AJEMATES
African Journal of Educational Management, Teaching and Entrepreneurship Studies
VOL.2, January-April, 2021 https://ajemates.org
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STUDENTS' PERCEPTION AND ATTITUDE TO ICT EDUCATION IN COLLEGES OF EDUCATION IN ANAMBRA STATE: MANAGEMENT IMPLICATIONS FOR QUALITY EDUCATION

Dr. Nwosu Ogochukwu Honorata (Rev. Sr.)
Department of Educational Management and Policy
Nnamdi Azikiwe University, Awka

ABSTRACT

This study assessed students' Perception and Attitude to ICT Education in Colleges of Education in Anambra State from the Perspective of manpower availability, provision of ICT facilities, students' utilization of ICT facilities and maintenance of ICT facilities, and their management implications for quality education. The ex-post facto survey design was adopted. Two hypotheses were tested at 0.05 level of significance. The sample of 500 students was selected using stratified random sampling technique. Data for the study were collected using ICT Education Assessment Survey (I.E.A.S). Population t-test of single means, one Way Analysis of Variance (ANOVA) and its associated Fishers' LSD Multiple Comparison Test Analyses were used as statistical tools to analyse the data collected for this study. The results of the study revealed among others that the level of students' perception of ICT education in the colleges of education is significantly low with respect to manpower availability, provision of ICT. Facilities; there is a significant influence of students' level of perception of manpower availability, provision of ICT facilities, their utilization of ICT facilities and maintenance of ICT facilities on ICT education. In the light of these findings, it was recommended among others that management of colleges of education in Anambra State should accord ICT education a top priority so that it can give the students the necessary skills and knowledge for quality education that will be relevant in the labour market and economy.

Keywords: ICT Education, Quality Education

Introduction

The relevance of ICT education to quality education, industrial and technological development of a nation cannot be over-emphasized. The world today is knowledge-driven and the information age has held sway in virtually every human endeavour, education not excluded. Any nation desirous of sustainable development must of necessity give quality education adequate attention. This is because how well the people are educated influences to a great extent the level of their development which is enhanced through quality education. That is why Bhasin (1991) asserts. If people are the subject of development, if they are makers of their own destiny, then human capital development becomes more technological development. Once the creativity and energy of people are unleashed, they can learn almost everything and tackle-almost every problem.

ICT education has become imperative in the present realities of global socio-economic development. ICT has become a veritable tool for many organizations including education. It is involved in the teaching/learning, research, processing and dissemination of information, even in economic transactions. Knowledge of this is very important for quality education.

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Yusuf (2005) defined ICT as computer-based tools used by people to work with the information and communication processing needs of an organization. it is a broad term that has to do with the harnessing of process, the methods and the product of electronic and communication related to technologies, and other related resources in today's knowledge driven society, for enhancing the productivity, the spread and efficiency of a set of programmed activities geared towards the achievement of clearly determined goals (Obanya, 2002)

ICT in education are tools that comprise electronic devices which are utilized for information and communication needs of institutions, organizations, students and individuals. These devices include computer (hard and software), networking, telephone, video, multimedia and internet (Onuma, 2007). Quality education on the other hand is defined as a functional and utilitarian education, which is supposed to serve the needs of man and takes cognizance of the survival of the individual in the society (Obioha, 2006). Nevertheless, quality is synonymous with standard, efficiency, excellence, relevance; worthiness, appropriateness and real value. Quality in education cuts across policy formulation to implementation of educational process and it embraces all functions and activities covering the scope of curriculum; teaching-learning process; resources and facilities; students' and teachers' performance evaluation, and research and academic environment (Igwe; 2001). Hence, the quality of input resources will have implication on the process and the output. Consequently, the National Policy on Education (2004) places emphasis on the provision and management of Information and Communication Technology when it states thus ("Because of the prominent role of Information and Communication Technology in advancing knowledge and skills necessary for effective functioning in the world, there is urgent need to integrate Information and Communication Technology (ICT) in education in Nigeria").

According to Ajekigbe (2005), the higher institution is a place of enlightenment, a place for exploring the frontiers and an institution in which people, through the process of socialization, and imbued with the ability, not just to discern things but also to apply time tested theories to explain events, ideas and values, the knowledge of the natural order, for the pursuit of the common good and individual well being. It is also a place for training high level manpower. For the fact that ICT is an innovation, it becomes necessary to expose students adequately to it so as to prepare them towards functioning effectively in the societies in particular and countries in general. The youths are the future

leaders of the state, so the way they are equipped (quality education), determines to a large extent the future hope of the society.

To ensure quality in education, the conventional educational system ought to adapt many of its functions for the benefit of its future progress by making use of the new information, technology, communication and networking facilities. ICT promotes fundamental changes in how to teach and learn. That is why AjaNwachukwu (2008) asserts that ICT very significantly contribute to education, enriching learning experiences and enhancing the teaching/learning process". Thus, there is need to provide unhindered access to quality education to all the citizens, which will be impossible with a poor state of ICT education in our institutions. ICT education place great premium on human resources, counted in terms of the quality of knowledge and skills by a given people. That is why Albach (2008) explains that the forces of ICT and globalization are phenomenal in connecting and interlinking nations, functional boundaries and organizations on a platform of interdependence. Adekambi (2008) harps on the need for full integration of ICT in the Nigerian higher institutions as a conscientious development of digital scholarship. Just as Jedege (2007) emphasizes that "in the 21st century, Nigerian technology will increasingly dominate domestic, economic and social lives". The question then is "in this information age; are our colleges of education exposed enough to the varied technological facilities, virtual library, e-teaching and e-learning, that is to say the ICT demands of the age for qualitative education?

Consequently, studies have confirmed that the vast majority of students in our colleges of education, lacked basic computer resources, equipment or skills. this severely impacts on their ability to get most out of their higher learning experiences; and their preparedness for the labour market as graduates. Even some teachers have not been exposed enough to the ICT skills, are unable to incorporate this in their teaching, research and services to the schools. In fact, less than 12 percent of the Nigerian academic curricula have

digital content. This technology deficit therefore, translates into a major handicap in effort to bridge this gap (Aniebonam, 2008).

Nevertheless, from the perspective of this year's budgetary allocation to education in Nigeria (13 percent), it is very little to solving the myriads of educational problems including ICT education facing the country generally (Edukugbo, 2008). Funding of education is our bane. It will therefore be a stumbling block for the students to acquire the basic knowledge and skills in ICT for qualitative education that will enhance them remain relevant in the present world realities. The problem of this study therefore is to assess ICT the student's perception and attitude to education in the colleges of Education in Anambra State.

Research Question

The following research question guided the study:

1. To what extent does the available ICT resources/utilization influence ICT education in the colleges of education in Anambra State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. The level of students' perception of ICT education in the colleges of education is not significantly low.
2. There is no significant influence of students' levels of perception of the availability of ICT resources/utilization on ICT education in the colleges.

Method

The ex-post facto design was adopted for the study. The study population was the students of the colleges of education in Anambra State. Using stratified random sampling technique, 500 students were drawn to constitute the sample (250 students from each college). A researcher developed instrument titled "ICT Education Assessment Survey" (I.E.A.S) was the instrument used for data collection. The reliability coefficient of the instrument was 0.92. Population t-test (test of single mean), one way Analysis of Variance (ANOVA and its associated Fishers' LSD multiple comparison were used to analyse the data.

Result

Hypothesis One

The level of students' perception of ICT education in the colleges of education is not significantly low.

Table 1: Population t-test (test of single mean) analysis of students' level of perception of ICT education in colleges of education

N = 500

Variables	Expected mean μ	Observed mean x	SD	t
Manpower availability Computer science lecturers	10.00	9.46	2.82	-4.154*
Technical support staff	10.00	9.02	3.14	-7.000*
Provision of ICT facilities	10.00	8.78	2.15	-12.200*
Students utilization of ICT facilities	10.00	9.32	2.41	-6.182*
Maintenance of ICT facilities	10.00	9.59	2.73	-3.417*
Level of ICT education	10.00	8.95	3.11	-7.500*

Level of ICT education

- P<.0.5; df = 499; critical t = 1.962

Result presented in table 1 revealed that students' level of perception to ICT education in college is significantly low with regards to manpower availability: computer science lecturers (t = -4.154, p<.05) and technical suppot staff (t = 7.00; p<.05); provision of ICT facilities (t = 12.200, p<.05); students' utilization of ICT facilities (t = -6.182, p<.05); Maintenance of ICT facilities (t = -3.417, p<.05); level ICT education (t=-7.500, p<.05). The null hypothesis was therefore rejected because the obtained t-values were found to be higher than the critical t value of 1.962

at 0.05 alpha level of significance, with 499 degrees of freedom. This result held that students' perception level of ICT education in colleges of education in Anambra State is significantly low.

Further observation of the results in table 1 showed that the observed mean students' level of perception of ICT education in colleges of education was lower than the expected mean students' level of perception of ICT education in colleges of education of 10.00. Statistical Comparison of these observed mean values and the expected mean value of 10.00 using population t-test analysis for single mean, negative t-values were obtained. This by implication means that the extent to which students perceive that colleges of education in Anambra State run programmes related to ICT in significantly low.

Hypothesis Two

There is no significant influence of students' levels of perception of the availability of ICT resources/utilization (manpower availability, provision of ICT facilities, their utilization of ICT facilities and maintenance of ICT facilities on ICT EDUCATION. WITH One Way Analysis of Variance (ANOVA) and its associated Fishers' LSD Multiple Comparison Test analysis, data obtained from the variables were analysed. Summaries of the results are presented in Table 2, 3 and 4.

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Table 2: Mean (x) and standard deviation (SD) of the influence of students' levels of perception of manpower availability, provision of ICT facilities, their utilization of ICT facilities and maintenance of ICT facilities on ICT education

Variables	Groups	N	X	T
Manpower availability	High	163	11.28	7.74
	Moderate	151	8.55	0.50
	Low	186	5.76	1.36
	Total	500	8.40	1.68
Provision of ICT facilities	High	170	11.54	1.44
	Moderate	145	8.52	0.50
	Low	185	5.76	1.19
	Total	500	8.52	1.33
Students' utilization of ICT facilities	High	160	11.65	1.61
	Moderate	149	8.84	3.09
	Low	191	5.97	2.86
	Total	500	8.64	2.97
Maintenance of ICT facilities	High	167	11.54	1.78
	Moderate	156	8.54	0.50
	Low	177	5.33	1.27
	Total	500	8.40	1.52

As presented in this table, the results showed the mean and standard deviation of the variables. Specifically, the results indicated thus: manpower availability (x = 11.28), provision of ICT facilities (x = 11.54), students' utilization of ICT facilities (x=11.65), and maintenance of ICT facilities (x=11.54).

When One Way Analysis of Variance (ANOVA) was applied, significant f – values were obtained for their perception of manpower availability (f = 81.61 $p<.05$); provision of ICT facilities (f – 54.21, $p<.05$), students' utilization of ICT facilities (f=58.94, $p<.05$) and maintenance of ICT facilities (f=63.47,$p<.05$). These f – values were found to be higher than the critical f-value of 3.00 at 0.05 alpha level of significant, with 2 and 497 degrees of

freedom, and so the null hypothesis was rejected (see table 3). This result therefore held that there is a significant influence of students' level of perception of manpower availability; provision of ICT facilities, their utilization of ICT facilities and maintenance of ICT facilities on ICT education.

Given the significant f-values, a post hoe analysis was carried out using Fishers' LSD Multiple Comparison Test Analysis. A summary of the results was presented in table 4

Table 3: One Way Analysis of Variance (ANOVA) of the influence of students' levels of perception of manpower availability, provision of ICT facilities, students' utilization of ICT facilities and maintenance of ICT facilities on ICT education

Variables	Sources of variation	SS	df	MS	F
Manpower availability	Between groups Within groups Total	689.99 2650.40 3520.39	1 497 499	434.99 5.55	81.61*
Provision of ICT facilities	Between groups Within groups Total	644.04 2952.67 3596.71	2 2 499	322.02 5.94	54.21*
Students' utilization of ICT facilities	Between groups Within groups Total	2818.58 3486.92	2 497 499	334.17 5.67	*58.94
Maintenance of ICT facilities	Between groups Within groups Total	849.17 3325.41 4174.58	2 497 499	424.59 6.69	63.47*

- P<05; df = 2,497; critical f = 3.00

Table 4: Fishers' LSD Multiple Comparison Test Analysis of the influence of students' levels of perception of manpower availability, provision of facilities, students' utilization of ICT facilities and maintenance of ICT facilities on ICT education.

Variables	Groups	High (n=163)	Moderate (n=151)	Low (n=186)
Manpower availability	High Moderate Low MSW=	11.28[a] 10.500[0*] 23.00[0*] 5.33	2=73[b] 8.55[a] 11.160[c*]	5.52[b] 2.79[b] 5.76[a]
		(n=170)	(n=145)	(n=185)
Provision of ICT facilities	High Moderate Low MSW=	11.54[a] 10.786[0*] 22.231[0*] 5.94	3.02[b] 8.52[b] 22.222[c*]	5.78[b] 2.76[b] 5.76[a]
		(n=167)	(n=156)	(n=177)
Maintenance of ICT facilities	High Moderate Low MSW =	11.54[a] 10.714[c*] 22.179[c*] 6.69	3.00[b] 8.54[a] 11.464[c*]	6.21[b] 3.21[b] 5.33[a]

- P<.05

a. Group means are along the diagonal
b. Differences between group means are above the diagonal
c. Fishers' LSD t-values are below the diagonal

The results presented on this table disclosed that students perceive manpower availability in technology-based tertiary institutions at (t = 10.500, p<.05) and (t = 23.000, p<.05). similarly, students' (t= 11.160, p<.05). In the same vein, students perceive provision of ICT facilities at (t = 10.786, p<.05) and (t = 22,231, p<.05). Students also perceive it as (t= 22.222, p<.05) with regards to students utilization of ICT facilities, and

(t=10.407, p<.05) and (t = 22.720, p<.05). in terms of maintenance of ICT facilities, students perceive it thus (10.714, p<.05) and (t=22, 179, p<0.5).

Discussion of results

Results of hypothesis one held that the students' level of perception of ICT education in the colleges of education in Anambra State is significantly low with respect to manpower availability; lecturers in computer science, provision of ICT facilities, students' utilization of ICT facilities and maintenance of ICT facilities. thus the null hypotheses were rejected. By implication this finding agrees that the way students see the availability and utilization of these ICT resources is quite low which impacted negatively on ICT education. Moreover, ICT education has a slow pace of development in the colleges' curriculum and thus the impact of it is not yet enormous for high perception. The provision and the utilization of these ICT facilities and manpower has not been impressive, even the available ones are not well maintained. This agrees with the finding of Onuma (2007) that investment in ICT educational services is low.

Results of the hypothesis two held that there is significant influence of students' utilization of ICT facilities and maintenance of ICT facilities on ICT education. This result corroborated the rejection of the null hypothesis. This implies that the way students in the colleges of education regard the issues of manpower availability, provision of ICT facilities, their utilization and maintenance effect positively or negatively ICT education. If their perception is high, then their attitude towards the ICT education will be high. But if low then their attitude toward it will be low too.

These influences can be seen from the point of the quality of the teachers and the teaching learning standards. Thus, no education can rise above the quality of its teachers (National Policy on Education, 2004). That is why the Teachers Registration Council of Nigeria (TRCN) dedicated the year 2006 to ICT skills acquisition, summits and campaigns to prepare teachers in Nigeria to this effect. It will improve the teachers' performance and students' learning. Hence, ICT is a practical-

oriented course, where the availability of facilities determines the level of success or failure.

On the part of the students, it implies that the way they look at the problems of inadequate provision of ICT facilities in the school affects their ICT education, because without the adequate provision of ICT facilities, students learning in ICT will be a mirage. They will not be committed, they will be nonchalant and their morale will be low towards the ICT education. On the contrary, the reverse will be the case when these facilities and resources are adequate, which yields positive result generally for quality education and enriched economy.

Furthermore, quality education, as defined by Obioha (2006), is a functional and utilitarian education, which is supposed to serve the needs of man and takes cognizance of the survival of the individual in the society. similarlyAkilaiya (2001) asserted that qualitative education signifies the ability of the product of a school to render useful services to the society and themselves. ICT holds out the opportunity for revolutions in pedagogical methods, expanded access to quality education and even improvement in the management of education systems (World Bank, 2002). It is a veritable tool for quality education. ICT should be funded, utilized and perceived adequately by both the teachers, students and stakeholders because of it's prominent roles in the provision of quality education; advancing knowledge and skills necessary for effective functioning in the world at large and our society in particular. A graduate is incapacitated towards the above if he/she is not ICT literate.

Conclusion

The level of students' perception of ICT education in colleges of education is significantly low with respect to manpower availability, provision of ICT facilities, students' utilization and maintenance of ICT facilities. There is also a significant influence of students' level of perception of manpower availability, provision of ICT facilities, their utilization and maintenance in education. Therefore, the students' satisfaction with the above issues determines the extent of their disposition and benefits from this ICT knowledge

for quality education and better life in the society.

Recommendation

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

1. The management of colleges of education should accord ICT education a priority status ensuring that the manpower discharge their responsibilities conscientiously for an enabling environment for uninterrupted teaching/learning in ICT education for higher quality.
2. ICT education is practical-oriented and so the management of colleges of education should ensure that adequate time is allotted to it than their theoretical aspects. This will assist the students to acquire the necessary skills to fit into the competitive world labour market and the information age.
3. The management as well should enter into partnership with such companies as AfriHub, SocketWorks, BusyNetetc to equip their institution with ICT laboratory for the achievement of the ICT objectives for quality education and more useful life.
4. The management also should solicit for government financial assistance, and as well encourage students to register and learn computers/ICT skills outside school and at their free time.

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