The Impact of Computer Technology on the Development of Children In Ghana

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ABSTRACT

The pervasive use of information technology has significantly altered many aspects of life - in banking and commerce, work and employment, medical care, national defence, transportation and entertainment. Consequently, information technology affects (in both good and bad ways) community life, family life, human relationships, education, freedom, democracy, and many more. The amount of time and the types of activities that children engage in while using computers are key factors influencing whether computer technology has positive or negative effects on their development.

Keywords: Information Technology, Children, Computer effects

1. INTRODUCTION

The purpose of this paper is to interrogate the impact of computer technology on children and to offer interventions to deal with the situation.

This is a systematic study to understand how computer use affects children’s development, and seeks to help parents, teachers, and policymakers refine and adopt guidelines that maximize the positive effects and minimize the negative effects of computers in children’s lives.

Policy makers in education in Ghana have hailed the introduction of Information and Communication Technology (ICT) in Ghanaian schools as a remarkable step that will contribute to knowledge production, communication and information sharing among students and teachers in the school system.

The introduction of ICT into the educational system has the following objectives:

- Make all students / pupils computer literate at all levels of educational system;
- Produce a critical manpower pool of highly skilled ICT professionals, engineers, scientists, technicians and software developers to support a vibrant ICT industry;
- Provide career opportunities for talented Ghanaians and others to participate in ICT knowledge generation;
- Improve the administration and management of educational institutions though the effective use of ICT tools in their day-to-day operations.

As the children develop great interest in computers we need at a point in time assess its impact both positive and negative on their development. Over the years a number of homes have added electronic games, home computers and internet to other technologies, that is television and stereo systems that takes the time of children.

2. METHODOLOGY

The research covered six hundred (600) children in Grades 7 to 9 (Junior High School) in Greater Accra region of Ghana where the use of computers and internet among children is widespread. Most of the schools that appeared for the 2010 BECE in ICT are located in this region.

In examining the impact of computer technology on children we looked at the following areas:

- The number of times at which children use the internet for the following activities, computer game, home work, chatting on facebook, e-mail, and current events like (news, sports and weather).
- The number of hours per week they spend using the internet for the following activities; computer game, home work, chatting on facebook, e-mail, and current events like (news, sports and weather).
- The number of times per week children uses the computer without the internet from home and from school.
- The number of hours per week children uses the computer with the internet from home, school and internet cafe.
• How frequent the children use the computer for the subjects they study at school: mathematics, English language, general science, social studies and ICT.
• The number of hours children presently spend on the following activities; indoor games, outdoor games, and the computer.
• The research looked at the types of games children engaged in using the computer. Children engage in games like soccer, adventure, mission, racing and puzzle.

3. RESULTS AND DISCUSSION

1. HOW OFTEN CHILDREN USE THE COMPUTER FOR THE FOLLOWING ACTIVITIES (computer games, homework, chatting on facebook, sending e-mail and reading current affairs such as news, weather forecast.)

![Figure 1](http://www.cisjournal.org)

The computer is a powerful tool that is revolutionizing our children’s learning, communication and playing. Through the interactive world of technology, our children are being shaped by their exploration of computers and the Internet. The modern computer and the Internet offer today’s children a powerful device that, if used appropriately, can enhance the development of the child’s physical, cognitive, and social skills.

From figure 1, We find out that 23% of the children always use the computer for their homework as compared to 10.5% using it for games, 12% chatting online and 11.5% for sending e-mails. Most of these children using it for homework and current affairs are coming from the private schools. We still have a lot of children in Ghana who do not have access to the computer. With those who never use the computer for games, homework, chatting online, sending e-mails and current affairs, we have the following respectively, 30.9%, 28.7%, 49.2%, 50.1% and 40%. But occasionally we have the following using them. 44.1% for playing games, 27.9% using it for homework, 24.2 chatting online, 26% for sending e-mails and 37% for current affairs.

2. THE NUMBER OF HOURS PER WEEK CHILDREN USE THE INTERNET FOR THE FOLLOWING PURPOSES (computer games, homework, chatting on facebook, sending e-mail and reading current affairs such as news, weather forecast.)

![Figure 2](http://www.cisjournal.org)

We found out the number of sedentary hours children spend on the activities they engage in using the computer. Some research point to some health related hazards, such as back strains, neck strains and eye strains. One of the bad aspects of computer use is that even the children who cannot read and write yet, are already used to this machine. They develop at a very early age the habit of playing on the computers for hours on end.

Only 8% spend more than six hours a week either chatting online or on current affairs. Over sixty percent of the children spend one to three hours a week using the computer either playing computer game, homework, chatting online, sending e-mails and current affairs. Most of the boys spend a lot of their time playing computer games, whiles the girls spent the time either chatting or doing their homework. The boys spend more time on the computer as compared to the girls,
3. THE NUMBER OF TIMES PER WEEK CHILDREN USES THE COMPUTER WITHOUT INTERNET FROM HOME AND SCHOOL.

![Figure 3](image)

The research tried to find the usage of the computer by the children; this is to help determine the number of schools and homes with computers and where the children are accessing the computer from. The Internet consists of quick and easy access to a vast amount of information. In early-child development it has been a practice to limit children’s obtaining of information by simplifying messages and sequencing content.

We asked the children the number of times they use the computer without the internet from both school and home. We discovered that, 40% of the children do not have access to the computer at school and 32% do not have it at home. Of those who have access, 23% use it once a week at school and 20% once at home. Only 12% and 17% use it four times or more at school and home respectively. The schools that had computers were the private schools. Most of the children from the public schools who responded to the questionnaire either did not have and if they had, most of the computers have broken down and need replacement.

4. THE NUMBER OF HOURS PER WEEK CHILDREN USES THE INTERNET FROM HOME, SCHOOL AND INTERNET CAFES.

![Figure 4](image)

We also tried to find out the number of children who have access to the internet at school and home especially. The use of Internet in classrooms allows the children to work together, encouraging the sharing of ideas and cooperative learning.

We discovered that most of the children struggle to get access to the internet. 40% of the children do not have access to the internet at school and 56.7% at home. This suggests that most schools in Ghana do not have access to the internet. Most of the children depend on the internet cafes in their communities. These children have to compete with the adults in these cafes exposing them to online abuse, in the form of pop up pornography and adult related information.

This also suggests that the children are not being tutored on the use of the internet by both teachers and parents. The children are acquiring this knowledge themselves. This does not augur well for the development of these children. At this level they need to be guided and taught, but it is not happening. As to where the children are picking the knowledge we all have no idea.

5. HOW OFTEN CHILDREN USE THE COMPUTER FOR SUBJECTS TAUGHT AT SCHOOL MATHS, ENGLISH LANGUAGE, SOCIAL STUDIES, GENERAL SCIENCE AND ICT)

![Figure 5](image)

The introduction of computers in schools is to facilitate teaching and learning in the subjects the children study. The research discovered that, this is not what is happening, we have over 50% of the children who have never used the computer to study any of the subjects taught at school. The only time they use the computer is when it is time for ICT as a subject. The few that use the computer to
facilitate teaching and learning are in the well endowed private schools,

Childhood is all about exploration. Through the interactive world of technology, our children are being shaped by their exploration of computers and the Internet. Children get interested because they can make things happen with the computer and the Internet.

6. HOW MANY HOURS PER WEEK ARE CHILDREN ACTIVELY ENGAGED IN THE FOLLOWING (INDOOR GAMES, OUTDOOR GAMES AND COMPUTER GAME).

![Figure 6](image)

This is to find out how children engage in indoor, outdoor and computer games. The Internet cannot and should not replace human interaction or relationships, nor take the place of activities such as sharing verbal conversations with our children or playing together.

The research showed that 40.8% and 33% of the children do not engaged in indoor and outdoor games respectively. This indicates that we have a problem on hand, We have over 10% of the children who spend eleven hours or more a week on the computer. Most of them are boys. Most of the children spend between one to three hours a week playing either indoor or outdoor games,
7. HOW OFTEN CHILDREN PLAY THE FOLLOWING GAMES ON THE COMPUTER (SOCCER, ADVENTURE, MISSION/ACTION, RACING AND PUZZEL)

The research also look at how often children use the computer for games, shows these games have a negative impact on the development of children, especially contributing to aggressive and anti-social behavior. Playing computer games has a greater negative effect because it involves interactivity which impacts on learning processes of the child according to Bob Affonso (1999).

Numerous studies around the effects of violence in television, movies and video games on children have taken place over the last twenty years. The outcomes of various studies have shown that there is a negative effect of consuming violent media.

The General Aggression Model (GAM) has been developed to integrate recent findings in aggression theory and research with earlier models. In this model, the performance of aggression is based on learning, activation and application of aggression-related knowledge stored in memory.

The research showed that 30% of the children who have access to computer are engaged in one form of computer game. 18% said they are always engaged in computer games. Games like mission or action are quite violent, 34% of the children love such games, Most of them are boys. The girls prefer the adventure and puzzle which is quite educative and contribute to knowledge and development of the child.

4. CONCLUSION AND RECOMMENDATIONS

The computer and the Internet today is part of our children’s natural environment. Children use computers for activities that go hand-in-hand with our understanding of what constitutes a traditional childhood. They use the technology to play, learn, communicate and form relationships as children always have. It is little wonder that it has such a pervasive effect on their social development.

As it has been stated, the use of the computer and Internet in school allows the children to work together, encouraging the sharing of ideas and cooperative learning. These children improve their attitudes about learning while enhancing their curiosity and self-concept.

Children who use the computer and the Internet show gains in cognitive abilities such as memory, spatial and logical problem solving, critical thinking, concentration, abstraction and comprehension. The Internet exposes children to information to improve the quality of learning that they can transform into knowledge. Through the use of the Internet, children’s language and literacy development is often promoted, allowing for greater gains in verbal and nonverbal skills.

Even though the computer and the Internet has some positive aspects, there are also negative aspects to it. Some of the information posted on the Internet is lawless. Children face the problem of differentiating between what is and is not real, and they are unable to test reality in the virtual world.

The computer and the Internet can enrich children and their school-based learning and can be a tool for creative and intellectual work with others. However, when abused, Internet usage can also take children away from doing important social activities such as homework, chores and spending time with family, friends and indoor and outdoor games.
To achieve Ghana government objective in making all students/pupils computer literate at all levels of educational system, the government should do the following:

1. Policy targets should be set for all schools should be equipped with computers and also connected with the internet.

2. Aside the subject ICT, tutorial software in other subject areas such as mathematics and general science should be used in teaching and learning.

3. All teachers graduating from teacher training college should be computer literate. They should use the computer for teaching and learning. The teachers should be well equipped to guide the children in the use of computer for learning. We should move away from the situation where the children are using the computer and the Internet without guidance. This is to help minimize the problems it comes with the use of computer technology.

REFERENCE


