

STRATEGIES AND CHALLENGES OF USING TECHNOLOGY TO PROMOTE EDUCATION REFORM IN ILORIN SOUTH L.G.A KWARA STATE

DARAMOLA, Florence Olutunu (Ph.D)

*Department of Science Education
Faculty of Education, University of Ilorin*

UDOM, Stella Ogechi

University of Ilorin

ABSTRACT

This study was carried out to find out the strategies and challenges of using technology to promote education reform in Ilorin South Local Government Area of Kwara State. The population for this study was limited to eight (8) selected Junior Secondary Schools in the Local Government. Simple random sampling technique was used to select two hundred (200) respondents, one hundred (100) copies of questionnaire for students, sixty (60) for teachers and forty (40) for parents. A questionnaire titled Strategies and Challenges of using Technology to Promote Education Reform (SCTPER) was used to gather needed the data. Collected data were analyzed using frequency counts and percentage. The analysis of the data revealed that inadequate technology access, software, cost of introducing and using technology, unskilled teachers, constitute the challenges for using technology to promote education reform and introduction of educational technology, recurring cost of educational technology, financing by state and local school authority, government monitoring of accessibility includes the strategies of using technology to promote education reform. Based on the findings, it was recommendations amongst other things that there should be enactment of government policies on the use of technology in schools, allocation of time for teachers to learn how to use technology, so as to experiment with its use and create effective lessons plans that contributes to the learning needs of students and since students do not find it difficult learning with technology, the following should impact the learning environment;

- Voice, data and video delivered into homes, community, learning centers, workplaces via cable television*
- Learning through entertainment-like devices, E.g. Videogames, computer games etc. so as to achieve effective and efficient education reform.*

Introduction

A major challenge in education today be it formal or non-formal is how to bring about meaningful education reforms across the socio-economic strata of the society in both urban and rural area (Ogunleye, 1999). Furthermore, Abdullahi, (2008) also states that several attempts have been made over the years to reform education. Education reform is a plan or movement which attempts to bring out a change in educational theory or practice. Ganiyu (2007) affirms that there is a global realization of the fact that education is the major reliable and potent tool for the attainment of sustainable growth and development in all facets of human society.

Education, according to Daramola and Jekayinfa (2007) should be understood as the whole process of the development of an independent but integrated personality that will enable the individual to understand not only his obligation toward himself and to the society of which he is a member, but also one that enables the individual acquire the knowledge, skills, attitude and values that are necessary to fulfill them. Education reform is the plan or movement which attempts to bring in educational theory or practice. Abiri and Jekayinfa (2008) states that some major steps taken by federal government on education after independent, were the institution of the national curriculum conference in 1969, the introduction of Universal Primary Education (UPE) 1976 and establishment of more federal university, colleges and polytechnics.

Also kwara state, in which Ilorin south local government area is a part of was not left out. The state ministry of education science and technology in a bid to reform her education system when it found out that the fate of the children in primary schools with teachers hangs in a balance, in 2006 launched "every child counts initiative" this was aimed at improving the quality of basic education in the state as well as carry out a teacher development NEEDS assessment. It is to be noted that with all these efforts by the government and individuals, Nigeria literacy rate reduces as the day goes by. This could be attributed to the fact that the strategies and challenges of using technology to promote education reform have not received the much needed attention, irrespective of its numerous benefits.

Strategies are plans of action designed to achieve a particular goal. Challenges on the other hand according to the oxford advanced learners dictionary are new or difficult tasks that tests somebody's ability and skills. Technology

according to Okeke (1990) refers to practical solutions which human beings have fashioned in response to their needs. Omolewa (2007) states that educational reforms emanated from the basic conviction that considerable progress can be made in a nation by its people through careful engineering of the educational process. To achieve these educational progresses, technology which is one of the engineering tools should not be neglected, in spite of the challenges it poses.

Experimental and descriptive studies have been carried out on the process and strategies of using technology to promote education reform.

Cuba (1995) examined the history of attempts to use technology to promote reforms of schools. He concluded that teachers were provided inadequate assistance in using technology. Ogunleye (1999) added that the technology were inadequate and under-utilize for the assumed size of the economy. The impact of the use of technology in a nation's education system cannot be over-emphasized, as it is the basis for a nation to actualize its objectives, thereby developing its educational system. In this regard, it is imperative to carry out a study on the strategies and challenges of using technology to promote education reform in Kwara state.

Purpose of the Study

The specific purpose of this study is to find out the strategies and challenges of using technology to promote education reform in Ilorin south local government area of Ilorin, kwara state. The study is also designed to:

- i. Identify challenges of using technology to promote education reform; and
- ii. Highlight the strategies available for using technology to promote education reform.

Research Questions

The following research questions will be answered in this study:

1. What are the challenges of using technology to promote education reform?
2. How do the challenges affect the technological advancement on education reform?
3. What are the strategies available for using technology to promote education reform?

4. To what extent have the available strategies been used to promote education reform?

Concept of Technology

Overtime technology has acquired meaning as a product and as a process. As a product, it is perceived as hardware, that is, device that delivers information and services to accomplish a task. This implies development and application of tools, machines and materials. As a process, it's seen as a process of applying resources to satisfy human wants and needs to extend human capabilities (Yusuf, 2007). Also Henichela (2002) opined that technology has had a variety of connections ranging from mere hardware to a way of solving problems; the systematic application of scientific or other organized knowledge to practical tasks. In essence, technology therefore, could be seen as the way people use their needs and desire. It is practical oriented, that is, the act of doing (Glenna and Melmed, 1996).

The ways in which technology can promote education cannot be over-emphasized. Some of the numerous potential uses of technology in educational setting are: support for individual learning activities skills, support for group learning activities, support for instructional management and communication (Glennan and Melmed, 1996). Also, the instructional technology used for schools today according to Lange (1995) are chalkboard, flipcharts, posters, textbooks, cartoons and drawings, overhead projectors, television, slide projectors, radio, telephone, computer assisted instruction.

Education Reform

Education has been correctly described as the bed rock of development of any nation. A nation that fails to provide good education for her citizens is surely threading on a dangerous path (Obanya, 1996). Education according to Abimbola and Abolade (2009) is viewed as a process and as a product. As a process, education means a set of activities which entail handing down the ideas, values and norms of the society across generations. It include the transmission of knowledge, skills, attitudes and beliefs; ad as a product, education is measured by the qualities and traits displayed by the educated person. Okene (2008) defined reform as a plan which attempts to bring about systematic change in educational practice. Education reform therefore is the plan or movement which attempts to bring in educational theory or practice (the free encyclopedia, last modified on 14th October 1999).

Omolewa (2007) states that educational reforms emanated from the basic conviction that considerable progress can be made in a nation by its people through careful engineering of the educational process. Nigeria is a federation of thirty-six states with a federal capital territory in Abuja just like Ilorin south local government area is in Kwara state. Several education reform had been carried out amongst which include the Situation Analysis and Policy Study, the Nine-Year School Program in 1992, the adoption of the 6-3-3-4 system of education, the re-launch of Universal Basic Education program, Education for All amongst others amongst others. All these education reform in the nation failed to significantly achieve the desired goal due to factors such as poor planning, underfunding, political instability, absence of political will as well as inadequate infrastructural facilities, among others, in addition to this, the Federal Ministry of Education, clearly stated that the quality and extent of educational provision in Nigeria falls well below an acceptable level (Federal Ministry of Education, 2007). However, it mapped out 10-year strategic plan to resolve these, yet deep consideration was not taken use as to employ the strategies of technology to solve these deficiencies.

Strategies of using technology to promote education reform

Strategies are plans of action designed to achieve a particular goal (Oxford advanced learners dictionary sixth, 2000). A full strategy is surely too ambitious, in that, gaining agreement from key actors in all sectors would be difficult of impossible Glennan and Melmed, (1996). Mojkowski (1990) strategized an approach to technology implementation as: consider curriculum and learning outcomes first, then technology; link the use of technology to organization priorities; develop a strategic sense guided by the organization's vision, mission and goal; simultaneously transform and integrate technology in the learning and teaching process; and document and evaluate the implantation.

Furthermore, Glennan and Melmed, (1996) proposed several principles to guide the nation as it moved to introduce additional information technology into schools. The strategies are as follows:

1. The introduction of educational technology into schools should occur as a component of a broader effort of school reform to improve the learning of all children.

2. Public authorities at all levels should work with the private sector to see that all schools have access to the national information infrastructure at reasonable cost.
3. All levels of government should monitor the access to technology that exist for traditional disadvantaged populations and be prepared to do what is possible to ensure equality of access.
4. By off-loading from classroom settings some of the burden of presenting material and inducing motivation, learning activities and use the technology infrastructure outside of schools would reduce the amount of money needed for adequate level of classroom-based technology.

Some also highlighted available strategies. Dede (1999) outlined strategies for sealing up, leveraging the power of technology while minimizing its intrinsic challenges.

- By off-loading from classroom settings some of the burden of presenting materials and inducing motivation, learning activities and use the technology infrastructure out-side of schools would reduce the amount of money needed for adequate level of classroom-based technology.
- Coordinating technology expenditures as an integral part of that larger framework for institutional evolution is vital in districts planning to afford computers and communications.
- The single most effective method of convincing parents, the business community and taxpayers that technology-based models of teaching are superior to conventional instructional approaches is to involve them in students' education.
- To truly achieve education equity, working collaboratively with have-not populations is vital in developing contents and services tailored to their needs and designed to build on their strengths and agenda.

Ganiyu, (2007) suggests that for the teacher education community in Nigeria not to be left behind, they must acquire the necessary skills and competencies on the use of modern ICT in the education industry. And to do this, the curriculum must be restricted to accommodate practical utilization of modern ICT in the delivery of education at all levels in the education system. Since the capability of teacher to

use modern ICT in teaching will significantly contribute to propelling the nation into desired e-society.

Challenges of using technology to promote education reform

Technology is an increasingly influential factor in education. Technology-based innovations offer special challenge and opportunity in this scaling-up process. Dede, (1999) opined that systemic reform is not possible without utilizing the full power of high performance computing and communication to enhance the reshaping of schools. Making this vision a reality poses many challenges. Below are seven major challenges.

Financing the cost of introducing and using technology in school

If policy makers want to increase the level of technology in the schools, they face two key problems;

1. How does a school system obtain the resources for the initial investment necessary to transform a school into a technology rich enterprise?
2. How does a school obtain 3 to 5 percent or more of their budget per year to devote to technology and training on a continuing basis?

Past experience suggest that the initial investment funding will be provided by a wide variety of means specific to the individual financial and political condition of states and school district. We believe that the continuing cost associates with extensive use of technology in all school can only be achieved with significance restricting of school budgets (Glennen and Melmed, 1999). Hence, it is unreasonable to expect that the district and schools can finance suitable technology and reform efforts wholly on their own.

Providing teachers with the skills and time needed to improve such school

Successful use of technology in schools depends upon the skills of the teachers, and other staff in those schools. By the testimony of school reformers and the individuals who attended workshop organized by Glennan and Melmed, 1996, comparatively few teachers have been prepared to perform these functions "successful implementation of technology-enabled".

Providing adequate technology access

Giving all students continuous technology access to multi-media-capable, internet-connected computers is currently quite fashionable. Information

technology vendors offer special programs to encourage massive educational purchase (Dede, 1999).

Equalizing technology access

To empower project-based learning through guided inquiry, students must have access to sophisticated information devices in school (Linn, 1997). But class sizes are typically between twenty-five to forty; somewhat too large for effective project-based learning. Also, the scheduling class periods are too small, limiting teachers and students to fragmentary presentation and practice.

Involving a majority of teachers to adapt to innovation in technology

Dede (1999) noted that to achieve large-scale shifts in standards educational practices, many more teachers must alter their pedagogical approaches and schools' management, institutional structure and relationship to the community must change in fundamental ways.

Features of educational software market that may restrict the supply of some important class of software,

Providing technological support for use and maintenance

Few communities are willing to take educational innovations on 'faith' many people are uneasy about whether conventional instruction and traditional testing are developing and assessing the types of knowledge and skills children need for their future. However, most parents and taxpayers feel that the current system worked for them and do not want to substitute something radically different unless new methods are proven to be superior (Dede, 1999).

Ganiyu (2007) noted that the use of modern Information Communication Technology (ICT) in education delivery posed another major challenge in current education reform agenda. He wrote that in several advanced nations, the days of chalk and duster are numbered; the keyboard and the mouse are gradually replacing paper and pencil in lecture room.

Methodology

Descriptive research survey method was used and the research dealt with variables such as facilities and equipment, attitude of the teachers, students and parents toward the use of technology to promote education reform in Ilorin south local government area in Kwara state. The target population for this study was students and teachers and parents of schools in Ilorin south local government area of Kwara state. The sample will be made of one hundred (100) students, sixty (60)

teachers and forty (40) parents in the selected eight schools. A structured questionnaire was used to elicit primary data. Data gathered from responses in the questionnaire were used to answer the research questions earlier posed.

Data Analysis and Results

Simple descriptive statistics of frequency and percentages were applied for data analysis to provide answers to the research questions. The results were presented under sections A (demographic data) and B for questionnaire responses.

Research Question 1

What are the challenges of using technology to promote education reform?

Findings

Table 1: Frequency counts and percentages of respondents on challenges of using technology to promote education reform

A		CHALLENGES OF USING TECHNOLOGY TO PROMOTE EDUCATION REFORM	YES	NO
teacher s	1.	Have you heard of reforms in education involving the use of technology?	57 (95%)	3(5%)
	2.	Is there any technological device used in your school?	41(68.33%)	19(31.67%)
	3.	Do inadequate technology accesses, software, cost of introducing and using technology and unskillful teachers constitute challenge for using technology in school?	44(73.33%)	16(26.67
parents	4	Have you heard of reforms in education involving the use of technology?	34(85%)	6(15%)
	5	Is there any technological device used in your home?	36(90%)	4(10%)
student s	6	Do you find it difficult learning with technology?	9(9%)	91(91%)
	7	Do you think the use of technology by your teachers can improve your learning capability	94(94%)	6(6%)

From the result obtained, it indicated that 73% agree that inadequate technology accesses, software, cost of introducing and using technology and unskillful teachers constitute challenge for using technology to promote education reform while 26.67% of the respondents disagreed. Therefore, inadequate technology accesses, software, cost of introducing and using technology and unskillful teachers constitute challenge for using technology to promote education reform

Research Question 2

How do the challenges affect the technological advancement on education reform?

Table 2: Frequency counts and percentages of respondents on impact of the challenges of technological advancement on education reform

	B	IMPACT OF THE CHALLENGES OF TECHNOLOGICAL ADVANCEMENT ON EDUCATION REFORM	YES	NO
Teachers	1	Do the challenges abreast your knowledge?	45(75%)	15(25%)
	2	Do the challenges cause frequent review of the curriculum?	33(75%)	27(45%)
	3	Do the challenges cause better method for implementing the curriculum?	46(76.67%)	14(23.33%)
Parents	4	Do your ward(s) develop interest towards the use of technological devices?	31(77.5%)	9(22.5%)
	5	Do you encourage your ward(s) to manipulate any technological devices at home?	29(72.5%)	11(27.5%)
	6	Are the challenges your knowledge?	19(47.5%)	21(52.5%)
Students	7	Does the use of technology stimulate your desire to learn?	81(81%)	19(19%)
	8	Do you think it helps to develop necessary skills needed for you to cope with the outside world?	97(97%)	3(3%)

The results in the table above indicated that 75% agreed it abreast their knowledge while 25% disagreed, 75% said it causes frequent review of the curriculum, while 45% said no, and 76.67% agreed that it provide better method for implementing the curriculum while 23.33% disagreed. Therefore, the ways by

which the challenges affect technological advancement on education reform included breasting of knowledge, frequent curriculum review and provision of better method for implementing the curriculum, this effect is positive.

Research Question 3

What are the strategies available for using technology to promote education reform?

Table 3: Frequency counts and percentages of respondents on strategies available for using technology to promote education reform

C	STRATEGIES AVAILABLE FOR USING TECHNOLOGY TO PROMOTE EDUCATION REFORM	YES	NO
teachers	1 Are you aware that the introduction of educational technology, recurring cost of educational technology, financing by state and local school, government monitoring of accessibility are strategies for using technology to promote education reform?	50(83.88%)	10(16.67%)
	2 Are those strategies, if effectively utilized capable of promoting education reform?	52(86.67%)	8(13.33%)
	3 Would you be available if needed for proper implementation of the strategies?	51(85%)	9(15%)
Parents	4 Are you aware of any strategy of using technology to promote education reform?	25(62.5%)	15(37.5%)
	5 Are those strategies if effectively utilized capable of promoting education reform?	31(77.5%)	9(22.5%)
Students	6 Has any strategy of using technology to promote education reform existed before?	56(56%)	44(44%)
	7 Can there be any positive results if the available strategies are used in education reform?	90(90%)	10(10%)

With the result of the table above, 83.33% are aware that the introduction of educational technology, recurring cost of educational technology, financing by state and local school authority, government monitoring of accessibility are some of the strategies of using technology to promote education reform. So, the

introduction of educational technology, recurring cost of educational technology, financing by state and local school authority, government monitoring of accessibility includes the strategies of using technology to promote education reform.

Research Question 4

To what extent have the available strategies been used to promote education reform?

Table 4: Frequency counts and percentages of respondents on extent of usage of available strategies to promote education reform

Teacher s	D	EXTENT OF USAGE OF AVAILABLE STRATEGIES TO PROMOTE EDUCATION REFORM	YES	NO
	1	Do you have adequate accessibility to the use of technology in your school?	26(43.33%)	34(56.67%)
	2	Do you use technological devices in your lessons?	14(23.33%)	46(76.67%)
	3	Does the government help to subsidize the cost of procuring technological devices for your school?	9(15%)	51(85%)
Parents	4	Is any strategy of using technology to promote education reform in existence?	30(75%)	10(25%)
	5	Do you have adequate knowledge of the operation of any technological device?	31(77.5%)	9(22.5%)
	6	Do you teach your ward(s) to utilize any technology for learning activities?	28(70%)	12(30%)
Student s	7	Do your teachers use technological devices while teaching?	23(23%)	77(77%)
	8	Do you think the use of technology can improve the rate at which you learn?	94(94%)	6(6%)

The result in the table above shows that 43.33% have adequate accessibility to the use of technology while 56.67% do not; 23.33% use technological device, while 76.67% do not, and 5% agree that government subsidize the cost of producing technological devices while 85% disagreed. Therefore, the available strategies which includes adequate accessibility to the use of technological devices

in lessons, government subsidizing the cost of producing technological devices have not been used to a great extent.

Discussion of findings

From the study, it was revealed that inadequate technology access, insufficient software, cost of introducing and using technology, unskilled teachers amongst others constitute challenge for using technology to promote education reform. This findings was supported by (Glennan and Melmed, 1996) and (Dede,1999) who stated that financing the cost of introducing and using technology in schools; providing teachers with the skills and time needed to improve such schools; providing adequate technology access amongst others form the major challenges of using technology to promote education reform. This implies that there are no technology devices in most schools and homes and majority of teachers faced some challenges in using technology.

The challenges affect technological advancement as it abreast knowledge, causes frequent curriculum review and provides better method for implementing the curriculum. This research work is in line with the opinion of Dede (1999) that most educators who use technology to implement the alternatives types of pedagogy and curriculum are pioneers, people who use continuous change and growth as an integral part of their profession and who are willing to swim against the tide of conventional operating procedures often at considerable personal cost. This implies that challenge affect the technological advancement on education reform positively.

The introduction of educational technology, recurring cost of educational technology, financing by state and local school authority, government monitoring of accessibility are some of the available strategies for using technology to promote education reform. The extent of the usage of the available strategies is low. Government subsidy on technological devices is minimal. This finding is in line with the opinion of Dede, (1999) that few communities are willing to take educational innovations on "faith".

Conclusion

Based on the analyzed data, people have heard of reforms in education involving the use of technology but the reforms has not yielded the expected results. Though students do not find it difficult learning with technology, yet no

technological device is used in their lesson. Majority of the teachers faced some challenges in using technology and these have effect on technological advancement in education reform. Also, there are technological devices in most schools but due to short-comings on the part of the schools and teachers, they are not utilized effectively despite it numerous benefits. People are aware of the available strategies which can be used to promote education reform, but the extent of usage is low. Finally, it was revealed that despite the mapped-out strategies, governments do not subsidize the cost of procuring these technological devices.

Recommendations

Based on the findings of the study, the following recommendations are considered relevant.

- There should be enactment of government policies on the use of technology in schools.
- Provision should be made to train teachers on how to use technology and create effective lesson plans that contributes to the learning needs of students.
- There should be consistent access to a range of similar technologies at all levels of education for teachers and students in schools, individual classrooms, libraries and workplace.
- The government and non-governmental organizations should not allow the awareness that technology instrumentation as an excellent way to support and enhance student learning style to die down.
- In addition to this, parents must be made to understand that though technology is a vehicle that helps us to continue to challenge our beliefs and do things differently, it empowers the students and enables success for all learners.
- Although Nigeria education has suffered too much in the past due to fluctuations and instability in government policies on education especially in matter relating to educational funding and financing, nevertheless, the government should subsidize the cost of procuring technological devices.
- Finally, the government should plan it education with regard to effective use of technology and implement it with commitment and sense of direction for the greater good of its entire citizens.

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