Perception of Nigerian secondary school teachers on introduction of e-learning platforms for instruction

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Abstract: This paper examines the view of Nigerian secondary school teachers on the introduction and utilization of e-learning platforms (blackboard, moodle, e-college, Web CT) to support and enhance learning. Six hundred teachers were drawn from 50 different schools in all the education districts located in Lagos state, Nigeria. A 25-item , 5-point likert scale questionnaire was validated and used for the study. The result showed that there was no significant difference in perception based on gender. However, there was significant difference as a result of the school type. Findings further showed that the teachers were of the view that e-learning platforms should be utilized in schools as soon as possible to support learning. Suggestions were given on how to make this feasible in Nigerian schools despite the challenges.

Key words: perception; e-learning platforms; instruction

1. Introduction

Secondary education in Nigeria is the form of education children receive after primary education and before the tertiary stage. The duration is 6 years given in two stages-junior secondary school and senior secondary school, each for 3-year duration. According to the National Policy on Education (2004), the junior secondary school is both “prevocational and academic”, while the senior secondary school is “comprehensive with a core-curriculum designed to” broaden pupils’ knowledge and outlook. Taking a critical look at the broad goals of secondary education, the curriculum is expected to “provide trained manpower in the applied sciences, technology and commerce at sub-professional grades”, and “inspire the students with a desire for self-improvement of excellence”.

Considering these two among the broad goals, one would realize that there is a need for self-development among the students, knowing fully well that the students enrolment is outrageously high. With the implementation of the UBE (Universal Basic Education) scheme, the programme is likely to enroll about 14 million students in Nigerian secondary schools from year 2008 (Okebukola, 2004), out of the estimated 140 million citizens declared by the Federal Government of Nigeria, based on the 2006 national census exercise.

Despite the astronomical growth in enrolment, the tier is also faced with other challenges, such as shortage of professionally qualified teachers, high students to teacher ratio, shortage of space and facilities and inadequate

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instructional materials, among others. This is the reality on ground.

If the above scenario is what Nigerian secondary school system is facing, the major question that one should address right now is: "How do we resolve this challenge(s) in secondary education curricular in Nigeria practically". This is because it is obvious that the Nigerian Government should look for alternative means (apart from the face-to-face teaching) to ensure that the large number of students are taught effectively with or without the shortage of the professionally qualified teachers.

Certainly, there is a need for innovations and reforms. The reform should make the instruction in Nigeria secondary schools much more interesting and relevant to meet not only the needs of the smaller society, but also the outside world as well. This involves the application and integration of technology.

A chronological analysis of the application of technology in education shows that, various technologies had made impact and contributions in the past—invention of the alphabets, books, chalkboard, overhead projector, video projector and the computer. Carr (2000) noted that since early in this century, various "new" educational technologies have been touted as the revolutionary pedagogical wave of the future. Classroom films, language laboratories, educational television, computer-assisted instruction, interactive videodisc, and more recently, electronic learning, which is any type of online learning that is relevant and realistic to the user, are now adopted and integrated into the curriculum with varying degrees of success most especially in the developed countries.

Cattagni and Farris (2000) claimed that, e-learning, which is also known as Internet-based hybrid learning, is now one of the most significant new learning technologies to emerge in the last 10 years. It is further revealed that, the evolution of Internet in K-12 schools is having a profound impact on the evolution of computer use and the curricular integration of new learning technologies in America.

E-learning was given various definitions on the web, one web defines it simply as "Internet-enabled learning that encompasses training, education, just-in-time information and communication" (http://www.eng.wayne.edu/page/php). Another web says that, it is "the delivery of a learning, training or education program by electronic means. It involves the use of computer to achieve these" (http://www.intelera.com/glossary.htm). Also, it is "any virtual act or process used to acquire data, skills, information or knowledge in a virtual world where technology merge with human creativity to accelerate rapid development" (http://www.mountainquestinstitute.com/definitions.htm). Others equate it with online learning. In summary, e-learning is an amalgamation of education, training and structured information delivery by computer through the Internet, the web or from the hard drive of the computer.

Some of the tools and activities that make up e-learning were highlighted by Ajelabi (2005). These include Internet chatting, video referencing, discussion forum and other tools that can be shared.

Many nations in the world had transformed their educational systems and training by new ICT (information and communication technologies) production methods (Brill & Galloway, 2007). Lot of Institutions now adopt different learning platforms to support learning.

Learning platforms are software-controlled infrastructures that attempted to replicate what teachers do in the face-to-face classroom. These platforms are normally located on a computer on the Internet (or an Intranet) and are typically accessed by means of a web-browser. It can be used for students' enrolment, induction and support, chalk and talk combined with class discussion, practice of skills, assessment and accreditation. The popular ones include WebCT, topclass, the learning manager, Moodle, virtual learning environment, blackboard and e-college.

Since it has been realized that, modern technologies, such as electronic learning platforms present new opportunities and enhance individualized instruction at the secondary school level, so it is pertinent to state that there may be a need to introduce it for instruction in Nigerian secondary schools.

However, the use of e-learning platforms is still a developing link in Nigerian educational system and training. The Nigerian educational system must be alert to meet these intellectual challenges in solving Nigerian secondary school instructional programs.

2. Purpose of the study

The current study was carried out to investigate the perception of secondary school teachers on the adoption of e-learning technology for teaching and learning in Nigerian junior and senior secondary schools. Precisely, the study aims at finding out the extent of technological gaps in the Nigerian secondary educational system, as well as determining the suitability of e-learning to Nigerian secondary education curriculum. Furthermore, the study seeks to find out whether gender factor will bring about a difference in perception. Also, the paper is interested in examining the difference in perception based on school type (private or public).

3. Hypotheses

The following null hypotheses is postulated for this study and will be tested at 0.05 level of significance:

(1) There will be no statistical significant gender difference in teachers' perception on the introduction of electronic learning for instruction;

(2) There will be no statistical significant difference in teachers' perception on the introduction of electronic learning for instruction based on school ownership (public/private).

4. Methodology

4.1 Sample

Six hundred secondary school teachers drawn from 50 different private and public schools in all the six 6 education districts in Lagos State, Nigeria constituted the participants for the study. The subjects were randomly selected from both the junior and senior secondary schools. Four hundred and nineteen female and 181 males constituted the participants. They all hold various certificates ranging from NCE (National Certificate in Education), H.N.D (Higher National Diploma), First (B.A. (Ed), B.A., B.Sc., B.Sc. (Ed.)) to postgraduate (PGD, M.A., M.Sc., M.Ed., Ph.D.) degrees. Their status also vary. The same applies to their years of teaching experience which was between 1 year and 31.

4.2 Instrument

A questionnaire was used in collecting data for this study. This 25-item 5-point likert scale questionnaire was captioned "perception of secondary school teachers on introduction of e-learning for instruction". This was designed by the researcher.

In order to ensure the face validity of this questionnaire, the instrument was given to 3 senior tutors (teachers) in private and public secondary schools, a colleague in the Faculty of Education and 2 experts in ICT (one based on the faculty, and the other on the Faculty of Science). It was properly scrutinized and appropriate corrections

were made. Thereafter, it was subjected to content reliability, whereby, the test-retest co-efficient was determined within 2 weeks interval. The value obtained was 0.88. This was high.

4.3 Data analysis

The researcher subjected the data collected to statistical treatment in order to obtain means and SD (standard deviation). The two hypotheses stated earlier in the research were tested by using the t-test. Findings were held significant at 0.05 alpha level.

4.3.1 Hypothesis 1

There will be no statistical significant gender difference in teachers' perception on the introduction of e-learning for instruction.

Table 1 T-test analysis of male and female teachers' perception on introduction of e-learning platforms

Variable	N	X	SD	df	t-calculated	t-critical
Male	181	81.40	8.98	598	1.77	1.96
Female	419	79.95	8.55			

Table 1 clearly shows that the t-calculated value is less than the t-critical value, i.e., 1.77<1.96. This implies that, there is no statistical significant difference in the perception of female and male teachers on the introduction of electronic learning for instruction. Therefore, it upholds hypothesis 1.

4.3.2 Hypothesis 2

There will be no statistical significant difference in teachers' perception on the introduction of electronic learning for instruction based on school ownership (public/private).

Table 2 T-test analysis of public and private school teachers' perception on introduction of e-learning platforms

Variable	N	$\bar{X}$	SD	df	t-calculated	t-critical
private owned	243	88.40	10.43	598	2.55	1.96
public owned	357	71.36	9.99			

From Table 2, the t-calculated value is more than the t-critical value. This implies that there is significant difference in the teachers' perception on the introduction of e-learning for instruction based on school ownership. The null hypothesis is therefore rejected, and the alternative hypothesis is upheld.

5. Major findings

From the above data, there are 6 findings as follows:

(1) There is no significant gender difference in teachers' perception on the introduction of e-learning for instruction;

(2) There is significant difference in the perception of teachers in private and public secondary schools on the introduction of e-learning for instruction;

(3) Teachers in privately owned secondary schools were more favorably in support of the introduction of e-learning for instruction more than their counterparts in the public schools;

(4) The teachers strongly perceive that, e-learning for instruction in the secondary schools should be introduced as soon as possible for the improvement of instruction;

(5) Majority of the teachers were of the view that, there is a great gap in the application of "educational technologies" to teaching and learning in the secondary schools;

(6) Finally, few of the teachers were of the opinion that e-learning may not be suitable in the Nigerian secondary education system for now, because of environmental and political factors.

5.1 Discussion of the findings

From the above findings, Table 1 shows that, gender does not have a significant difference in perception on the introduction of e-learning for teaching and learning. Notwithstanding the male respondents obtained a slightly higher mean score than the female respondents. This may be because that males are more interested in experimenting than the females and they are more interested in trying new skills.

In addition, Table 2 shows no significant difference in the perception of teachers in private and public schools on the introduction of e-learning for instruction. However, Table 2 further reveals that, those in private schools obtained a far higher mean score, compared to their counterpart in the public schools. This may be due to the fact that most of the teachers in the private schools are youths, and are aware of the importance and application of computers to education. In addition, some of them have been using computers to support learning, and had been giving assignments to students on the internet. This has always yielded positive responses.

The study also revealed that the teachers are interested in the introduction of e-learning. This is because it is an innovation. The teachers certainly wants to move with technological developments. They had already seen the uniqueness of the Internet and its usefulness to education.

5.2 Implications of the findings

Today, technology application and interaction in the classroom is one of the most challenging innovations that several teachers have to contend with. This is because the use of computers and information technology is regarded as essential to everyday activity, and there is increasing pressure to adapt teaching to accommodate new technologies (Villegas & Reiners, 2003).

A developing nation like Nigeria is faced with lots of challenges in order to meet up with the new technological demand. On the part of the teachers, they will need to meet with pressures and expectations from the society, parents and students. They must also have access to and make appropriate use of relevant technologies. On the part of the schools, they must have access to the new technology, especially computers and other gadgets. Government should also acquire teachers and students to learn how to use computer effectively for teaching and learning. Other challenges include finance, power and energy failure as well as the resistance to change by Nigerian teachers, students and even the government.

6. Recommendations

First, most of the teachers were of the view that e-learning should be introduced. Therefore, all teachers should be encouraged to be computer literate. Practical training programmes should also be organized for the students.

Second, the government should provide adequate funding to cater for internet facilities which would make e-learning much easier. Issue of power supply should also be reviewed.

Finally, the citizens should learn to adapt to new situations. For example, as at 2005, more than 3.2 million students were participating in on-line learning at institutions of higher education in US.

In conclusion, there is a need for all the stakeholders—students, teachers, administrators, ICT providers, Ministry of Education officials, engineers as well as government and the society representatives to meet and find a practical means of making the use of e-learning a reality in Nigeria.

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