

An Appraisal of Educational Technology Usage in Secondary Schools in Ondo State (Nigeria)

Olufemi Victor ADEOLUWA¹, Olukayode Solomon ABODERIN¹, and Oladele Dennis OMODARA²

¹Department of Curriculum Studies,
Ekiti State University,
Ado-Ekiti, Nigeria

²Department of Curriculum Studies,
College Of Education, Ikere
Ekiti State, Nigeria

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ABSTRACT: This study examined and appraised the use of Educational Technology in secondary schools in Ondo State South West, Nigeria. The study investigated the level of availability of Educational Technology facilities in schools, attitude of teachers toward educational technology, the perceived benefits of using Educational Technology, the problems facing the use of Educational Technology in secondary schools and Application of Educational Technology in schools by teachers. The descriptive survey design was used for the study. The population consisted of all the teachers and principals of the secondary schools in Ondo State. The sample consists of 400 teachers and 40 principals randomly selected from the secondary schools in Ondo State. A self designed questionnaire tagged Educational Technology and Secondary Schools (ETSS) was used to collect the data for the study. Data collected for the study were analyzed using frequency count, percentage scores, mean and charts. The study revealed that Educational Technology facilities were lacking in schools and teachers and students were to a little extent exposed to the use of Educational Technology. Moreover, the study revealed the perceived benefits of using Educational Technology in schools which include making teaching-learning interesting; helping the distance learning program; Educational technology provide for individual differences; Educational technology makes teaching efficient and effective. However, despite these perceived benefits, the study also revealed some of the challenges facing Educational technology in secondary schools as: Epileptic supply of electricity; misconception of right concept of educational technology; Shortage of specialist in educational technology; inadequate facilities to support full application of educational technology and lack of fund. It was therefore recommended that government should increase the funding of the education sector. There should also be periodic training for teachers on educational technology skills acquisition.

KEYWORDS: Educational Technology usage, Teachers in secondary schools, teaching and learning processes.

INTRODUCTION

Educational technology is one of the latest innovations that have been adopted in Nigeria in a bid to improve the quality of learning. Educational technology identifies and solves educational problems and could employ any desirable way to achieve its set objectives. It has been discovered that modern education faces a lots of problems. The attempts at solving these problems could lead to the use of innovative teaching and learning system. Reference [2] defined Educational technology as the integration of variables in order find out and solve all problems involved in all aspects human learning. The innovative teaching learning system involves the use of Educational technology to achieve the desired instructional objectives. The proper uses of Educational technology and instructional materials have their benefits

in the achievement of a desired goal. Reference [13], says that educational technology ensure proper grasp of subject and develop imagination; they bring past into present and crowd the record of years and even entries into short period of minutes. Reference [14] submits that Educational Technology is far from new. The first to empty an abacus in his mathematics class was making use of technology as every educator who uses overhead projector, tape recorder, television, 'movies, computer and so on to help their students learn better the contents of their courses. His submission points to the proper essence of educational technology as the application of scientific knowledge to teaching and learning of knowledge and skills.

According to [7], some teachers see educational technology as a threat to their profession and would not want to change from their old system of approach. Many teachers do not have the right concept of educational technology. They accord wrong meaning to educational technology. Teaching and learning has gone beyond the teacher standing in front of a group of pupils and disseminating information to them without the students' adequate participation [3]. Educational technology has the capacity higher interactive potential for user to develop their individual and creative abilities. According to [12] educational technology provides productive teaching and learning in order to increase people's creative and intellectual resources especially in today's information society.

For learning to take place, learning environment must be sufficiently made conducive. It must be rich in resources as to provide learning experiences needed by the learner for the expected learning outcomes. The use of different forms of media ranging from audio to visual, audiovisual, model, mock-ups, graphics, projected, non-projected, and realia (real objects) will encourage enabling environment and experiences that can promote learning [11]. According to [4] facilities like computers, radio (tape recorders), television sets, video disc players, bullet boards were available in schools, while some facilities like projectors, electronic notice boards, internets, filmstrips are scantily available in schools.

Reference [8] submission on the relevance of the technology to education particularly as regards to learning in secondary school reaffirms that students must have range of skills to express themselves not only through paper and pencil but also audio, video, animation designed software as well as host of new environment (e-mail, web-sites, message board, etc).It is observed from this submission that there is a need for students to develop learning skills that will enable them to think critically, analyse information, communicate and solve problem.

The roles of educational technology in teaching and learning process cannot be underestimated. The under listed are what [10] considered as the roles of educational technology in teaching and learning:

- Increase the rate of learning and at the same time allow the teacher to use more time on other gainful activities
- Reinforce verbal and visual messages. Pupils would generally find it difficult to understand abstract ideas discussed by their teachers. However, if the abstract ideas are put in form of models, pictures, etc. pupils understand them with ease and they remain permanent in their memories
- Through the use of media, emphasis is placed on realistic learning rather than rote learning
- Instructional media have a way of motivating and arresting pupils' attention. Pupils' curiosity and consciousness get increased and thereby provide a sound environment for realistic and enjoyable teaching and learning atmosphere
- Terms and concepts that are abstract are best illustrated through the use of instructional media.

PURPOSE OF THE STUDY

This study is designed to examine and appraise the use of Educational Technology in Secondary Schools in Ondo State.

Specifically, the study examined:

- Availability of educational technology facilities in secondary schools.
- The attitude of teachers toward educational technology in secondary schools.
- The perceived benefits of educational technology in secondary schools.
- The challenges facing the adoption of educational technology in secondary schools.
- The level of teachers' application of educational technology in teaching.

RESEARCH QUESTIONS

The following research questions were raised to guide this study:

- i) To what extent are the educational technology facilities available for teaching and learning in secondary schools?
- ii) What is the attitude of teachers toward educational technology in secondary schools?

- iii) What are the perceived benefits of educational technology in secondary schools?
- iv) What are the challenges facing the adoption of educational technology in secondary schools?
- v) Do teachers apply educational technology facilities in their teaching?

METHODOLOGY

The descriptive survey design was used for this study. The population for the study consisted of all the teachers and principals of the secondary schools in Ondo State. The sample for the study is made up of 400 teachers and 40 principals randomly selected from 40 secondary schools in the state. A self-designed questionnaire tagged “Educational Technology for Secondary Schools (ETSS)” was used to collect the data for the study. The instrument was validated by research experts in educational technology and test and measurement. The Cronbach Alpha was used to determine the reliability of the instrument and the reliability coefficient was 0.75. The questionnaire was administered by the researchers with the help of research assistants in the state. Personal contacts of the researchers with the respondents enhanced good and prompt response from the respondents. Data collected were analyzed using frequency counts, percentage scores, mean and chart.

RESULTS

Table 1. Availability of educational technology facilities in secondary schools

S/N	ITEMS	AVAILABLE	%	NOT AVAILABLE	%
1	Radio(tape Recorders)	190	43.2	250	56.8
2	Television sets	155	35.2	285	64.8
3	Video	201	45.7	239	54.3
4	Bulletin board	217	49.3	223	50.7
5	Computer	270	61.4	170	38.6
6	Charts	268	60.9	172	39.1
7	Filmstrip	158	35.9	282	64.1
8	Internet	90	20.5	350	79.5
9	Electronic notice board	75	17.1	365	82.9
10	Disc Player	168	38.2	272	61.8
11	Textbook	245	55.7	195	44.7
12	Multimedia	130	29.5	310	70.5
	MEAN		41.1		59.9

Table1 above revealed that facilities such as computer, charts and textbooks were available while other facilities such as radio(tape recorders), television sets, video, bulletin board, filmstrip, Internet, electronic notice board, disc player and multimedia were scantily available. This finding is in agreement with [7].

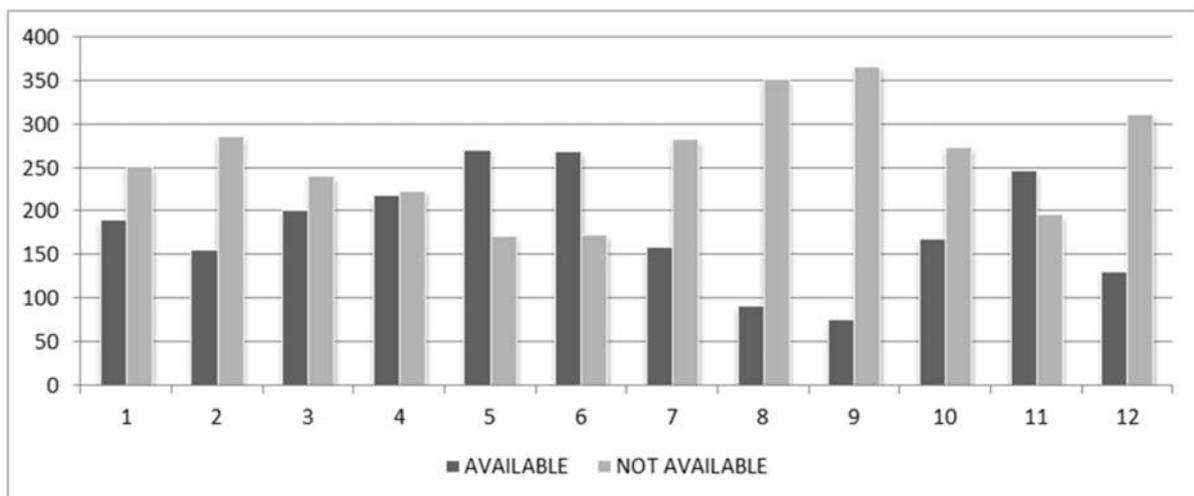


Fig. 1. Summary of availability of educational technology facilities in secondary schools

Table 2. Attitude of teachers toward educational technology

S/N	ITEMS	AGREE	%	DISAGREE	%
1	Teachers are exposed to the use of educational technology in teaching	140	31.9	300	68.2
2	No enough time to plan the use of instructional materials	289	65.7	151	34.3
3	There are enough instructional materials to teach the student	78	17.7	362	82.7
4	Periodic training is organized for teachers on the use of educational technology in schools.	195	44.3	245	55.7
5	Teachers are knowledgeable in the use of educational technology	139	31.6	301	68.4
6	Educational technology is too difficult to apply in the classroom	158	35.9	282	64.1
	MEAN		48.8		51.2

Table 2 revealed that teachers were not exposed to the use of educational technology in teaching and learning (31.9%).65.7% agreed that no enough time to plan the use of instructional materials in the schools while 82.7% disagreed that there are enough instructional materials to teach their students. Of the respondents, 44.3% agreed that periodic training is organized for teachers on the use of educational technology in schools; 31.6% agreed that Teachers are knowledgeable in the use of educational technology and 64.1% disagreed that educational technology is too difficult to apply in the classroom. This means that teachers’ attitude toward educational technology is not encouraging.

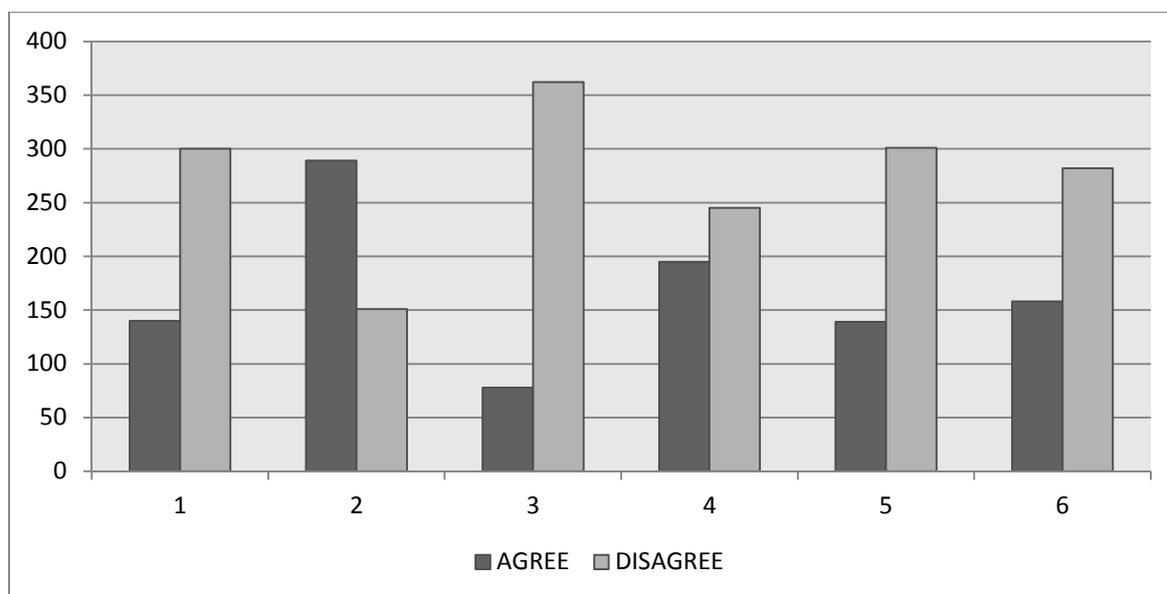


Fig. 2. Summary of attitude of teachers toward educational technology

Table 3. Perceived Benefits of Educational Technology

S/N	ITEMS	AGREE	%	DISAGREE	%
1	Educational technology makes teaching efficient and effective.	342	77.7	98	21.8
2	Instructional materials attract and sustain the attention of learners.	299	68	141	32
3	Educational technology provide for individual differences.	247	56.1	193	43.9
4	Educational technology helps in making teaching and learning more interesting.	317	72	123	28
5	It helps in distance learning programme.	273	62	167	38
6	Instructional materials provide students with realistic experience.	264	60	176	40
	MEAN		66		34

Results in Table 3 showed the perceived benefits of educational technology in the secondary schools. These include making teaching and learning efficient and effective (77.7%); Instructional materials attract and sustain the attention of learners (68%); provide for individual differences (56.1%) and making teaching-learning more interesting (72%). Other perceived benefits include helping distance learning programme (62%) and instructional materials provide students with realistic experience (60%). This finding is in agreement with [2].

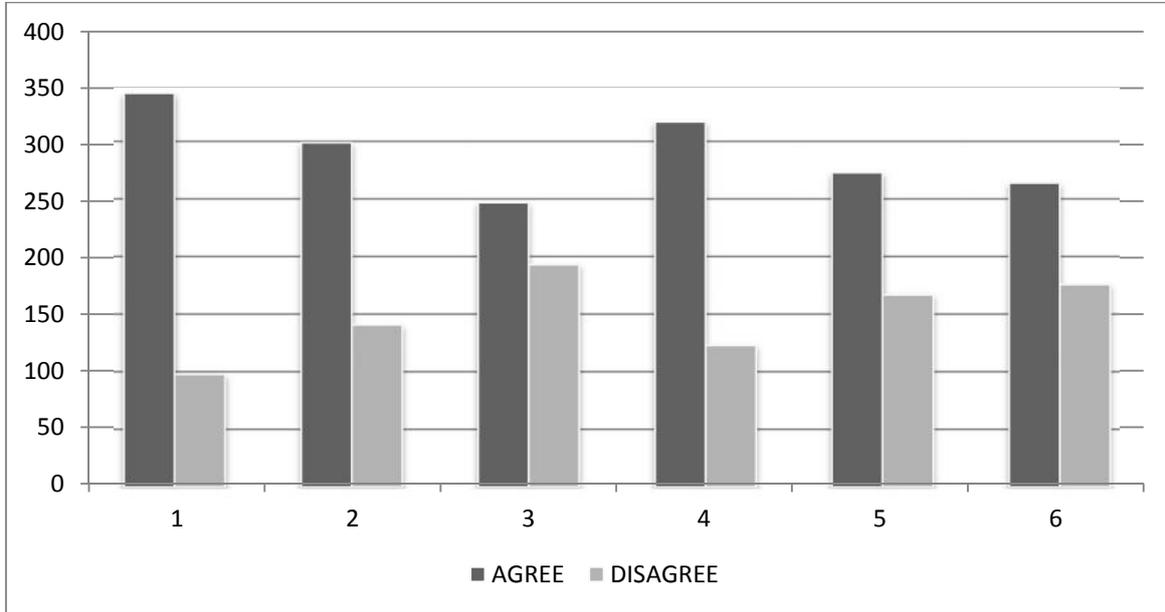


Fig. 3. Summary of Perceived Benefits of Educational Technology

Table 4. Challenges facing the adoption of educational technology in secondary schools.

S/N	ITEMS	AGREE	%	DISAGREE	%
1	Misconception of right concept of educational technology	321	72.9	119	27.1
2	Shortage of relevant books	280	63.6	160	36.4
3	Shortage of specialist in educational technology	310	70.5	130	29.5
4	Inadequate funding	275	62.5	165	37.5
5	Epileptic supply of electricity	250	56.8	190	43.2
6	Teacher resistance to change	309	70.2	131	29.7
7.	Shortage of instructional materials and equipment	245	55.7	195	44.3
8.	Low staff morale	278	63.2	162	36.8
	MEAN		64.4		35.6

From Table 4, it revealed that the major challenge facing the adoption of educational technology in Nigerian secondary schools is the misconception of right concept of educational technology (72.9%). Another challenge facing the adoption of educational technology is shortage of specialist in educational technology (70.5%). Other major challenges are inadequate funding in schools (62.5%); epileptic supply of electricity (56.8%); shortage of relevant books (63.6%); teachers resistance to change (70.2%); shortage of instructional materials and equipment (55.7%) and the low staff morale (63.2%). This finding is in agreement with [7].

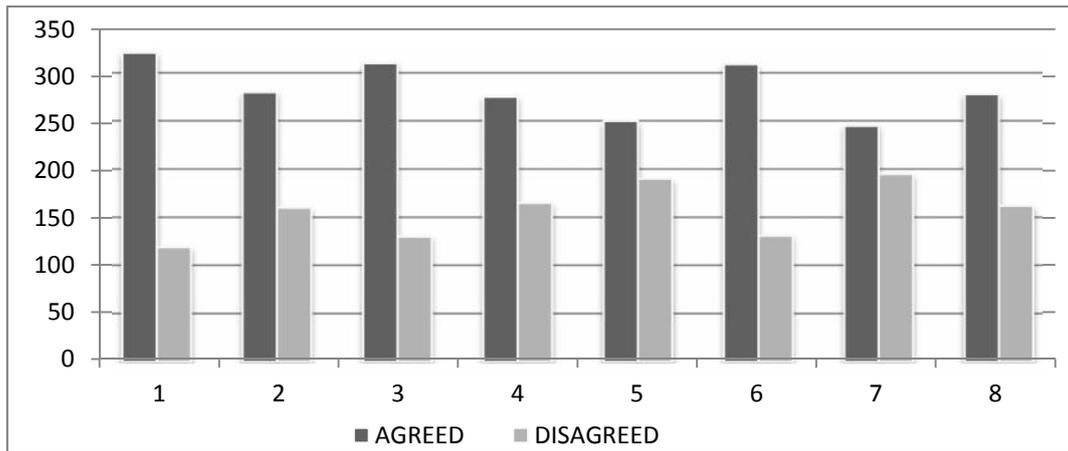


Fig. 4. Summary of challenges facing the adoption of educational technology in secondary schools

Table 5. Application of Educational Technology in secondary schools by teachers

S/N	ITEMS	AGREE	%	DISAGREE	%
1	I use instructional materials in every teaching process	123	28	317	72
2	I do use radio and television programmes to teach my students	142	32.3	298	67.7
3	I use computer to teach my students	154	35	286	65
4	I do produce educational media for my lessons	200	45.5	240	54.5
5	I use projector to teach large in my school	130	29.5	310	70.5
6	It is not necessary that instruction in schools involve instructional materials.	287	65.2	153	37.7
	MEAN		39		61

Table 5 showed the extent to which teachers apply educational technology facilities in secondary schools. Only 28% of the respondents agreed that they use instructional materials in every teaching process in the schools, while 32.3% of them agreed that teachers were using radio and television programs to teach their students. 35% of the respondents also agreed that their use computer to teach their students. Of all the respondents, 45.5 % agreed that they produce educational media for their lessons. 29.5% agreed used projector to teach large in the schools and 65.2% agreed that It is not necessary that instruction in schools involve instructional materials. This means that majority of teachers do not apply educational technology in their various schools.

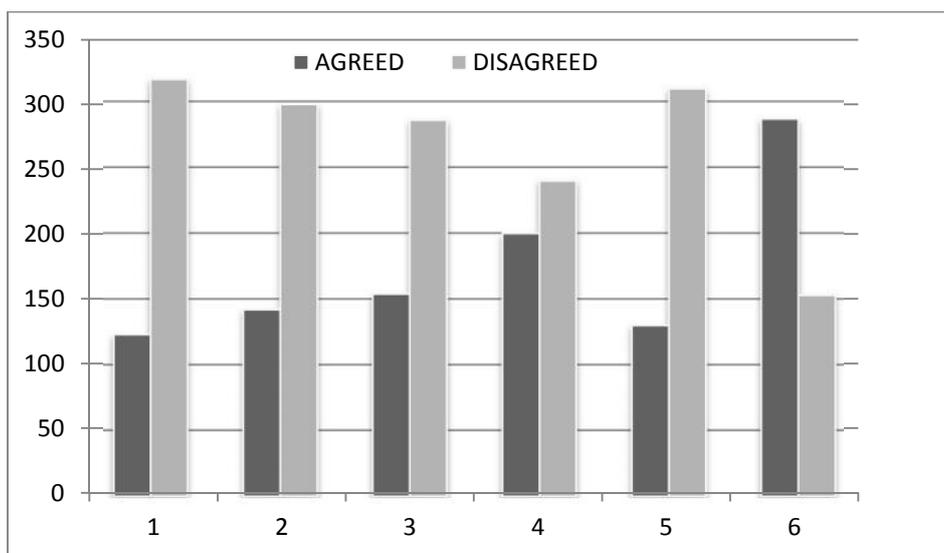


Fig. 5. Summary of application of educational Technology in secondary schools by teachers

CONCLUSION AND RECOMMENDATIONS

The finding of this study has shown that Nigeria secondary schools are lagging behind in the level of application of educational technology in the teaching-learning process. The educational technology facilities are lacking in schools, the capacity for using educational technology by both teachers and students is also very low. Despite the perceived benefits in the use of educational technology in school, there are a lot of factors inhibiting the successful application of educational technology in secondary schools. In order to fit into the new scientific order, it is necessary for Nigerian institutions and individuals alike to develop a society and culture that places a high value on educational technology. The following recommendations are therefore made. The government should increase funding for the entire educational sector with emphasis on educational technology this will help improve the level of educational technology facilities in the schools. There should also be continuous and periodic training of teacher son educational technology skills acquisition. This will help provide them with practical and functional knowledge educational technology with the hope of integrating it with instructional methods of teaching and leaning.

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