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Bridging the Barriers: ICT in the Girl-Child Education in Nigeria

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Abstract
The problems militating against the girl child education in Nigeria is an age long factor that hingers on cultural, social and religious undertones where the girl-child is perceived as inferior to the male and hence denied aceess to education anf her roles relegated to that of a home maker, child rearer and house keeper. The need to phase these barriers to the girl-child education is an enormous task educationist is saddled with in this 21st century and the emergence of ICT to Education has given it a new approach of interest as access to information will create more awareness on issues bothering on the girl-child education. The study was conducted in college of Education zing, Taraba state and drew a sample of 300 female respondents from the department of Social studies. Survey design was adopted for the study and the following findings were made; ICT mostly internet access improves the interest and motivation of female students and in return improves their educational achievement. The study recommended that ICT facilities should be provided for in the schools, trainings should be organiszed in the institutions to help females learn the relevance of ICT to education, female teachers should equally be encouraged to adapt to ICT so that the disparity with the students will be non existence.
Keywords: Girl-Child Education, ICT, Academic achivement

1. Introduction

It is established facts that major sectors of the institutions whithin our society are already utilizing the capacity of information technology to improve life generally, the health, economic etc; the education institution is not left out in this trend of development. It is common knowledge that globalization brought about by information and communication technology (ICT) has reduced the whole World to a village without boundaries. ICT has been acknowledged as a powerful hub of development in the 21st century. The massive economic benefits real and potentials of ICT are not in doubt, especially in the industrialized economies where the revolution is rooted (Rayport and Jaworski, 2002). The 21st century, started with the awareness that the new revolution variously called information revolution and IT revolution has come to stay. Increasingly, it is also being realized that the revolution is presenting frightening challenges which must be frontally tackled in order to maximize both potential and real benefits emanating from it (Olatukun, 2009). The challenges are at personal, societal and global levels. For instance learning, understanding and operating within the action frame of a new vocabulary, if not an entirely new language, that is peculiarly associated with information and communication technology (ICT), is the bedrock of the IT revolution. The new ICT revolution has now broadened the horizon of the opportunities among nations, organization, institutions and individuals giving hopes to compete with their counterparts all over the world as observed by Collins (2002). It has been seen as an important vehicle to push individuals to bigger heights as the world moves further into the knowledge economy in this 21st century.

In today's world, ICT is a ever-present component of our life. Most of the things we use have as a feature ICT. What is ICT then? Simply put, it stands for Information and Communication Technologies. It can be defined as "anything which allows us to get information, to communicate with each other, or to have an effect on the environment using electronic or digital equipment" (Siraj-Blatchford & Siraj-Blatchford, 2003). Today ICT and "e-learning" have become important concepts in primary, secondary, and tertiary education.Empirically, studies have confirmed that ICT revolution can strengthen pillars of development, poverty reduction and this is where it matters most in Nigeria (UNDP-APDIP Report 2004 in Ebebe, 2002). Judith & Lius, (2008) stated that within barely 15 to 20 years, information and communication technologies (ICTs)-driven new digital economy and high competition for global market share has engendered hunger for knowledge as one of the main drivers of economic development factor for cities, states, nations and organizations in advancednations. Chen and Kee (2005), describe that, ICTs are the back bone of the knowledge economy in recent years have been recognized as an effective tool for promoting poverty reduction, health, education, economic growth, and sustainable development.The demands for high technological skilled workers are needed in the workforce in the 21st century.

In the beginning of the implementation of ICT there were optimistic beliefs about profound changes in teaching and learning practices, among both educational researchers and policy-makers (Agu, 2010) but from the immense contribution of ICT to other sectors, one is convinced ICT will thrive in the teaching-learning situation, it is just a question of adaptation . Although there have been several development projects, experiments and pilot studies on using ICT in school, the studies about long-term and deep-going effects of ICT are still few (Kozma, 2003). As computers and information and communication technology became more user-friendly, more efficient and cheaper, it awoke interest among educators to pass on theoretical ideas by using ICT in the classroom. Technology was thought to serve a dual function: it was thought to provide the tools for the realization of learning-as-construction, as well as for the social process of meaning appropriation, and it was thought to offer

novel opportunities for novel learning activities and ways of teaching, which, in turn, would require novel psychological insights (Salomon & Ben-Zvi, 2006). According to Cuban (2001), the expectations in the past were to make schools more efficient and productive, to transform teaching and learning into an engaging and active process connected to real life, and to prepare young people for future workplaces, but the modern expectations is one that encourages the learner to go all out for learning in the search for knowledge.

There can be no significant or sustainable transformation in societies and no significant reduction in poverty until girls receive the quality basic education they need to take their rightful place as equal partners in development, (Bellamy, 2002). This statement underpins the importance of the girl -child education. Notable improvement have been made on girl-child's access to education as a result of numerous intervention programmes of UNESCO, UNICEF, governmental and non-government organizations all over the world, particularly in Africa and Asia . This notwithstanding, access to and quality of education are still a challenge for many girls and women in this part of the world due largely to cultural and religious orientations.

On the Online Discussion for the Review of Beijing +10 moderated by UNESCO which focused on "Education and Training of Women and Girl-Child " Lifanda(2005:30) reported a consensus by participants that: "Current methods and practices of educating girls and women have not been fully successful in reducing the number of women without education. The education system should strive to provide quality education for women in today's knowledge economy". The girl-child education has been the one that Africa in general have been battling with in the dawn of modern civilization mostly as the influence of the West grew within the African society, the increasing need to remove the barriers that have relegated women to the background where their role is seen only at our homes is obsolete. Educating the girl-child implies empowering the women to develop and acquire knowledge to make independent decisions that shape her life, including access to wealth, participation in decision -making and control over distribution. ICT skills and knowledge has huge potential to achieve these goals as well as facilitate the realization of the Millennium Development Goals through increasing accessibility of education to the girl-child, increasing girl-child interest and motivation in science and technology, and access to the knowledge - based society. Olulube (2006:6), amongst others, believe that "Information and communication technology can accelerate, enrich, and deepen skills; motivate and engage students in learning; helps to relate school experiences to work practices; helps to create economic viability for tomorrow's workers; contributes to radical changes in school; strengthens teaching, and provides opportunities for connection between the institutions and the world. Information and Communication Technologies which include technologies that facilitate the capturing, processing, storage and transfer of information (Dholakia, Dholakia & Kshetri, 2003), has become very pivotal/crucial to personal improvement and national development. There is a growing body of evidence even in African countries like Uganda, Senegal and Kenya, of the benefits of ICT for women's empowerment, through increasing their access to health, nutrition, education and other human development opportunities. However, High illiteracy rates of women and girls and their lack of ICT training are two of the most serious barriers that prevent them from entering the information economy (Annan 2005: 13). As such, girls and women have been left disadvantaged in the utilization and harnessing of the gains of ICT.

Again, research has shown that boys and men possess positive attitude to and usage of ICT in most sectors/spheres of life endeavours including education more than girls and women, (Dholakia, Dholakia & Kshetri 2003). It is therefore the need to reverse this trend by employing ICT as tool in educating the girl-child at every stage of her education, particular the primary and secondary levels. Considering that teachers have variously been identified as the kingpins in the education of the child and also having identified poorly trained teachers and the use of outdated technologies in teaching as some of the barriers to girl -child education (UNESCO report, 2007), it is very crucial that teachers' readiness in the use of ICT in education is ascertained as well. It is also important that both policy makers and stakeholders in education have data and information with which to balance its progress in ICT penetration in education and in the classroom.

A good number of scholars have expressed the belief that ICT integration in education would yield bountifully. (Wilderotter, 2007:1). In keeping with this, Nigeria included computer education in the primary and secondary school curriculum so as to build on the formative stages of child's development to inculcate the ICT skills necessary to effectively function in this era of globalization. In terms increasing children's including the girl-child access to education, Futrell (2007:2) observed that ICT can be used to expand and enhance learning opportunities for children by allowing them accessto courses not available in their schools and interact with students attending schools in other communities as well as educational models or mentors. Relating the gains of ICT to girl-child education, (Ranjan, 2005) stated, that ICT can be a valuable part of any strategy that seeks to enhance girl child accessibility to education, through distance learning programmes, girls who are not able to gain access to education due to long distance of school from home, fear of safety, and other related reasons that exist in the northern part of Nigeria, will gain quality education. An analysis of the contribution which ICT could make in the education of the girl-child unveils three tripods access, quality and functionality, (Ranjan, 2005). Access of more females to education could be through distance education. Achieving qualitative and functional education through ICT includes making learning more meaningful, research oriented and real-life oriented using

ICT equipment like digital projectors, digital cameras, whiteboards/smart boards, digital video recorders, editing and mixing equipment, Personal computer with internet access, digital microscopes, and animated software among others.

2. Statement of the problem

Rufai (2004), is of the opinion that "with the various summits all over the world, it is increasingly clear that development cannot be achieved where the needs and contribution of women are downgraded, marginalized or completely ignored" the proposition of this statement is that for any country to succeed and develop, girl child education should be a focus for policy formulation and implementation as far as democracy in concerned. Nigeria as a member nation of the United Nations agreed to the obligation for achieving the goal of education for all by the year 2000 but figures show that by 2008, the situation for the majority of the girl child remains the same as there have not been any drastic measure or plan by the government to address this challenge. It is on this backdrop that the problem of this study is posed in this question form; how can ICT application to learning improve the girl-child education in Zing local government area of Taraba State.

3. Research question

1. To what extent has ICT increased access to information for the girl child in improving learning
2. To what extent has ICT improved the girl-child interest to learning
3. How has ICT increased the girl-child motivation to learning
4. To what extent has ICT improved the girl-child academic achievement

4. Methodology

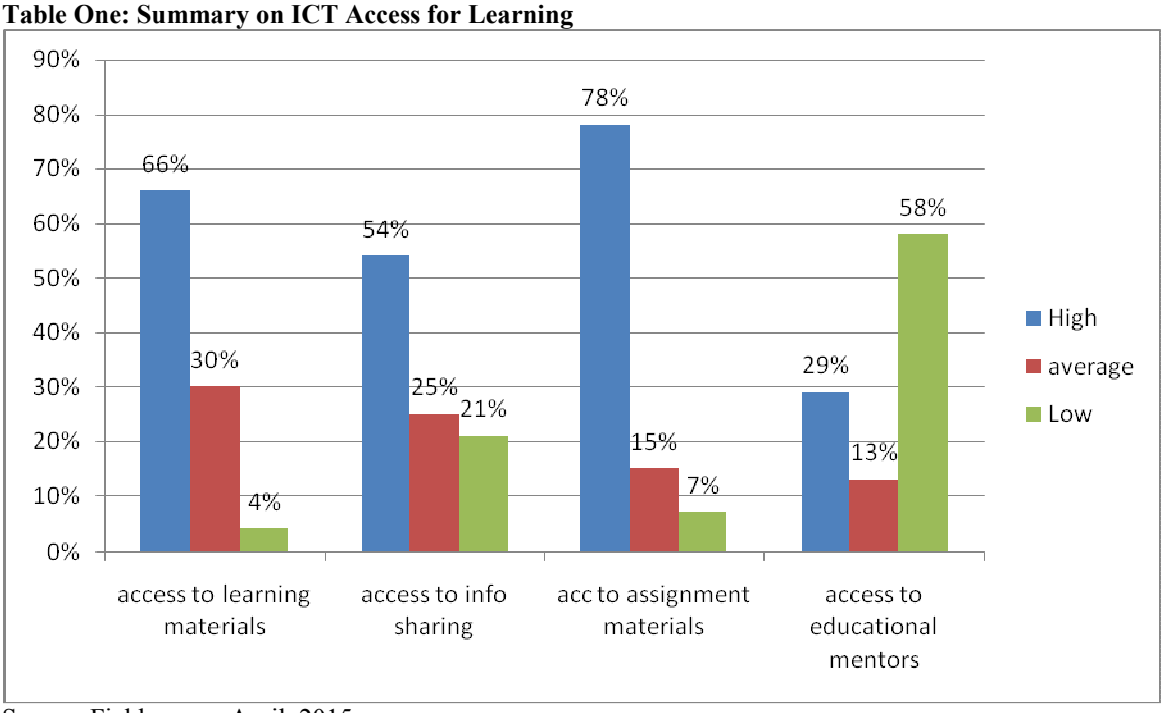
The researchers adopted survey research for the study. The sample of the study comprised of 300 female social studies students in College of Education, Zing at different levels of learning, from NCE 1 to 3 who uses the school e-library. A research instrument was constructed and validated with the help of professionals in instrument development. The instrument was designed on a type of Likert rating scale of high, average and low. The respondents were asked to rate the relevance of ICT to their educational progress in the questionaire item. The pilot testing was carried out on 10 students in the Department of History Education in the same college. The score received from the test were subjected to Cronbach Coefficient reliability test by experts. A reliability coefficient of 0.85 which was considered high enough to achieve the objective of the study was obtained. The instrument was administered to the respondents with the help of youth corp members in the school who also serve as academic staff to the school. All the questionnaires were collected back and analysed using percentages and bar graphs where used to present the summaries.

5. Results and discussion

The findings of the study was summarized in charts as the percentage was used to analyze the responses of the female students who constituted the sample for the study.

Research Questino One: To what extent has ICT increased access to information for the girl child in improving learning?

Table One: Summary on ICT Access for Learning

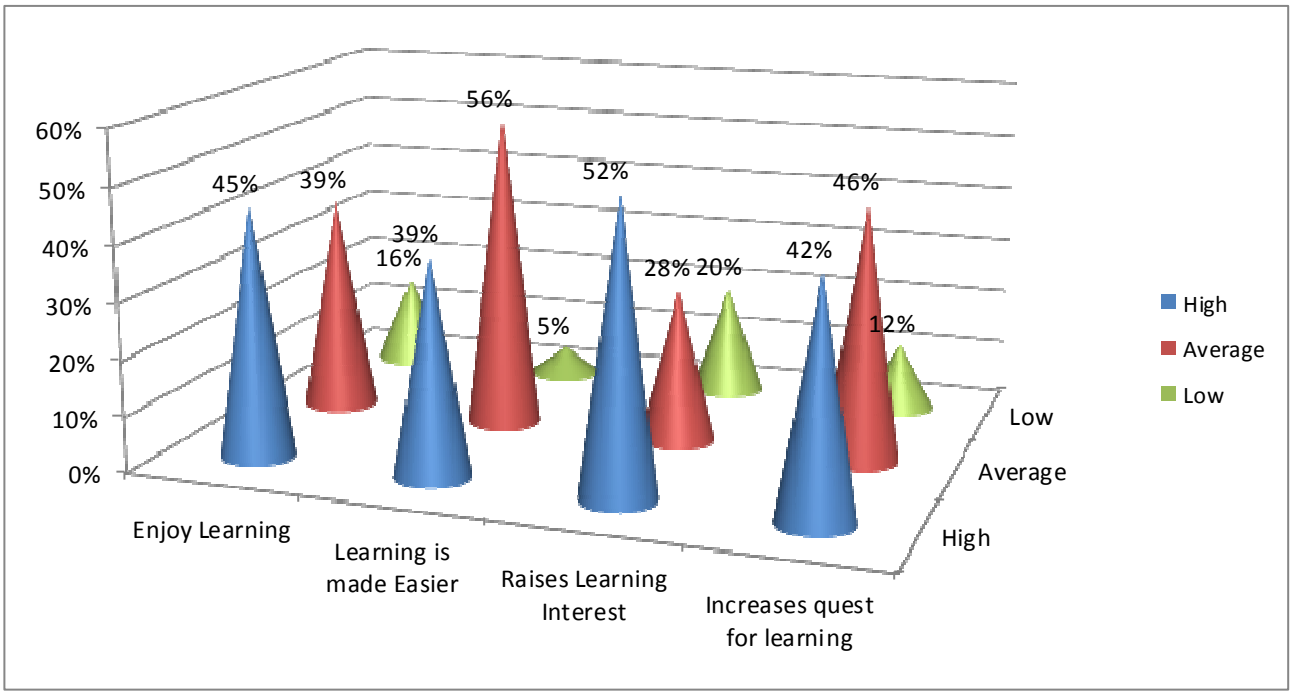


Source: Field survey April, 2015

The girls sampled for the study in their ratings indicated that ICT aids their access to learning materials as 66% indicated on a high, 30% on average and 4% on low, 54% rated high sharing of information through ICT, 25% on average and 21% on low, 78% rated high access to assignment materials as 15% and 7% are on average and low respectively while just 29% rated high on access to educational mentors as 13% were on average while 58% rated low access to educational mentors

Research Question Two: To what extent has ICT improved the girl-child interest to learning?

Table Two: ICT and the Girl-Child Learning Interest



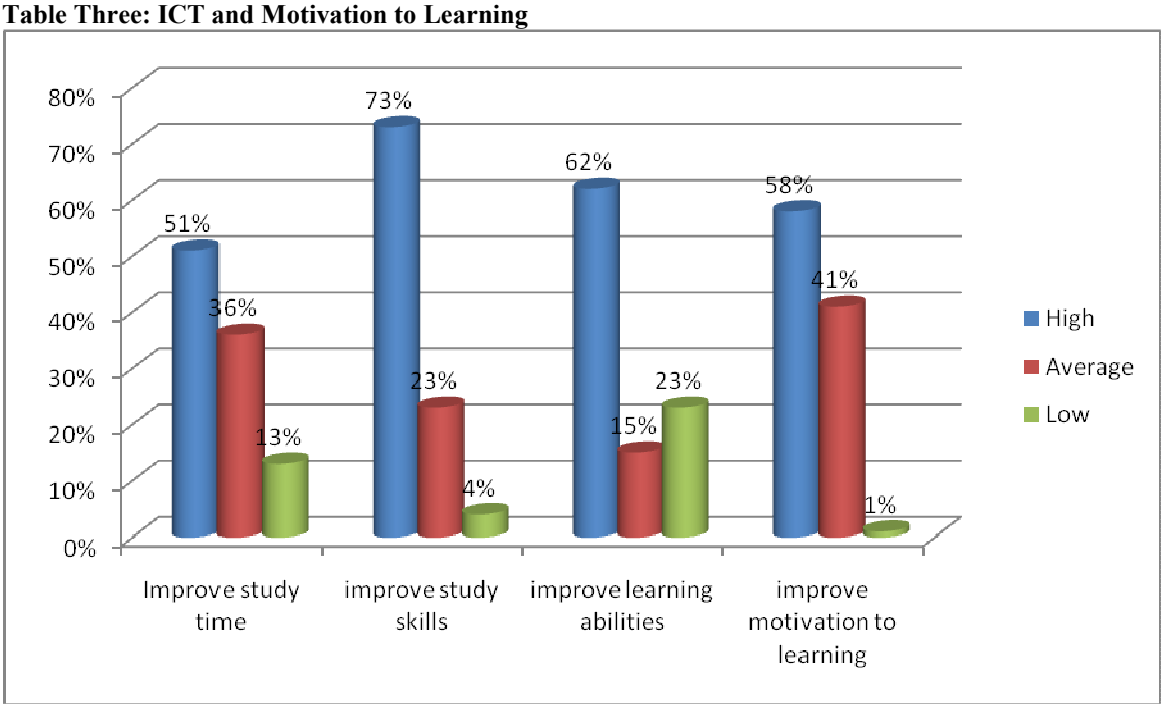
Source: Field survey April, 2015

In the girl child learning interest, 45% rated high enjoy learning due to ICT as 39% rated average and 16% on low, learning is made easier due to ICT as 39% rated high, 56% rated average and 5% rated that low. ICT on raising learning interest among the females sampled, 52% where on the high as 28% where on the average while 20% where on low. ICT on increasing their learning quest within the college, 42% rated high as

46% rated average and 12% rated low.

Research Question 3: How has ICT increased the girl-child motivation to learning?

Table Three: ICT and Motivation to Learning

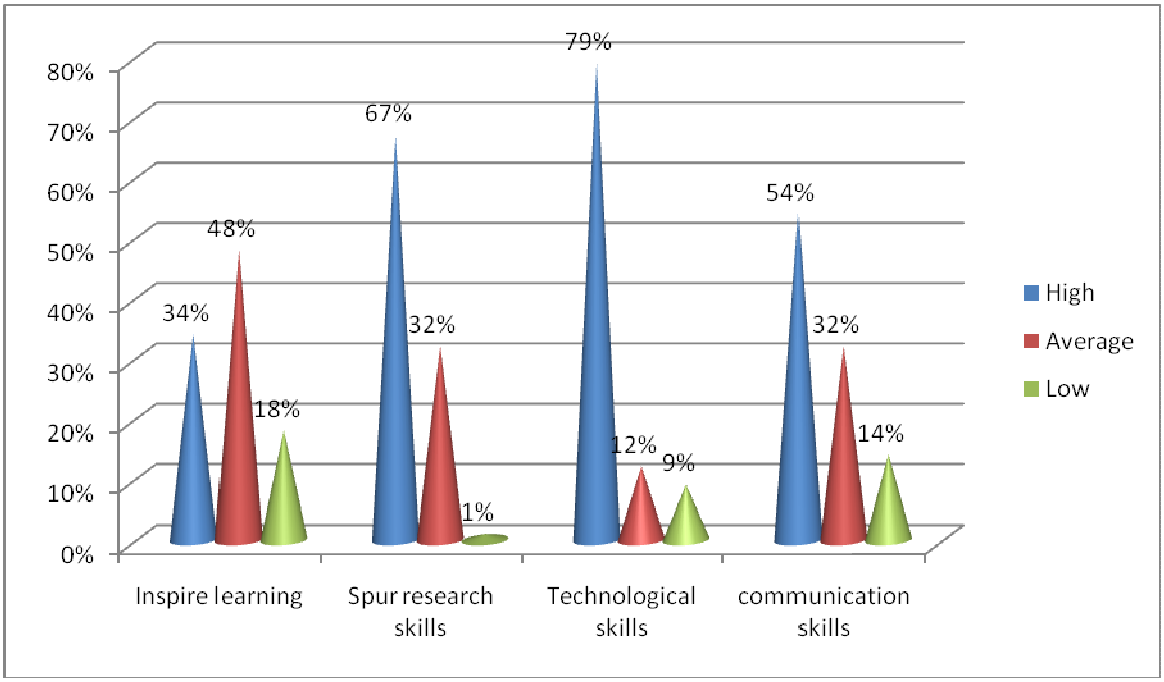


Source: Field survey April, 2015

51% rated high on the impact of ICT in motivation to learning as 36% rated that average and 13% rated that low, 73% claimed that ICT has improved their study skills as 23% rated average while 4% rated improvement of study skills through ICT low. Learning abilities are improved through ICT as 62% rated high, 15% rated average and 23% rated low and lastly 58% indicated on a high that ICT has improved their motivation to learning, 41% average and just a percent on low.

Research Question 4: To what extent has ICT improved the girl-child academic achievement?

Table four: ICT and the Girl-Child Academic Acheivement



Source: Field survey April, 2015

34% rated high that ICT inspire learning for them as 48% rated average and 18% rated low, 67% rated high on ICT spurring their research skills as 32% are on average and 1% rated low, 79% of the female students rated high on ICT improving their technological skills as 12% rated average and 9% rated low and 54% rated

high the relevance of ICT on improving their communication skills as 32% and 14% are on average and low respectively.

6. Discussion

The challenges of the girl-child education bothers on enrolment to school, time to face studies and access to educational facilities and materials but with massive awareness from both local and international organization on the relevance of the girl-child in education and other interventions to female education, the two first challenges seems to have been improved upon except for the last which the ICT provides. ICT mostly the internet as it is the major focus of this study can improve the level of girl-child education within the Nigerian community and outside as the yardstick for opponents of girl-child education have always compared the performance of the males and the females and often conclude since the males do better on the large scale than the females do, it is best the males have education but when equall opportunities are given to the sexes mostly in terms of access to educational facilities and learning materials as ICT provides, that comparison can be justifiable judged. The Blue print on girl child Education in Nigeria (1986) argues that females who are in the majority in most developing countries are nelegated in the education of the citizens. Relating the gains of ICT to girl-child education, (Ranjan , 2005) stated, that ICT can be a valuable part of any strategy that seeks to enhance girl child accessibility to education. Through distance learning programmes, girls who are not able to gain access to education due to long distance of school from home, fear of safety, and other related reasons that exist in the northern part of Nigeria, will gain quality education.

An analysis of the contribution which ICT could make in the education of the girl-child unveils three tripods, access, quality and functionality. Access of more females to education could be through distance education. Achieving qualitative and functional education through ICT includes making learning more meaningful, research oriented and real -life oriented using ICT equipment like digital projectors, digital cameras, whiteboards/smart board s, digital video recorders, editing and mixing equipment, Personal computer with internet access, digital microscopes, animated software among others (Agu, 2010). The respondents indicated that ICT provides access to educational materials as 66% of the respondents affirmed and also, 78% of the respondents indicated that ICT provides access to materials for their assignment and text to read for examinations. ICT which provides access to educational materials for the students will aid the girl-child access to information which is transformed into knowledge, which helps the girl to make rational decisions as well as compete favorably in education as well in her career, information as it is often said is power and that translate that when the girl-child has access to information, she can achieve her goals in life as well aim for higher goals since the power is there.

Futrell (2007:2) observed that ICT can be used to expand and enhance learning opportunities for children by allowing them accessto courses not available in their schools and interact with students attending schools in other communities. ICT as the responses of the girl sampled indicated has the abilities to raise the interest of the learners as the 21st century learning canvasses for learner's participation in learning (child-centered learning). 45% of the girls sampled claimed that with the aid of ICT, learning is made easier; also, 52% indicated that their interest to learning has been heightened due to ICT in their educational endeavors. When the interest of the girl-child on learning is sustained, learning become meaningful and impactful thereby leading to high academic acheivement among the females which on the reverse will encourage other girls out there to seek education and learning. With sustained interest in learning, the learners will enjoy learning rather than see it as what they were asked to do, this will raise their personal effort in terms of attendance to school, setting goals and standards for themselves as well as targeting to come out best in their educational endeavors.

The motivation of the girl child to learning which is fundamental for meaningful learning to take place as well as sustaining her interest in learning is one that ICT based learning has provided for in terms of access to relevant information and acting as an incentive to want to go further in the acquisition of knowledge, 51% of the girls indicated that ICT has improved their study time and in a separate item 73% indicated that ICT has improved their study skills, 58% boldly indicated that ICT has aided their motivation to learning. In the words of Cuban (2001), he asserts that the expectations in the past were to make schools more efficient and productive, to transform teaching and learning into an engaging and active process connected to real life, and to prepare young people for future workplaces but in the modern era of ICT, the choice of learning is to be left to the students who through inquiry process finds knowledge for him/herself and motivate himself to learning and ICT has been proven to enhance this motivation as it makes learning not just engaging but interesting to the child which affects every sphere of motivation the child needs to attain educational acheivement at any level of learning. The respondents indicated that ICT has helped them improve their study time, improve their abilities to learning and also motivate learning, and we can safely postulate that learning cannot take place without motivation which could be intrinsic or extrinsic and ICT has the ability to motivate the learner both intrinsically and extrinsically as suggested by Ranjan (2005) when he argued that the impact of ICT on the child is both psychological, psychosocial and phyical in the learning process.

Educational achievement of the girl child is a major concern for the proponents of the girl child education as poor performance or academic achievement of the girl child will be a huge discouragement for proponents of women education. If the girl child will show lower IQ compared to the male folks when all the odds are removed, it will then mean that education is for the male folks and the girl child should find where he or she belongs. 67% of the girls indicated that ICT spur their interest as well as skills in research which definitely leads to creation and discovery of knowledge as well 79% f the girls on a separate item indicated that their technological skills are improved with their access to ICT. This figures directly mean that the application of ICT to learning yeilds positive results in the educational acheivement of the girl child as Olulube (2006:6), puts it that "Information and communication technology can accelerate, enrich, and deepen skills; motivate and engage students in learning; helps to relate school experiences to work practices; helps to create economic viability for tomorrow's workers; contributes to radical changes in school; strengthens teaching, and provides opportunities for connection between the institutions and the world. Access to information, access to materials for assignments, readings to compliment the text or notes the teacher has given in the class as well as sustained interest in learning and motivation towards learning could lead to a direction and that is improved educational achievement and the ICT from the responses of the girls sampled indicated that ICT can and have achieved these in their educational pursuit and is still aiding their educational pursuit suggests that ICT improves educational acheivement of the girl child.

7. Conclusion

From the foregoing, it is evident that ICT provides every opportunity to improve the challenges facing the girl child education within our community mostly in bridging the gap in the accessibility of information and educational resources, it is therefore worthy of note that encouraging ICT in terms of provision and adaptation in our institutions of learning will go a long way in helping the girl child phase out the challenges that will impede her educational acheivement. ICT therefore is a vehicle that can change the educational barriers pulling the girl child back mostly as the African scenario is concerned.

8. Recommendation

From the findings of this study, the following recommendations are offered;

a. ICT should be integrated into the curriculum mostly in terms of methodologies for instruction as it will easily aid the inquiry method where learners have to find knowledge for themselves and the teacher being just a guide
b. The provision of ICT facilties in our schools should be one that should be given all the energy it requires as we are already late in implementing ICT learning within the schools
c. The teachers should be up and doing in adapting to ICT based learning as indication showed that the student/teacher disparity in ICT compliance can be a hinderance to the girl child interest to ICT and its numerous benefits to learning
d. More interventions should be encouraged mostly in the areas of private public partnership in the provision of ICT facilities within our schools and the training of girls in the usage of ICT in form of seminars, workshops and formal trainings should be encouraged

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