUSTAINABLE OPEN AND DISTANCE LEARNING IN THE DEVELOPMENTAL STATE: POLICY, ETHICS, AND PRACTICE.

SUB-THEME: CREATING SUPPORTIVE LEARNING ENVIRONMENTS

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Abstract

One of the numerous problems that manifested when the Universal Primary Education (UPE) was introduced in Nigeria in 1976 was the acute shortage of teachers to handle the escalated number of pupils that enrolled into the programme. This situation is not peculiar to Nigeria, but is very evident in the introduction of compulsory education in most developing countries. Decree No 7 established the NTI on 10th April 1978 to upgrade the quality of teachers in the nation's educational sector, and to contribute in various ways to the general educational development of the country through distance education. The study was designed to assess the course delivery systems adopted by the institution using the opinions of the students. A stratified simple random sampling technique was used to select a sample size of 546 representing 20% of current final year student's population of 2,734 of the institution from the study centres in the six States of the South/South geo-political zone of the country. A self-constructed questionnaire divided into eight sections, validated, tested, and with reliability co-efficient of .92 was used for the study. Additionally, the researchers observed class sessions during weekend face-to-face contact hours of the programme. Eight research questions guided the thrust of the study. The analysis was done using descriptive statistics. It was found that the print and its different formats such as assignment brochures, textbooks, workbooks, and course books were the main course delivery systems used in the study centres. It was also found that although 92% owned televisions, all had radios, 61 %t were not computer literate. 73.5% of the respondents are workers and 54.2% are living in the rural areas. The challenge of inconsistent power supply may not encourage the students to patronize the use of certain electronic media such as instructional computer delivery, satellite transmission, and internet facilities used in course delivery systems in distance education in the developed societies. The study however suggests that there is need for the institute in consultation with television and radio stations to devise ways of using their facilities in delivering their lessons. This will enable both the institute and students to be at some level playing ground with current innovations in distance education practices and keeping the programme delivery systems relevant in this era of globalization.

Key words: *National Teachers' Institute, Course Delivery Systems, South/South Geo-political Zone, Nigeria*

Introduction

Decree No7 established the National Teachers' Institute (NTI) on 10 April 1978 to upgrade the quality of teachers in the nation's educational sector, and to contribute in various ways to the general educational development of the country using distance education techniques. So far, the institution has lived up to expectation as it has effectively carried out its programmes to achieve the objectives for which it was established. This is as evident in the programmes it has established and their number of beneficiaries. The programmes and dates of commencement are:

- The Teachers' Grade Two Certificate (TC II by DLS) 1982-2006, focused on teachers that had lower than the TCII.
- The Nigeria Certificate in Education (N.C.E by DLS), 1990 to date, ensures that graduates of the TCII upgrade themselves to NCE which is the minimum teaching qualification in Nigeria.
- The Pivotal Teacher Training Programme (PTTP by DLS), 2000 to 2003, also trained teachers that had below the TCII.
- Postgraduate Diploma in Education (PGDE) (affiliated to Usmanu Dan Fodiyo University Sokoto) 2005 to date, is 18-month training in pedagogy for graduate teachers without teaching qualification.
- Advanced Diploma in Education (ADE) (in School Supervision and Inspection, Early Childhood Education and Guidance & Counselling), 2005 to date, is an 18 month training programme that provides in-depth knowledge and skills in specialized fields in education, and
- Special Teacher Upgrading Programme (STUP), 2007 to date, is an intensive 2-year programme aimed at fast tracking the attainment of the national goal of making NCE the minimum qualification.

There are currently 68,863 NCE, 7450 PGDE, 362 ADE, and 54,048 (1st set 26,748 and 2nd set 72, 3000) STUP students on the programme. Since inception, the Institution has graduated 4999,955 TC II, 153,783 NCE, 39,546 PTTP, 9,948 PGDE, and 236 ADE teachers (http://www.icde.org/fiestore/News/2010/NationalTeachersInsitute.pdf)

The above underscore the fact that, the institute has tremendously assisted many serving teachers by offering them the opportunities to upgrade and improve their knowledge and skill without withdrawing from schools for the purpose of retraining or upgrading as in the case with full time study. Distance Learning System (DLS) programmes is not only cost effective but have been an enabler, opening access to many who for one reason or the other are unable to study full time.

The institution operates through established bodies. They are

- The School of General Studies
- The School of Educational Innovation
- The School of Advanced Studies
- The Facilities Department
- The Field Centres

The duties of bodies are as provided in Supplement to Official Gazette (1978) Part A.

The combination of intellectual efforts with physical abilities in the planning, implementation, course materials presentation, facilitation period/contact hour, course delivery systems, hierarchy of authority, method of assessment and learners support services as provided by the institution have gone a long way to established the relevance of NTI in the education sector of Nigeria economy. This situation confirms the fact that without shared responsibility among instructors, institutions and students, distance education systems will function poorly and breakdown (Major & Levenburg, 1999).

The Concept of Distance Education

Teachers are indispensable resources in the education industry. The fact that no education system can rise above the quality of its teachers (FRN, 2004) must have been one of the propelling forces to the establishment of NTI and is evident in the objectives guiding the establishment. Citing Perraton and Potashnik (1997), Perraton, Robinson and Creed (2002), and Yates (2000),Yusuf and Falade (2005) note that distance education offers veritable vehicle for improving the quality of pre-service training given to trainee teachers and it also has the potentials of ensuring life-long learning for practicing teachers.

Rumble (in Hubbard, 1995, p 1) defines distance education as

> *a process in which there must be a teacher, one or more students; a course or curriculum that the teacher is capable of teaching and the student is trying*

> *to learn; and a contact, implicit or explicit, between the student and the teacher or the institution employing the teacher, which acknowledges their respective teaching-learning roles.*

Distance education is also described as the provision of education by mode other than the conventional face-to-face method but whose goals are similar to, and just as noble and practical as those of on-campus full time, face-to-face education. It may be full-time or part-time graduates and undergraduates and certifications, and continuing education. It accommodates diverse learning styles; provides access to remote and normally inaccessible under-represented groups such as women, as well as persons in rural remote locations (Federal Ministry of Education, 2000)

The Federal Republic of Nigeria, National Policy on Education (2004, p 45) states that the objectives of distance education are:

> *(a) provide access to quality education and equity in educational opportunities for those who otherwise would have been denied;*
> *(b) meet special need of employers by mounting special certificates course for their employees at their work place;*
> *(c) encourage internationalization especially of tertiary education curricula;*
> *(d) ameliorate the effect of internal and external brain drain in tertiary institutions by utilizing Nigerian experts as trenchers regardless of their locations of places of work*

Distance education relies on methods of instruction that utilise different communications technologies in its course delivery to participants in different places. It enables the participants and the resource persons/facilitators/teachers to interact with one another by means of computers, artificial satellites, telephones, radio or television broadcasting, or other advanced technologies. These technologies are effectively incorporated to help in delivering education to students who are not physically on site to receive their lecture. The practice adopted by NTI is a hybrid or blended course because students require a physical on-site presence or use of the above-mentioned facilities including taking of examinations. The four fold objectives of NTI as enunciated by Balogun (1988) in Yusuf and Falade (2005, p 25) are:

> - *to identify and clarify professional requirement of teachers and teaching,*
> - *to design and mount programmes which achieve the objectives of teacher education*
> - *to operate and maintain a nationwide programme which must work harmoniously with exiting and similar programmes and*

- *to incorporate strategy for change and innovations within it conceptual and operational framework.*
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The rationale for selecting this distance-learning approach by NTI programme providers in order to achieve these objectives may not be far from the following:

- Overcoming problems posed by education in remote areas;
- Delivery of education to a large body of students without the constraints of space and time;
- Catering for widely scattered student bodies;
- Flexibility as an educational method;
- Training teachers without taking them off their jobs;
- Once operation network is set up, could be modified easily and adapted to new condition; and
- Cost effectiveness.

Distance education is also thought of as the delivery of useful learning opportunities at convenient place and time for learners irrespective of the institution providing the learning opportunities (Kaufan, Watkins & Guerra in Yusuf, 2006). From these definitions, distance education can therefore be described as the overall processes of learning/instructions between the instructor and students distantly located, which would not be possible without the electronic or print media.

United Nations Education Scientific and Cultural Organization (UNESCO) (2002), also notes that distance education has been used to address problem of teachers' supply as manifested in shortage of teachers, minority female teachers in primary schools, too many untrained and under trained teachers.

Some Delivery Systems in Distance Education

Some identified delivery systems in distance education include but not limited to face-to-face contact, print, audio radio broadcast, audio tape (both cassette & CD), television (providing both audio and visual facilities). They also include telephone (both landline & global satellite mobile(GSM) services), instructional computer network, bulletin board services, facsimile (fax), satellite transmission (video and audio conferencing) audio CD and video CD-ROM, and internet facilities (electronic mail, website).

During the face-to-face contact, lectures are delivered, practical works are supervised, and group discussions take place. During this period, also media such as films, slides, and realia are used. The print is the traditional method of distance education. The different formats of print materials include; textbooks, workbooks, student's manuals, assignments, projects, course books, course syllabus, pamphlets, posters, course brochures, case studies, photographic materials, graphic materials, and so on.

Television offers one way whereas cable TV (CATV) offers two-way communication for institutions that want to send local programming to cable station. The information is then distributed to the community by way of special access channels on the normal cable system (Schamber, 1988). Describing computer delivery, Schamber notes that it includes computer teleconferencing, bulletin board services electronic mail network, teletext and videotext. Computer teleconferencing is the exchange of information between computers no matter their location. Participants at any number of sites can engage in live interaction by entering messages at the key and reading messages as they appear on the screen. The computers can also hold messages until the user checks. Information can be text, graphic, or data but not audio. Bulletin board services provide a means for users to post messages and to download other messages to their computers. Locally, the bulletin board is used to provide students with vital information whenever they perhaps visit either the study centres or zonal office.

Facsimile is a low-cost means of sending paper copies of documents using telephones line. A page is scanned by a fax machine at one end and transmitted printed at the other end. It is like photocopying from a distance. Fax can be used to distribute assignments, last minute announcements, to receive student assignments and to provide timely feedback. Information in form of course lectures can be stored audio and video CD-Rom and retrieved by students whenever the need arises. The radio transmission is also used to send information to wide participants at different locations at the same time through local radio stations. There are different telecommunication service providers such as Star Communication, Reliance Telephone (Retel), Mobile Telephone Network (MTN), Multi Link, Global Communication (GLO), and Visa Phone, which provide internet facilities that enable the use of electronic mail, the World-Wide Web Nnabuo & Asodike, 2009). Just like the telephone/mobile phone, the electronic mail can be used to send messages, assignment, feedback, and other targeted communication to one or more class members. It can also be used to increase interaction among students. Pre-recorded

videotapes can be used to present class lectures and visually oriented content http://media.olivet.edu/distance/methods.html)

The problem

Just as the language of instruction has positive influence on teaching and learning in formal classroom setting so also, the media of course delivery have on distance education. The advantages of the use of electronic media in successful delivery of distance education programmes have been expressed in numerous studies carried out in the developed and the developing societies. These studies among others include; Telg (2009), Johnson and Argon (2002), Mekinnon, Opfer and McFadded (1998), Phipps and Merisotis (1991), Yusuf (2006), Ojo and Olakulehin (2006), Osuji (2005), Yusuf and Falade (2005). Undoubtedly, this clamour is no longer an issue. However, the NTI has since its inception in 1978 contributed to the professional development of teacher in Nigeria through distance education programme. The study therefore, is an attempt to ascertain the level and types of instructional/learning media available to teachers and students in NTI study centres.

The Objective

The objective of the study is to investigate student's assessment of course delivery systems used in NTI study centre in South/South geo-political zone, Nigeria. In attempt to achieve this, the profile of the students, the level of their awareness of the different course delivery systems used in distance education, the availability, adequacy, degree of utilization, and the characteristic features of the course delivery systems used in the study centres will be ascertained. Furthermore, the study will seek students' opinion of the adequacy of face-to-face tutorial contact hours, and the envisaged challenges in the use of electronic media in course delivery in distance education in Nigeria.

Research Questions

Specifically the following research questions guided the thrust of this study:

1. What is the <u>profile of the students</u> of NTI study centres in South/South geo-political zone, Nigeria?
2. What is the level of <u>student's awareness</u> of the different types of course delivery systems used in distance education?
3. What is the degree of the <u>availability</u> of these course delivery systems in the study centres?

4. What is the adequacy of the types of course delivery systems used in the study centres.

5. What is the degree of utilization of the different types of course delivery systems used in the study centres?

6. What are the characteristic features of the different types of course delivery system used in the study centres?

7. What is the rate of student's satisfaction of contact hours allocated to face-to-face tutorial in the study centres?

8. What are the challenges in the use of electronic media in the course delivery systems in distance education in Nigeria?

Methodology

The descriptive survey design was adopted. This enabled the researchers to collect data without manipulating any variable of interest. The population of the study was 2,734 final year students of the study centres in the six States of the South/South geo-political zone of the country. Sample size of 546 representing 20% of the population was selected using stratified sampling technique. The sample size and the distribution of the questionnaire are shown on table 1.

Table 1

Frequency and Percentage Distribution of Research Respondents

Names of States	Population(Final Yr. Students)	% Population	Sample size
Akwa Ibom	490	17.9	98
Bayelsa	465	17	93
Cross Rivers	480	17.6	93
Delta	510	18.7	102
Edo	287	10.4	57
Rivers	502	18.4	96
Total	2,734	100	546

Source: NTI Zonal Office, Port Harcourt (March 2010)

Table 1shows that the total population of students is (2,743) out of which 546 representing 20% where chosen as the sample size. Delta State had the highest number of students (510), followed by Rivers State (502), with Edo State having the least (287).

The instrument used for the study was a structured questionnaire entitled "Students' Assessment of Course Delivery Systems in NTI Study Centres" with reliability co-efficient of .92. It addressed the following: demographic profile, level of awareness of course delivery systems, availability,

utilization, adequacy, and characteristic features of course delivery systems used in NTI study centres. It also sought students' opinions on the duration of the contact hours used in the different study centres and the challenges in the use of electronic media in Nigeria.

The questionnaire items were aimed at soliciting information on the existing course delivery system used by the institute. Five hundred and forty-six copies off the questionnaire were administered with the help of three research assistants.

Respondents were asked to indicate on a four point modified Likert Scale their assessments of the course delivery systems used in the centres. Data collected were analyzed using frequency and percentages, means and ranks with a criterion mean of 2.5.

Five hundred and forty-six copies of the questionnaire distributed were properly responded to and returned. Results of the study are presented on tables 2-9 following.

Research Question 1: *What is the profile of the students of NTI study centres in South/South geo-political zone, Nigeria?*

Table 2

Profile of Research Respondents

Demographic Profile			Frequency	Percentage
S/N 1	Gender	(a) Male	180	33
		(b) Female	366	67
		Total	546	100
2	Marital status	(a) Married	374	68
		(b) Single	163	31
		(c) Divorced	9	1
		Total	546	100
3	Job status	(a) Teaching	96	17.6
		(b) Employed (but not teaching	305	55.9
		(c) Not Employed	145	26.5
		Total	546	100
4	No of children	(a) Nil	145	26.5
		(b) 1-3	276	50.5
		(c) 4-6	126	23
		Total	546	100
5	Have access to	(a) Radio		
		Yes	546	100
		No	-	-
		Total	546	100
		(b) Television		
		Yes	502	92
		No	44	8
		Total	546	100
		(c) Video Tape		
		Yes	361	60
		No	185	40
		Total	546	100
6	Computer literate	(a) Yes	214	39
		(b) No	332	61
		Total	546	100
7	Residential area	(a) Urban	250	45.8
		(b) Rural	296	54.2
		Total	546	100

Table 1 indicates that 67.5% of the respondents were women, 73.5% had jobs, 50.5% and had children between the ages 4-5. All of them had access to radio with only 8% not having television. More than 60% were not computer literate with 45.8 % living in urban areas.

Research Question 2: *What is the level of student's awareness of the different types of course delivery systems used in distance education?*

Table 3

Means and Rankings of the Extent of Student's Awareness of the use
Of the following Course Delivery Systems in Distance Education

S/N	Course delivery systems	Great extent (4)	Moderate extent (3)	Low extent (2)	Not at all (1)	Means	Ranks
1	Face-to-face	546 (100%)	- -	- -	- -	4.00	1st
2	Print materials	546 (100%)	- -	- -	- -	4.00	1st
3	Audio-radio broadcast	400 (73.26)	102 (18.68)	44 (8.06)	- (0)	3.65	5th
4	Audio- tape	364 (66.67)	162 (29.67)	20 (3.66)	-	3.63	6th
5	Audio-visual (television)	240 (43.96)	179 (32.78)	120 (21.98)	7 (1.28)	3.19	11th
6	Telephone line/mobile phone	276 (50.55)	194 (35.53)	70 (12.82)	6 (1.10)	3.36	10th
7	Instructional computer delivery	48 (8.79)	134 (24.54)	54 (9.89)	310 (56.78)	1.85	15th
8	Bulletin board services	62 (11.36)	89 (16.3)	113 (20.7)	282 (51.65)	1.92	14th
9	Facsimile (fax)	42 (7.69)	47 (8.61)	102 (18.68)	355 (65.02)	1.59	18th
10	Satellite transmission- (a)video conferencing	12 (2.20)	102 (18.68)	118 (21.61)	314 (57.51)	1.66	17th
11	(b)Audio conferencing	20 (3.66)	105 (19.23)	146 (26.74)	275 (50.37)	1.76	16th
12	Audio CD	546 (100)	- -	-	-	4.00	3rd
13	Video CD	546 (100)	-	-	-	4.00	4th
14	Internet facilities- (a) electronic mail	64 (11.72)	32 (5.86)	42 (7.69)	408 (74.73)	1.55	19th
15	(b) website	64 (11.72)	32 (5.86)	42 (7.69)	408 (74.73)	1.55	20th
16	Photographic material	383 (70.15)	112 (20.51)	48 (8.79)	3 (0.55)	3.60	7th
17	Graphic material	350 (64.10)	119 (21.79)	32 (5.86)	45 (8.24)	3.42	9th
18	Realia	162 (29.67)	86 (15.75)	235 (43.04)	63 (11.54)	2.64	12th
19	Film	342 (62.64)	124 (22.71)	57 (10.44)	23 (4.21)	3.44	8th
20	Slides	132 (24.18)	102 (18.68)	36 (6.59)	276 (50.55)	2.16	13th
	Weighted Average					2.85	

Table 3 shows that out of the 20 listed delivery systems, students were aware of 12 (mean> 2.5). Face to face and print materials had mean of 4.00 each, showing their popularity in the study centres.

Research Question 3: *What is the degree of the availability of the following types of course delivery systems in NTI study centres in South/South geo political zone, Nigeria?*

Table 4

Means and Rankings of Student's Assessment of the Adequacy of the Availability
Of the following Course Delivery Systems in D.E in NTI Study Centres

S/N	Course delivery systems	Very Adeq. Ava.(4)	Adeq. Ava. (3)	Mod. Ava. (2)	Not Ava. (1)	Mean	Rank
1	Face-to-face	500 (91.58%)	46 (8.42%)	- -	- -	3.92	1st
2	Print materials	482	64	-	-		

S/N						Mean	Ranks
		(88.28)	(11.72)	-	-	3.88	2nd
3	Audio-radio broadcast	-	-	135 (24.73)	411 (75.27)	1.25	9th
4	Audio- tape	-	86 (15.69)	462 (84.31)	-	2.16	3rd
5	Audio-visual (television)	- -	- -	145 (26.56)	401 (73.44)	1.27	8th
6	Telephone line/mobile phone	- -	- -	- -	546 (100)	1.00	11th
7	Instructional computer delivery	- -	- -	- -	546 (100)	1.00	11th
8	Bulletin board services	- -	- -	82 (15.02)	464 (84.98)	1.85	6th
9	Facsimile (fax)	- -	- -	- -	546 (100)	1.00	11th
10	Satellite transmission- (a)video conferencing	- -	- -	- -	546 (100)	1.00	11th
11	(b)Audio conferencing	- -	- -	- -	546 (100)	1.00	11th
12	Audio CD	- -	64 (11.72)	482 (88.28)	- -	2.12	5th
13	Video	- -	74 (13.55)	472 (86.45)	- -	2.14	4th
14	Internet facilities- (a) electronic mail	- -	- -	- -	546 (100)	1.00	11th
15	(b) website	- -	- -	- -	546 (100)	1.00	11th
16	Photographic material	- -	- -	362 (66.3)	184 (33.7)	1.66	7th
17	Graphic material	- -	- -	- -	546 (100)	1.00	11th
18	Realia	- -	- -	- -	546 (100)	1.00	11th
19	Film	- -	- -	- -	546 (100)	1.00	11th
20	Slides	- -	- -	28 (5.13)	518 (94.87)	1.05	10th
	Weighted Average					1.57	

Table 4 portrays the dominance of the face-to-face and print materials in the study centres with mean scores of 3.92 and 3.88 respectively.

Research Question 4: *What is the adequacy of the following types of course delivery systems in NTI study centres in South/South geo-political zone, Nigeria?*

Table 5

Means and Rankings of Student's Assessment of the
Adequacy of the following types of Course Delivery Systems in D.E
As used in the NTI Study Centres

S/N	Course Delivery systems	Very adeq. (4)	Adeq. (3)	Moderately adeq. (2)	Not adeq. (1)	Mean	Ranks
1	Lectures	60 (10.99%)	100 (18.32%)	362 (66.30%)	24 (4.40%)	2.36	9th
2	Demonstration	20 (3.66)	30 (5.49)	175 (32.05)	321 (58.79)	1.54	13th
3	Practical work	32 (5.88)	34 (6.25)	200 (36.76)	278 (51.10)	1.67	12th
4	Group discussions	92 (16.85)	354 (64.84)	63 (11.54)	37 (6.78)	2.92	8th
5	Test books	98 (17.95)	389 (71.25)	52 (9.52)	7 (1.28)	3.06	4th
6	Work books	100 (18.32)	372 (68.13)	70 (12.82)	4 (0.73)	3.04	6th
7	Students manuals	80 (14.65)	325 (59.52)	120 (21.98)	21 (3.85)	2.85	7th
8	Assignments	463	52	31	-		

12

S/N		(84.80)	(9.52)	(5.68)	-	3.79	1st
9	Projects	442 (80.95)	34 (6.23)	42 (7.69)	28 (5.13)	3.63	2nd
10	Brochures	200 (36.63)	346 (63.67)	- -	- -	3.37	3rd
11	Course book	25 (4.58)	521 (95.42)	- -	- -	3.05	5th
12	Pamphlets	37 (6.78)	48 (8.79)	359 (65.75)	102 (18.68)	2.04	10th
13	Posters	22 (4.03)	23 (4.21)	267 (48.90)	234 (42.86)	1.69	11th
14	Case studies	- -	15 (1.77)	345 (40.78)	486 (57.45)	1.44	14th
	Weighted mean					2.60	

Table 5 indicates that of the 14 formats of the print materials 8 were adequately used (mean > 2.5) while 6 were not (mean< 2.5). The use of assignments was ranked 1st (mean= 3.79) while case studies was the least use and ranked 14th (mean =1.44)

Research Question 5: *What is the degree of utilization of the following types of delivery system used in course delivery in NTI study centres in South/South geo-political zone, Nigeria?*

Table 6

Means and Rankings of Student's Assessment of the Degree of Utilization
Of the following types of Course Delivery Systems in the NTI Study Centres

S/N	Delivery systems	Very freq (4)	Freq. (3)	Sometime (2)	Seldom used (1)	Means	Ranks
1	Lectures	100 (18.32%)	362 (66.30%)	84 (15.38%)	- -	3.03	8th
2	Demonstration	25 (4.58)	321 (58.79)	200 (36.63)	- -	2.68	11th
3	Practical work	141 (25.82)	357 (65.38)	48 (8.79)	- -	3.17	5th
4	Group discussions	354 (64.84)	154 (28.21)	38 (6.96)	- -	3.58	3rd
5	Test books	392 (71.79)	134 (24.54)	20 (3.66)	- -	3.68	1sth
6	Work book	92 (16.85)	392 (71.79)	62 (11.36)	- -	3.05	7th
7	Students manual	41 (7.51)	469 (85.90)	36 (6.59)	- -	3.01	9th
8	Assignment	412 (75.46)	52 (9.52)	82 (15.02)	- -	3.60	2nd
9	Projects	210 (38.46)	336 (61.54)	- -	- -	3.38	4th
10	Brochures	54 (9.89)	402 (73.63)	90 (16.48)	- -	2.93	10th
11	Course book	36 (6.59)	510 (93.41)	- -	- -	3.07	6th
12	Pamphlets	- -	- -	172 (31.50)	374 (68.50)	1.32	12th
13	Posters	- -	- -	120 (21.98)	426 (78.02)	1.22	13th
14	Case studies	- -	- -	60 (10.99)	486 (89.01)	1.11	14th
	Weighted mean					2.77	

Table 6, shows that 11 out of the 14 course delivery systems were frequently used (mean> 2.5), while 3, were seldom used (mean< 2.5). Test books were ranked 1st (mean=3.68) followed by assignment (mean 3.60) and thirdly group discussion (mean 3.56). The least used is case study (mean 1.11, ranked 14th)

Research Question 6: *What are the characteristic features of the course delivery system used in the NTI study centre in South/South geo-political zone, Nigeria?*

Table 7

Means and Rankings of Student's Assessments of Characteristics
Features of Course Delivery System used in NTI Study Centres

S/N	Characteristic features	Strongly Agreed (4)	Agreed (3)	Disagreed (2)	Strongly Disagreed (1)	Means	Ranks
1	Flexible	367 (67.22%)	179 (32.79%)	- -	- -	3.67	4th
2	Reliable	161 (47.35)	385 (70.51)	- -	- -	3.29	6th
3	Available	546 (100)	- -	- -	- -	4.00	1st
4	User-friendly	486 (89.01)	60 (10.99)	- -	- -	3.89	2nd
5	Portable	396 (72.53)	150 (27.47)	- -	- -	3.73	3rd
6	Efficient	182 (33.33)	364 (66.67)	- -	- -	3.33	5th
	Weighted Mean					3.65	

Table 7 indicates that student agreed with the indentified characteristic features of the course delivery systems used in the centres (weighted mean= 3.65). The level of availability of the systems was ranked 1st, followed by user-friendly (mean 3.89) and Portability 3rd (mean= 3.73)

Research Question 7: *What is the rate of student's satisfaction with the number of contact hours allocated to face-to-face contact duration of the NTI programme?*

Table 8

Means and Rankings of Student's Assessment of
Face-to-face Contact Hours in NTI Study Centres

S/N	Contact hours	Strongly Agreed (4)	Agreed (3)	Disagreed (2)	Strongly Disagreed (1)	Means	Ranks
1	Time of face-to-face contact are convenient	492 (90.11%)	20 (3.66%)	24 (4.40%)	10 (1.83%)	3.82	1st
2	Too little time is spent on face-to-face contact	86 (15.75)	75 (13.74)	317 (58.06)	68 (12.45)	2.33	2nd
	Weighted Mean					3.08	

Table 8 indicates that students were satisfied with the no of hours allocated to face-to-face contact duration of the programme (weighted mean = 3.08>2.5)

Research Question 8: *What are the challenges in the use of electronic media in course delivery in distance education in Nigeria?*

Table 9

Means and Rankings of Student's Assessment of Challenges in the use of
Electronic Media in Distance Education in Nigeria

S/N	Challenges	Strongly agreed (4)	Agreed (3)	Disagreed (2)	Strongly Disagreed (1)	Means	Ranks
1	Absence of electricity supply in the rural areas	367 (67.22%)	179 (32.78%)	- -	- -	3.67	1st
2	Epileptic power supply in urban areas	398 (78.89)	102 (18.68)	21 (3.85)	25 (4.58)	3.60	2nd
3	Lack of emphasis on the use of these media by students and teachers	342 (62.64)	40 (7.33)	148 (27.11)	16 (2.93)	3.30	3rd
4	Lack of personal interest	24 (4.40)	13 (2.38)	86 (15.75)	423 (77.47)	1.34	5th
5	Unavailability of these media in the programme	190 (34.80)	312 (57.14)	24 (4.40)	20 (3.66)	3.23	4th
	Weighted Mean					3.03	

Table 9 shows that students generally agreed with the identified challenges in the use of electronic media in the centres (weighted mean=3.03). Absence of electricity was ranked 1st (mean=3.67), while the students disagreed with item 4 Lack of personal interest (mean= 1.34 < 2.5)

Discussion

The summary of the results are given under tables 2-9. The majority of the results however, in clear terms show the absence of electronic media and the predominant use of the print media in the course delivery systems in NTI study centres in South/South geo-political zone, Nigeria.

The following features of the result are worth noting.

Student's profile

The complex learning process that confronts students of distance education requires a study of this nature to consider the profile of the students. This study has shown that of the 546 respondents, 374 (68%) are married, 411 (73.5%) are working, with 126 (55.5 %) having children between ages 4- 6 years. These students need to co-ordinate the different areas of their lives as they influence each other. This finding agrees with the characteristics of distance learner identified by Telg (2009, p 2) as

- *Is older*
- *He has established jobs and families*
- *Takes distance education courses for a variety of reasons (advanced degree, better jobs, broaden education)*
- *Usually isolated*
- *Self-motivated. Motivational factors from contact with other students absent*

The study also confirms the growing number of female in the teaching job (67%) and near extinct of male teachers in the school system. It also indicates that 296 (54.2%) of the respondents were residing in the rural areas, 332 (61%) were not computer literate, though all of them have access to radio, only 44 (8%) had no television, and 185 (40%) also had no access to video tapes. The effects of these findings on the study will be discussed later in the paper. Invariably, there is an indication that some of the respondents are interested in obtaining qualifications for a better job, while many undergo the programme to upgrade their certificate in order to remain in the teaching job.

Table 2 indicates that majority of the respondents have access to electronic media such as television (93%), radio (100%), and video tape (60%). These media are great assets in distance education. Television and radio are useful in teaching great audience at the same time. The television brings reality in teaching, while the radio apart from being portable is cheaper than the television. Their accessibility of the television, radio, and video tapes make them potential course delivery system for NTI. Therefore, the NTI should consult with the various television and radio stations in the country and device

strategies of using their facilitates for the purpose of distance education delivery. The herculean task is the many challenges in the use of electronic media in Nigeria as indicated on table 9.

Student's awareness of the different types of course delivery system

The study revealed that majority of the respondents (61%) is not computer literate. This fact is a reflection of the entire educational system in Nigeria and by extension, the country's socio-economic system. Most students still grabble with the problems inherent in the digital divide; access to information and communication technology facilities is negligible compared to those of developed countries. These facts have contributed to the low level of awareness of the respondents of the modern electronic media among the course delivery systems used in distance education as listed on table 3. Apart from the face-to-face and the print materials, the means of the extent of awareness level of the other 18 course delivery systems were below the criterion mean (means < 2.5).

Student's assessment of the degree of availability of course delivery systems

Out of the 20 course delivery systems listed in table 4, respondents ranked two (face-to-face & print materials) as being adequately available (means 3.92 & 3.88 respectively). Although, items 5 (audio tape: mean 2.16), video (mean 2.41) and audio CD (mean 2.12) were available, the rate was below the criterion mean of 2.5. The remaining course delivery systems were not available (mean < 2.5). These available course delivery systems in the centres will be discussed in detail in the subsequent sub-headings.

Student's assessment of the degree of adequacy and utilization of course delivery systems

The print is a significant component of all distance education programme. The result of this study has contributed to this assertion (tables 5 & 6; means 2.6 & 2.77 respectively). However, a critical assessment indicates inadequacy (table 5, items 1,2,3,12,13 &14) and seldom usage (table 6, items 12, 13, &14) of some of them in the study centres.

Gottschalk (1995b) suggests the need to constantly revisit the different formats of print material before their adoption. Textbooks and modules (study guide) should include exercise, related reading, and additional resources available to the students. Workbooks should contain more exercises, quiz, or test (with answer key) for self-assessment. Of course, the course materials must be of very high quality and completeness, and should use modern technologies such as educational animation. The course syllabus must be as

complete as possible in order to guide the students through the course in the absence of daily contact with the teachers.

Gottschalk (1995a, p 3) further lists the advantages of print to include:

- *Spontaneous*
- *Instructionally transparent*
- *Not-threatening*
- *Easy to use*
- *Easily reviewed and referred*
- *Cost effective*
- *Easily edited and revisited and*
- *Time effective*

The contribution of print to a successful distance education programme like the NTI notwithstanding, Osuji (2005) opines that, although the print has been successfully used in the NTI study centres, the extent to which they could be comprehensive enough as to accommodate all that students need to widen their knowledge in their areas of study remains a doubtful possibility. He however advocates the need for well-stocked libraries at the headquarters and study centres to avail students the opportunity to attain more knowledge.

Another interesting revelation is the respondents ranking of the use of assignments as 1st and 2nd on tables 5 and 6 respectively. Students often learn most effectively when they interact with others. Interaction leads to group problem solving. Assignments in which students work together and present to the class as a group encourage student-to-student interaction. Class participation provides opportunities for students and teacher to evaluate learning.

Teachers should however not overlook the fact that students may cheat by hiring others who have a greater understanding of the topic to write their assignment for them (Ojo & Olakulehin, 2006). A shortcoming the duo expressed could be addressed through the administration of examinations during the face-to-face setting. Examination results portray not only the students understanding, knowledge and application of the study materials, but will also serve as strategy to assess the learning material employed.

Student's assessment of the characteristics features of course delivery systems

The various formats of the print materials were the main courses delivery system used in the study centres investigated. The respondent's assessment revealed that they were flexible, reliable available, user friendly, portable, and efficient (weighted mean 3.89).

These confirm the print as not only being the foundation of distance education and the basis from which all other delivery system are derived (Gottschalk, 1995a), but also its predominance in distance education in developing countries. The different formats of prints materials have contributed to the success story of NTI programmes. These positive characteristics notwithstanding, the following guidelines provided by McGreal (in Price, Repman & White 1995, p 129) are useful hints in the production of instructional materials designed for distance education system:

1. The materials should be simple so that the teacher and students are clear about the goals of each lesson.
2. The materials should be highly structured so that the objectives of the lesson are achieved.
3. There should be many reviews of material taught in previous lessons.
4. Evaluations should take place frequently to ensure that sufficient learning is occurring.
5. High interest course material should be found which can lower teacher anxiety, stimulate the students participating in the course, and develop a rapport with them.
6. The materials must be relevant to the particular needs of the students.
7. Extension activities should be made available for students who need more course to aid the learning process.
8. This material, although highly structured, must be clearly perceived by the teacher to be non-restrictive to his/her teaching style.
9. The materials should be activity oriented in order to divert teachers away from lecturing to student and promote active student learning during class sessions.

Student's assessment of contact period

Table 8 reveals that the respondents agreed that the time of face-to-face contact with their teachers is convenient (mean 3.82), and also disagreed that too little is spent on face-to-face contact (mean 2.33). It must however be stressed that the differences in background of teachers and students of distance education in terms of the day to day experiences tends to slow down the development of teacher-student rapport. Race (in Telg 2009, p2) describes the learner (student) "feel" about distance education, thus:

▪ *At the beginning – excited, apprehensive, curious, exposed and vulnerable, and inadequate*
▪ *In mid-course – fed-up, intimidated, pressured, alone.*
▪ *Towards the end – frightened about exams (will I manage it? Why should I bother? Time seems to be rushing by)*

This impasse is overcome by the face-to-face contact, which provides avenues for students to develop comfortable learning situations with their teachers.

Challenges of the use of electronic media

Student's responses on table 9 indicate the envisaged challenges in the use of electronic media in course delivery system in distance education in Nigeria. It is not surprising that unavailability of electricity supply in the rural areas was ranked 1st, with epileptic power supply in urban areas ranked 2nd. These responses do not even exonerate the urban areas in terms of power supply. With this electricity problem, effective integration of technological facilities in the course delivery system in NTI study centres is a herculean task as sources of alternative electricity is not feasible because of the level of poverty in Nigeria. They respondents disagreed with the option of lack of personal interest as one of the challenges of the use of electronic media. Students of distance education are very enthusiastic to embrace these electronic media, if for no other reason, to be at some level playing ground with their counter in the developed countries.

A Summary of the NTI Course Delivery Systems

A critical review of this research indicates that the model of course delivery systems in distance education adopted by NTI study centres typically employ print-based materials, supported by face-to-face contact provided during weekends and school vacation where students attend lectures and write end of module examinations. Audio, television, and video tapes sometimes supplement these. The study materials contain a week-by-week study guide setting out the reading and activities that students are expected to complete. Assignment items contained in the subject outline in the modules drives the students' navigation through the curriculum course and dictates the extent and dept to which students engage with the materials.

In NTI distance education programme, communication between the teacher and the students is mediated by the structure of the curriculum materials and assessment items and feedback given to students in response to the assignment during the face-to-face contact period. Students communicate with the teacher through their written attempts at assignment and during the face-to-face contact period. This is a model of the traditional delivery method used in the School of Teacher Education at Charles Sturt University, Australia, reported by McKinnon, Opfer, and McFaddden (1998).

The NTI has recorded tremendous successes. Confirming this, Asodike and Nnabuo (in press) reporting a study on teachers perceptions of NTI retraining/capacity building programmes under the auspices of Millennium Development Goals (MDGs) programme, and using 2.5 as acceptable mean note that: the programme had positive effect on teachers teaching method (mean = 2.65). It also changed their thought of teaching methods (mean = 2.72), and improved their teaching competence (mean = 2.86). These developments have positive effects on teaching and learning in schools.

Conclusion

The obvious conclusion of this study is that the recent clamour of the use of technology to support instruction has little impact on student's attainment of educational outcomes. The primary factor in any instructional initiative, regardless of formats or venue, is the quality of instructional design that is ultimately implemented (Johnson & Aragon, 2002). Based on the lack of evidence that technology significantly influenced the learning process, scholars in the field of instructional technology now conclude that the technology used in an online (distance education) programme is not important as other instructional factors, such as pedagogy and course designs (Phipps & Merisotis, 1999). Additionally, Schramm (in Johnson & Aragon, 2002, p1022) confidently expresses the fact that "learning seems to be affected more by what is delivered than by the delivery medium". Also, studies comparing education in the classroom with technologically-delivered classes (Beare, 1989, McCleary & Egan 1988, in Jeffries, n.d) indicated no significance difference in academic performance. The National Teachers' Institute, Kaduna going by her recorded successes instrumented by the print and its different formats suggests that the developing countries should maximize the use of prints in course delivery in distance education by ensuring that materials are constantly reviewed and get to the students on time.

Finally, Nigerian Information Technology Professional in America in 2002 indicated that given the current ICT penetration, it might take Nigerians 50 years to catch up with America on the aspect of Pc count per household (Iromantu in Yusuf, 2006). While the most significant handicap being the cost of Pc. Hence, computer related telecommunication facilities, even if provided by NTI will not be embraced by the student, as computer is still a luxury item in Nigeria. Whatever the case may be, students must take more responsibility for, and be more active in their learning, whether that means

attendance at the study centres or widening their knowledge through more reading assignments.

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