THE DIGITAL DIVIDE BETWEEN URBAN AND RURAL TECHNICAL COLLEGE STUDENTS IN AKWA IBOM STATE, NIGERIA

Mrs. Idorenyin J. Ekanem[1], Sunday F. Akpan[2], Joseph M. Nwokomah[3]

[1-2] Department of Curriculum Studies, Educational Management and Planning, University of Uyo, & [3]Federal College of Education Omoku, NIGERIA.

drefanga200@gmail.com

ABSTRACT

The focus of this study was to determine if there was digital divide between urban, rural and gender among students in Technical Colleges in Akwa Ibom State, Nigeria. Two null hypotheses were formulated to direct the study, the ex-post facto design was used for the study. The population was 6,304 students distributed into three urban and three rural colleges in the state. The sample size of 600 students was selected from the six colleges in the state through stratified random technique. The basis of stratification was locations- urban and rural. The instrument used for data collection in the study was students achievement test, which consisted of 20 items multiple-choice questions. The data obtained was analyzed using independent t-test at .05 alpha level of significance. The weight of statistical evident showed that there was a significant difference among the variables of the study. Based on these, it was concluded that, there exist a digital divide between urban and rural technical colleges students in Akwa Ibom State. Some recommendations were made which include that policies, procedures and support should be established by the government at all levels of technical education to ensure that web page, library and distance learning, program developers make their electronic resources accessible to all potential user.

Keywords: Digital divide urban rural ICT gender Akwa Ibom State

INTRODUCTION

The world today is significantly known for rapid social and economic transformation as a result of information explosion and the application of technology in all spheres of life. The world is fast becoming a global village, as a result of developments in information and communication technology (ICT). Education is not left out of this wave of change. The World Bank (2002) described IT as the creation, storage and processing of data, including hardware (computer, networks, storage devices) and system software (operating systems, programming languages and software application). Urua (2004) conception of ICT is apt and relevant to this study. He conceived ICT as the digit processing and distribution of information through the competent use and manipulation of computers, electronics and telecommunication. Most of the developed countries (USA, UK and Canada) have exploited the potentials of ICT to transform educational contour at all levels, specifically the instructional process at these levels. Recently, students acquire knowledge with the assistance of their teachers through computer and other digital devices.

The difference between those that have access to these digital devices and those who do not are known as “digital divide”. Asuquo (2015) submission is that digital divide is unequal access to digital and network resources, including the internet, and opportunities to learn using information and communications technologies.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp

Asuquo (2015) citing Yusuf in analysis of Nigerian national policy for information technology submitted that "Computer Education in Nigeria Secondary Schools is on a very low space". The analysis also depicted that a wide gap exist between the policy and implementation in secondary Schools. The educational implications of this is that Computer Education is not practiced as its should be, which informed the digital divide in Secondary Schools. This result may apply mutatis mutandi to technical colleges.

In an influential study conducted by Jegede and Owolabi, (2003). on information communication and Technology (ICT) for the effective management of Secondary Schools for sustainable development in Ekiti State, Nigeria. The researcher adopted a descriptive survey design. The study population comprised all the 182 secondary schools (Technical Colleges inclusive). Out of this population a sample of 160 schools was selected through stratified random sampling technique. Out of the 6,278 teachers in the schools, 812 respondents made up of 160 principals and 652 teachers were selected for the study through stratified random sampling technique. The basis for stratification was urban, and rural location of schools. The tool for data collection was questionnaire, the data collected were abstracted and analyzed using frequency counts, percentages and Pearson Product Moment Correlation analysis. the findings shows that the level of provision of ICT equipment to Secondary/Technical schools in the state was low. That principals management of schools, specifically in rural schools was also low.

Since no education system can rise above the level of its teachers, it was recommended that Government should improve on the training of principals, and teachers in the use of ICT equipment through seminar and in-service training in order to bridge the digital gap in the state colleges. The findings suggested that quality teachers would produce quality students in ICT.

In Nigeria and Akwa Ibom State in particular, social and technological amenities are concentrated in the capital and urban cities. It is in these that are found the best quality of telecommunications infrastructures, computers and other socio-economic amenities. Adeogun (2003) avered that the quality of such services diminish as one moves further from the cities to the hinterland. This seems to suggest that educational institutions in the cities are disposed to better ICT services which are utilized to their advantage by both students and teachers.

The theoretical framework for this study focuses on Bruner's (1966) theory of instruction. Bruner was one of the founding fathers of constructivist theory. Constructivism is basically a theory based on observation and scientific study, about how people learn. It is Bruner's (1966) position that learners construct their own understanding and knowledge of the world, through experiencing things and reflecting on these experiences. Learning is an active process. Facets of this process include selection and transformation of information, decision making, generating hypotheses, and making meaning from information and experiences. This theory is relevant to this study because information technology is concerned with the various means of generating, processing information using basically computers and telecommunications.

KNOWLEDGE OF COMPUTER BY URBAN AND RURAL STUDENTS

A study put forward by Hindman (2010) used national survey data to determine whether there was digital divide between metropolitan and non metropolitan population and how wide was the gap. The finding showed that there was a gap between the rural and urban students and that one's income, age, and education were more closely associated with the use of information technologies than the geographical location. The study concluded that contrary to

utopian predictions of the universal benefits provided by the tools of the digital revolution, innovative uses of information technologies are likely to remain closely associated with social indicators. In the same vien, Ani, Uchendu and Atseye (2011) uphold that in general, those who are poor and live in rural area are about 20 times more in danger of being left behind than wealthier residents of urban areas. Asuquo (2014) studies school type, location and student's gender and digital divide among secondary school students in Uyo Local government Area of Akwa Ibom State. Quasi-Experimental design was used for the study, simple random technique was used to select a sample size of 420 respondents. A structured questionnaire developed by the researcher was used for data collection while independent t-test was used for data analysis. Results indicate that difference exist between urban and rural students in knowledge of computer.

In a survey research conducted by program on Global Justice and Center for Ethics in Society Postdoctoral Fellowship (2013), on Documenting China's Digital Divide between urban and rural schools in China, the researchers observed that the gap between computer and internet access of students in rural and urban public school students is significantly wide. The observation is based on the fact that a person is regarded to have access to a particular ICT if he has opportunity to utilize the benefit from ICT.

Knowledge of Computer Based on Gender of Students

Perhaps, the most enduring technological inequalities is the gender divide. Among educators, ICT has been accepted as a panacea to effective teaching, innovative training and skill development. A study conducted in Kuwait 2008-2009 by Alqattan (2009) was to determine whether there exist a digital divide between male and female freshmen students in the College of Health Sciences in Kuwait. Random sampling technique was used to select 500 students attending single-sex programme in the college of Health Sciences in Kuwait during the 2008-2009 academic years. The tool for data collection was a structured questionnaire. Findings arising from research question one indicated that there is a significant association between the learning outcomes at high school level and gender (chi-square = 44.687, df =3, p <.05). the finding clearly underscored the impact of knowledge of ICT on gender of students. Jegede and Owolebi (2003) justified the inclusion of ICT programme in Technical Colleges Curriculum when they aver that in Nigeria. Technical colleges, the computer-student ratio is 1:50 and funding by Government has not been encouraging.

The focus of this study therefore is to carry out an assessment of the difference that exists in digital divide between urban and rural technical college in Akwa Ibom State, Nigeria.

METHODOLOGY

The population of this study consisted of the total number of students in the six technical colleges in Akwa Ibom State. They colleges are Mainland Technical College, Oron, Union Technical College, Ikpa, Technical College, Ikot Akata, Technical College, Ikot Uko-Ika, Ewet Technical College, Uyo and Technical College, Abak. The population was 6,304 students distributed into 3 urban and 3 rural colleges (source: State Technical Schools Board, Uyo).

The sample of this study consisted of 600 students made up of 200 students drawn from students' population of 2,000 of Technical College Ewet, 180 students drawn from students' population of 1,800 of Mainland Technical College, 105 students out of 1050 students' population of Ika Technical College and 115 students drawn from 1,150 students population of Ikot Akata technical college.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp

The subjects that constituted the sample for this study were drawn through stratified random sampling technique. The basis for stratification is the location of the college (urban and rural locations).

The instrument used in this study for data collection was students achievement tests. It consists of 20 (items) multiple – choice questions. It elicited information on five of the basic concepts in computer studies.

Validation of the Instrument

The content validity was determined by three experts in Educational Management and Test and Measurement who examined the instrument to ascertain whether or not it measured what it was supposed to measure.

However, none of the items was dropped but two items were rephrased. Their comments were used to correct items in the instrument before they were administered to the respondent.

Reliability of the Instrument

The reliability of the instrument was established using the test-retest reliability technique. In doing this, the instrument was administered to fifty respondents from the study population but were not included in the study sample. After a period of two weeks, the instrument was re-administered to the same respondents. The data collected on the two test were collated and analyzed using Pearson Product Moment Correlation analysis. A reliability coefficient of 0.74 was obtained indicating that the instrument was reliable for the study.

Administration of the Instrument

The instrument was administered to through the use of research assistants.Returns were received from 600 respondents, out of which returns from 20 respondents were wrongly completed and discarded while the returns from the remaining 580 respondents were well completed and used for the data collected from the respondents were analyzed using independent t-test analysis. the null hypothesis were tested at .05 alpha levels.

Hypothesis One

The first null hypothesis stated that there is no significant difference in knowledge of ICT and school achievement between urban and rural technical colleges in Akwa Ibom State. The result of the analysis is presented in Table I.

Table I. Summary of Independent t-test analysis of ICT knowledge between students of Urban Rural Technical Colleges (n=580)

Variable	$\bar{x}$	*SD*	*df*	*tcal*	*t-crit*
Urban	24.63	3.12	578	40.1*	1.96
Rural	20.28	2.60			

P <.05

The result presented in Table I, shows the calculated t value is 40.1. This value is greater than the table critical value of 1.96 at .05 alpha level and 578 df, thereby warranting the rejection of the null hypothesis. In other words significant difference exists in knowledge of ICTs and students achievement between urban and rural technical colleges in Akwa Ibom State. Judging from the mean scores of 24.63 for urban Technical colleges and 20.28 in rural colleges, achievement in urban colleges is better than rural colleges.

Hypothesis Two

There is no significant difference in knowledge of ICT and school achievement based on gender in Technical Colleges in Akwa Ibom State.

The result of the analysis of null hypothesis two is presented in Table 2.

Table 2. Summary of Independent t-test analysis of ICT knowledge and school achievement based on Gender (n=580)

Variable	$\bar{X}$	*SD*	*df*	*Tcal*	*t-crit*
Male	20.1	3.12	578	40.1*	1.96
Female	17.24	2.42			

P<.05

The result presented in Table 2 shows a significant t-value of 18.61. The null hypothesis was rejected and the alternate hypothesis retained. The result therefore means that there is a significant difference between male students and female students in knowledge and school achievement in Technical colleges in Akwa Ibom State. In consideration of mean scores 20.1 for male and 17.24 for female, achievement of male is better than female.

DISCUSSION OF FINDINGS

The foregoing shows the analysis of data collected for this study, the discussion of the findings is done under the following sub-headings that have relevance to the hypotheses tested in the study.

Digital Divide between Urban and Rural Technical College Students

From the result of data analysis in Table I, the finding revealed that there is a significant difference in ICT knowledge and achievement between urban and rural technical college in Akwa Ibom State. This finding corroborate with the result of survey conducted by Hindman (2010), the result showed that there was digital divide between urban and rural schools. The finding is in line with the finding of Adeogun (2003) whose study showed that the quality of telecommunication infrastructure, computer and socio-economic amenities diminish as one moves further away from the cities into the hinter land.

A possible reason for this that information accessibility both in electronic and print formats are disturbed by poor access to global information net-works and transportation systems.

The urban-rural digital divide (gap) at Technical College becomes wider when examine the student usedof the device at home.

ICT knowledge and school achievement based on gender

On perusal of Table 2, it is evident that, there is a significant difference between male students and female students in knowledge and school achievement in Technical Colleges in Akwa Ibom State. this finding is in consonance with the findings of Algathan (2009) who observed that there exist a digital divide between male and female fresh men students in the college of Health Science in Kuwait. This finding is as expected culturally and in Akwa Ibom State in particularly, female forks, are not smart in the use of ICT compared with male counterpart.

Leena and Luna International, Chikusei, Japan.
(株) リナアンドルナインターナショナル, 筑西市,日本
ISSN: 2186-845X ISSN: 2186-8441 Print
www.ajmse. leena-luna.co.jp

CONCLUSION

The findings of this investigation have shown that, there is statistically significant difference between urban and rural technical college students in ICT knowledge and school academic achievement.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. Policies, procedures, training and support should be established by the government at all levels of Technical Education to ensure that web page, library resource and distance learning program developers, make their electronic resource accessible to all potential user.
2. Interagency collaboration on planning funding and supporting technology should be fostered to ensure continuous technology access and support urban and rural students transition through academic levels to labour market.

REFERENCES

[1] Adeogun, M. (2003). The digital divide and university education in Africa. *African Journal of Lirbary, Archieves and Information*, *13*, 11-12.

[2] Algattan, M. E. (2009). *The digital divide between male and female freshmen students in the college of health sciences in Kuwait*. Carbondal: Southern Illinois University.

[3] Ani, O. E., Uchendu, C., & Atseye, E. U. (2011). Bridging the digital divide in Nigeria: A study metropolis. *Nigeria Library Management*, *28* (6), 355-365.

[4] Asuquo, D. G. (2014). *School type, locations and students gender and digital divide among secondary schools students in Uyo local government area* (Seminar Paper). Nigeria: Faculty of Education University of Uyo.

[5] Asuquo, L. O. (2015). *Transforming the lands of Akwa Ibom State through science and technology*. Uyo: Samuf Educational Limited.

[6] Bruner, J. (1966). *The culture of education*. Cambridge, MA: Harvard University Press.

[7] Hindman, D. B. (2010). Digital divide. *Journalism to Mass Communication Quarterly*, *77* (3), 549-560.

[8] Jegede, P. Q., & Owolabi, J. A. (2003). *Computer education in Nigerian Secondary Schools: Gap between policy and practices*. Meridian: A Middle School Computer.

[9] Urua, R. C. (2004). Information and Communication Technology in human behavior: The use of ICT in Teaching English Language in Secondary School. *Educational Research and Perspectives*, *11* (2), 63-72.