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A pedagogical appraisal of internet and computer usage among secondary school teachers and students in the Southwest Nigeria

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Abstract

The survey investigated and appraised the use of internet and computer among secondary school teachers and students in Southwest Nigeria. Pre-tested structured questionnaires were administered to four hundred and fifty and three thousands randomly selected respondents, teachers and students respectively. Almost all the survey instruments were appropriately filled and were used for analysis. Data were analyzed using descriptive statistics. The studies revealed that majority of the respondents are female. 41.1% and 55% of the teachers had access to internet and computer respectively, while 51% and 46.9% of the students had access to internet and computer respectively. In addition, majority of teachers used the net via school cybercafé while that of students reached internet via mobile phones. However, 38.7% and 64.5% of the respondents (teachers and students) had access to computer by using their school computer laboratory. Very low indexes were recorded for variables that contributed to teaching and learning processes in the school. The rating results derived from summation of weighted values (SWV) all attested to this claim. The study concluded that using of internet and computer had contributed to personal cognitive interests rather than enhancing the teaching and learning activities in secondary schools in the Southwest of Nigeria.

Keywords: Internet and Computer use, secondary school teacher and student, teaching and learning processes;

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1. INTRODUCTION

This study aims to find out the secondary school teachers and students assessment in line with the following criteria:

1. Their gender distribution in the Southwest Nigeria
2. Their level status and qualification
3. Their accessibility to internet and computer usage
4. Their level of exposure to internet and computer usage
5. The channels use to surf the internet and computer usage
6. To ascertain their aims and objectives for surfing the internet and using computer as educational technology tools in teaching and learning processes.

Although, research findings established internet and computer effectiveness in teaching and learning processes, this research would further reaffirm their prospects and also seeks to find out pedagogical appraisal of internet and computer usage among secondary school teachers and students in the Southwest in Nigeria. Onasanya, & Asuquo, 2007 concluded that relevance of the technology to education particularly as regards to learning in secondary school was 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 in internet and computer usage. It has been argued that there is a need for students to develop learning skills that will enable them to think critically, analyse information, communicate and solve problems. Computer usage and internet would immensely meet these needs if incorporated into the Nigerian public school syllabus.

Internet is a computer-based global information system. The Internet is composed of many interconnected computer networks (Bane & Milhieim, 1995). Each network may link tens, hundreds, or even thousands of computers, enabling them to share information and data resources. The Internet has made it possible for people all over the world to communicate with one another effectively and inexpensively (Comer, 2009). The invention of internet led to the development of virtual library, other services in all facets of life, institutions and all human endeavours. The following services can be enjoyed via the internet. They are, just to mention a few; sending and receiving e-mails, visiting websites, chatting, reading newspapers online, learning, accessing the e-journals, databases, etc. It is not an exaggeration to say that the internet has become an invaluable tool for teaching, learning and research (Yumba, 1997; Ojedokun & Owolabi, 2003; Adomi, Omodeko & Otolo, 2004). Internet made mobile phones become widely available educational technology with a great deal of promise, especially for use in rural areas without mean of electricity or internet connectivity. Although the technology has some technical limitations and security issues, several mobile learning pilot projects are currently taking place and links with student achievement are emerging (Banks, 2008; Traxler, 2009). Lei and Zhao (2007) describe how each technology is likely to play a different role in students' learning and it is clear that we need to think about what kind of technologies are being used in the classroom, and for what purposes. Students can learn where computers are used essentially as tutors to increase students' basic skills and knowledge. They can also learn with computers where technology is applied to a variety of goals in the learning process,

and is construed as a resource to help develop higher order thinking, creativity and research skills (Reeves, 1998; Ringstaff & Kelley, 2002).The role of technology in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy (Rosen & Well, 1995; and Thierer, 2000).

Most experts in the field of education agreed that, when properly used, information and communication technology hold great promise to improve teaching and learning in addition to shaping workforce opportunities. Poole (1996) indicated that computer illiteracy is now regarded as the new illiteracy. This actually necessitated much desire to equip secondary schools with computer facilities and also qualified personals are required to produce technologically proficient and efficient students in developed countries of the world. It is believed that the introduction of computer into our classrooms will assist solving educational problems and enhance students' achievement. Since the year 2005, the use of computer as a teaching and learning tool has become a burning issue in Ondo State secondary schools. Teachers are made to attend ICT workshops, Seminars and IT in-services courses organized by Ondo State Government through the Ministry of Education. Of recent, Ondo State Government through Ministry of Education organized seminar and workshop for Mathematics and Computer science teachers. The workshop was meant to train teachers about the use of ICT to improve teaching and learning in various secondary schools.

1.1. Scope of the Study

This study examines the public secondary school teachers and students perception of internet and computer usage in the Southwest Nigeria secondary schools. Only 15 public secondary schools, five each from 3 geographical spread areas in Ondo-state, Nigeria were used. A total of 450 teachers and 3000 students took part in the survey. However, out of the 3000 respondents as students, 2756 filled their questionnaires appropriately and were used for data analysis. Similarly, out of 450 teacher respondents, only 418 teachers filled their questionnaires appropriately and were used for data analysis.

2. METHODOLOGY

Structured questionnaires after pre-tested at University of Ado-Ekiti, Nigeria were used to collect quantitative data from randomly selected respondents (teachers and students). Quantitative information on gender, level-status and qualification, access to internet and computer usage, year of exposure to internet and computer, aims and purpose of internet and computer usage, among many other as measurement items, were collected from selected teachers and students. Data collected were edited, coded and analysed using descriptive statistics of SSPS. The study listed some perceived purposes and reasons in Table VII to Table X and respondents reacted to them. The results were then analyzed using the statistical method of summation of weighted values (SWV). Five ratings were used. They were namely 'strongly agree', 'agree', 'just agree', 'disagree' and 'strongly disagree'

corresponding to scales of preferences of 5, 4, 3, 2, and 1 respectively. The preference index was obtained by dividing the SWV for each attribute or reason by the total number of respondents analyzed.

2.1. Validity of Instrument

The research instrument items were subjected to face and content validity by the experts in computer curriculum and Test and Measurement experts in University of Ado-Ekiti, Nigeria. Their suggestions and modifications were reflected in the final draft of the instrument.

2.2. Reliability of the Instrument

The Pearson moment correlation was used to determine the reliability of the questionnaire. To ascertain the reliability of the instrument after modification, it was administered on the teachers and students which were not part of the sample using test-retest method. The reliability correlation yielded r=0.82 and r=0.76 respectively and in consistent with Bentler et al, 1998.

3. RESULTS

Table I: Gender of Respondents

SEX	FREQUENCY			
	TEACHER		STUDENT	
	N	%	N	%
MALE	179	42.8	1348	48.9
FAMALE	239	57.2	1408	51.1
TOTAL	418	100	2756	100

As shown in Table 1, the sampled population contained more of female than male. More than half of the respondents are female; 57.2% of the teachers are female and 51.1 % of the students are female.

Table 2: distribution of teachers by status and qualification

FREQUENCY			FREQUENCY			
LEVEL STATUS			QUALIFICATION			
			PROFESSIONAL		NON PROFESSIONAL	
	N	%	N	%	N	%
15---16	21	5.0	16	76.2	5	23.8

12---14	126	30.1	97	77.0	29	23.0
8---10	190	45.5	162	85.3	28	14.7
7	81	19.4	81	100	0	0.0
TOTAL	418	100	356	85.2	62	14.8

Table II showed the distribution of teachers by status and qualification. It could be deduce d that highest percentage (45.5%) of the teachers were between level eight and twelve while the least percentage (5.0%) could be observed between level fifteen and sixteen. This showed that more teachers were employed in the last ten years since government promotes teacher every three years. On the other hand, 85.2% of the teachers were professional teachers and this observation would enhance the quality of education in the Southwest Nigeria. One of the factors that could be responsible for this claim is that government is paying extra 27.5% of basic salary to all professional teachers. This increased teachers' morale and encouraged them in the profession. -

Table 3: distribution of respondents by their access to internet and computer usage

	FREQUENCY							
	TEACHER				**STUDENT**			
	YES	%	NO	%	YES	%	NO	%
Do you have access to internet	172	41.1	246	58.9	1405	51.0	1351	49.0
Do you have access to computer	230	55.0	188	45.0	1293	46.9	1463	53.1

Table III above showed the distribution of respondents by their access to inte rnet and computer usage. The study revealed that 41.1% and 55.0% have access to internet and computer respectively. These findings show that teachers have more access to computer than internet, and are more computers inclined than internet. On the other hand, students had more access to internet than computer, 53.1% and 49.0% respectively. This assessment is supported by Comer, 2009 and Traxler, J.2009.

Table 4: distribution of respondents by their years of exposure to internet and computer usage

Duration	**EXPOSURE TO INTERNET**				**EXPOSURE TO COMPUTER**			
	FREQUENCY				**FREQUENCY**			
	TEACHER		**STUDENT**		**TEACHER**		**STUDENT**	
	N	%	N	%	N	%	N	%
< 1 YEAR	30	17.4	628	44.7	9	3.9	896	69.3
1—2YEARS	50	29.1	475	33.8	89	38.7	346	26.8
3--4 YEARS	28	16.3	291	20.7	124	53.9	35	2.7
>5 YEARS	64	37.2	11	0.8	8	3.5	16	1.2

TOTAL	172	100	1405	100	230	100	1293	100

Table IV indicated that 62.87% of the teachers that have access to internet had less than five years of exposure to the internet or had been using internet for less than 5 years. 98.8% of the students had been using internet for less than 5 years. Implication of this finding is that students are more internet-inclined than their teachers. This claim is in consistence with the finding acclaimed from Table III and further supported by Traxler, J.2009 and Banks, K.2009

Table 5: distribution of respondents by the channels used to browse the internet

Channel used to browse the internet	**TEACHER**		**STUDENT**	
	FREQUENCY		**FREQUENCY**	
	N	%	N	%
Via personal moderm	28	16.3	35	2.5
Via internet enabled mobile phone	56	32.6	912	65.0
Via sch. Cybercafe/sch. Compter lab	74	43.0	302	21.5
Via outside cybercafe	14	8.1	156	11.0
TOTAL	172	100	1405	100

Table V showed that highest percentage of 43.0%, among the teachers that have access to internet, indicated the use of school cybercafé/school computer laboratory as channel to surf the internet. While 65.0% of the students that have access to internet indicated the use of internet enabled mobile phone to surf the net. This implies that the proliferation of internet enabled mobile phone had contributed greatly to the medium through students surf the net. This claim is in consistence with the finding acclaimed from Table III and further supported by Traxler, J.2009 and Banks, K.2009 and Onasanya and Asuquo, 2007

Table 6: distribution of respondents by the channels used to for computer usage

CHANNEL USED FOR COMPUTER USAGE	**TEACHER**		**STUDENT**	
	FREQUENCY		**FREQUENCY**	
	N	%	N	%
VIA PERSONAL PC/LAPTOP	49	21.3	147	11.4
VIA SCHOOL COMPTER LAB	89	38.7	834	64.5
VIA OUTSIDE COMPUTER CENTER	92	40.0	312	24.1
TOTAL	230		1293	

Table VI showed that highest percentage of 40.0%, among the teachers that have access to computer, indicated the use of outside school computer center as medium to use computer. While 64.5% of the students that had access to computer indicated computer-laboratory in the schools as channels via which they have computer.

Table 7: distribution of teachers by selected reasons and purpose for using the internet and their rating

VARIABLES	Strongly agree 5	Agree 4	Just agree 3	Disagree 2	Strongly disagree 1	Total	Index
Information gathering	230	168	105	52	23	578	3.36
Download resources	210	152	96	50	35	543	3.16
Communication	190	144	87	46	46	513	2.98
To prepare lessons	180	136	81	38	34	469	2.73
Distance learning	170	132	75	36	62	475	2.76
School work	160	124	72	34	68	458	2.66
Just to increase personal knowledge	255	180	111	50	14	610	3.55
To teach in the class.	150	116	69	34	73	442	2.57

Note: The values shown in the table were obtained by multiplying the preference scale (1-5) by the number of respondents at each level, e.g 46 respondents × 5 =230 , 42 respondents × 4 = 168 etc.

There were many reasons for the use of internet by the teachers that had access to the internet. Table VIII revealed that 'just to increase personal knowledge' was given the highest priority as the reason for surfing the internet among the teachers with an index of 3.55. This was followed by 'information gathering' with an index of 3.36. 'Download resource came third in the rating with an index of 3.16 while an index rating of 2.98 represented teachers who claimed that it helped in communication. The fifth position in the rating with an index of 2.76 went to 'distance learning' as the reason for surfing the net while the next position with an index of 2.73 went to claim that internet was useful for 'preparing lessons'. The least position went to "to teach in the class". Implication of this finding is that internet users among the teachers never used internet for learning process in the secondary school.

Table 8: distribution of students by selected reasons and purpose for using the internet and their rating

VARIABLES	Strongly agree 5	Agree 4	Just agree 3	Disagree 2	Strongly disagree 1	Total	Index
Information gathering	1755	1312	768	400	270	4505	3.21
Download & surfing sites	2050	1520	888	420	109	4987	3.56
Communication	1890	1400	840	416	189	4735	3.37
School work	1475	1156	711	358	405	4105	2.92
Just to increase personal knowledge	1520	1200	720	368	377	4185	2.98

Note: The values shown in the table were obtained by multiplying the preference scale (1-5) by the number of respondents at each level, e.g 351 respondents × 5 =1755, 328 respondents × 4 = 1312 etc.

There were many reasons for the use of internet by the student-respondents that had access to the internet. Table IIX revealed that 'download & surfing sites' was given the highest priority as the reason for surfing the internet among the students with an index of 3.56. This was followed by an index rating of 3.37 represented students who claimed that it also helped in communication. Next in the rating was an index of 3.21 for information gathering as the reason for surfing the net. The fourth position in the rating with an index of 2.92 went to 'just to increase personal knowledge' as the reason for surfing the net while the least position with an index of 2.92 went to the claim that internet was useful for 'school work'. Implication of this finding is that internet users among the students never used it for teaching and learning process in the secondary school, rather they used for downloading and communication.

Table 9: distribution of teachers by selected reasons and purpose for using computer and their rating

VARIABLES	Strongly agree 5	Agree 4	Just agree 3	Disagree 2	Strongly disagree 1	Total	Index
Just to increase personal knowledge	260	156	144	72	55	687	2.99
To teach in the class.	220	168	117	68	71	644	2.80
Just to communicate	235	180	126	86	53	680	2.96
Just to be computer literate	300	216	144	68	34	762	3.31

Note: The values shown in the table were obtained by multiplying the preference scale (1-5) by the number of respondents at each level, e.g 52 respondents × 5 =260, 39 respondents × 4 = 156 etc.

Table IX revealed that 'just to be computer literate' was given the highest priority as the reason for using the computer with an index of 3.31 by the teacher-respondents that had access to the computer. This was followed by 'just to increase personal knowledge' with an index of 2.99. 'Just to communicate' came third in the rating with an index of 2.99 while an index of 2.96 went to the claimed that internet was useful for communication purpose. Implication of this finding is that computer users among the teachers never used computer for learning process in the secondary school, rather they used it to be computer literate.

Table 10: distribution of students by selected reasons and purpose for using computer and their rating

VARIABLES	Strongly agree 5	Agree 4	Just agree 3	Disagree 2	Strongly disagree 1	Total	Index
Just to increase personal knowledge	1155	856	528	270	537	3346	2.59
checking for information	1560	1000	801	400	264	4025	3.11
Just to communicate	1600	1156	810	500	164	4230	3.27
Just to be computer	1435	1104	735	416	277	3967	3.07

literate									

Note: The values shown in the table were obtained by multiplying the preference scale (1-5) by the number of respondents at each level, e.g 231 respondents × 5 =1155, 214 respondents × 4 = 856 etc.

Table X revealed that 'just to communication' was given the highest priority as the reason for using the computer with an index of 3.27 by the student-respondents that had access to the computer. This was followed by 'checking for information' with an index of 3.11. 'Just to be computer literate' came third in the rating with an index of 3.07 while an index of 2.56 went to the claimed that computer was useful for personal knowledge increment. Implication of this finding is that computer users among the students used computer for communication processes in the secondary school. This claim is in consistence with Okebukola (1997).

4. CONCLUSION

This study concluded that students surfed the net via their internet enabled mobile phone than their teachers. Therefore they do have more access to internet resources than their students but never used this internet for learning purpose in their classrooms. On the other hand teachers used internet for their personal reasons and this adversely affected learning processes in Southwest part of Nigeria. There is no doubt that teachers and students in secondary schools in Nigeria will have incredible resources available if they have access to the Internet and the computer. By integrating information and communication technology into secondary school curriculum, a fundamental shift in the way teachers and students learn will be evolved. Also, with the advent of computer technology into our classrooms, it is hoped that individual student can easily learn at his own pace with the aid of computer so as provide solution to the problems of shortage of teachers. It is also hoped that computers can change current pedagogical practices in secondary schools in Nigeria, which depended heavily on the traditional lecture method. It is universally accepted that computers allow more independent exploration, more personally tailored activities, more teamwork, and more significantly, less didactic instruction. But this study proved that these hopes and aspiration on the paths of government, teachers and students have not been met. In Nigeria, there are few Internet providers that provide Internet gateway services to Nigerians. The few reputable companies, which render reliable services, charged high fees thus this limits the access to the use of Internet. One of the greatest technological challenges in Nigeria is how to establish reliable cost effective Internet connectivity. Secondary schools in the Southwest of Nigeria are not given adequate funds to provide furniture, requisite books, laboratories and adequate classrooms let alone being given adequate funds for high-tech equipment (computers) and Internet connectivity. Again, due to the lack of adequate electricity supply, especially in rural areas in Nigeria, secondary schools located in those areas have no access to the Internet and are perpetually isolated from the world's information resources. Teachers need to be re-oriented of the need to use internet and computer for teaching and learning processes in the school. Additionally, government should as a matter of urgency

incorporate internet enabled mobile phone in the teaching and learning processes in Southwest part of Nigeria that will pace way into electronic and mobile leanings among the students.

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