

In-School Children's Internet Use Competence And Access To Online Materials In Nigeria

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Abstract: Our study investigated In-school children's competence and access to internet materials, with particular focus on selected pupils in primary schools in South East, Nigeria. The internet has become an integral part of our lives. We asked the question: how do children fare in this context? The study took the survey approach aimed at eliciting information from the study population, regarding their competence in using the internet, and access to internet materials. Data was obtained using the questionnaire. The sample size was 368. Results show that most In-school children in this part of Nigeria were competent in using the internet and have access to internet materials like online games, educational materials, like e-books, cartoons and videos as well as inappropriate materials that are violent and pornographic in nature. This would mean that exposure to inappropriate materials deserves some control; because if nothing is done; it could impinge negatively on the lives of the children who are exposed to it. One major recommendation of this study, based on the findings, was that children should be adequately supervised by adults who have the leverage over them, as they utilize the internet.

Keywords: Children's competence, internet materials, online games, e-books, inappropriate materials

I. INTRODUCTION

The internet is defined as the "electronic networks that link people and information through computers and other digital devices allowing person-to-person communication and information retrieval (DiMaggom Hargittain, Neuman & Robinson, 2006). The advent of the computer and the internet has brought a whole new world in terms of gathering, disseminating, creating, and criticizing information and communicating with people.

The internet has several distinctive features. First, the internet is an active and interactive medium. In other words, the internet is a two way medium. Internet users can create information by themselves or actively search and reach information on the web. Furthermore, people evaluate the given information and set forth their view so that other people can see them. Second, the internet transcends time and space.

The internet provides an easy way to connect to people who live away from close proximity. In fact, many children keep in touch with foreign friends or friends they made in school every day and even know what they are up to (Wolcott, 2009). Also the internet changes our sense of time. We neither have to wait for the morning or evening newspaper nor wait for the programme on television. We simply go to the internet and get what we need wherever we want. The internet not only offers a new way to communicate with people but also enables them to connect with a virtual community where people have shared interests. Oravec (2010) argued that the notion of 'neighbor' has been changed from only the individuals who live nearby to include those whom people meet and maintain relationships with on line. Today's home is called a 'wired home' where family members perform all kinds of activities through a computer network (Oravec, 2010). In other words, the internet

affects not only family members but also the function of the home environment.

II. CHILDREN AND INTERNET USE

The internet is a primary educational and developmental tool for many parents and teachers. Children's use of the internet by National School Boards Foundation, which surveyed 1, 725 households for both parents and children showed that most children knew how to use the internet and had access to internet materials (Demner, 2007).

Over the past few years, there was a significant upsurge in internet usage by children below nine years (Paajarri, 2012). The EU Kids Online have recently spent almost seven years studying the commitment of children between the age of 9-16 years to the internet, focusing on the benefits and the risks of using the internet among the children. While the investigations were of much older children, another investigation on internet-related behavior of children between the age of 1-8 had been conducted before the EU Kids Online started its investigations early 2006. Recent online results show that more children have access to online applications and programmes at a younger age and these young children are exposed to technical, critical and social behavior skills that may pose a great risk to them (Livingstone et al, 2011).

III. CHILDREN'S ACCESS TO INTERNET MATERIALS

Studies have shown that common uses of the internet during childhood include communicating through e-mail, visiting websites and playing games. Children who use the internet at home and at school for learning and communication demonstrated better language and metacognition than children who did not report such online behavior (Johnson, 2006).

Valkenburg and Peter's (2010) found that socially comfortable children communicated online more than the socially anxious children. Boys who used e-mail, compared to boys who did not, were more cognitively sophisticated and more popular with peers (Johnson and Buck (2012). Nonetheless, excessive use of the screen media such as the internet has been linked to childhood obesity (Vandewater, Shim and Caplovitz, 2006).

A popular use of the internet for children is playing games (Hammer and Black, 2009); Van Deventer and White (2002), observed proficient 10 and 11 year old video gamers and noted extremely high levels of self-monitoring, pattern recognition and visual memory. Debell and Chapman (2006), concluded that internet use promotes cognitive development in children specifically in the area of visual intelligence where certain computer activities, particularly games may enhance the ability to monitor several visual stimuli at once, to read diagrams, recognize icons and visualize spatial relationships. Playing video games however has also been linked to childhood distractibility, over arousal, hostility and aggression (Anderson, Gentile and Buckley, 2007).

From an educational perspective, the internet helps children exploit enormous information for educational purposes and increase learning through communication (Fuchs

& Wobmann, 2005). Li and Atkins (2010) noted that computer exposure during the pre-school years was associated with subsequent school readiness. Kumtepe (2011), observed that computer literate children were rated by their teachers as demonstrating better social skills than children less computer proficient. Reportedly, internet use during childhood supports emergent literacy and facilitates concept development (Ertl & Plante, 2006, Lyach & Warner, 2004). Mclean Cole and Hilliard (2006) found that reading skills in a sample of third grade children increased more with web-based than with traditional literacy instruction.

Internet use during childhood occurs at home, school and to a lesser extent, in the community (Uwah, 2009). Palfrey & Gasser (2008) noted that parents took few steps to orchestrate the content of children's online activities and rarely became directly involved in those activities. Cho and Cheon (2014), surveyed families and found that parents perceived control obtained through shared web activities and family cohesion reduced children's exposure to negative internet content. Lee and Chae (2007) reported a positive relationship between parental mediation techniques and children's educational attainment. Ofodu (2012) in his study found out that children under nine years old use the internet to enjoy a variety of online activities, for example watching cartoons, videos, playing online games, probing for information, doing their school home work while networking and socializing within the online children's virtual worlds. Johnson, Code and Zaparynink (2007), found that at home, online learning and communicating (but not playing and browsing) were associated with advance child development in expressive language and metacognitive planning. Steeves and Webster (2010), concluded that parental supervision cannot adequately protect children who have integrated the internet most fully into their social lives especially the high premium that children place in the use of the Net to talk to friends and explore social roles.

Clearly most parents are aware that children are likely to be exposed to some risks when they access the internet unmonitored or use for long periods of which might lead to addiction. Uwah (2009), opines that even though, we are uncertain about conceivable value of internet use and opportunities, it may be that in a digital world, it is suitable that children grow up with digital information and resources as fragment of their everyday activities, guided by suitable methodology in their use through the active engagement of parents and guardians, therefore making digital technology an ordinary part of a child's social expansion.

According to Young and Abren (2010), Internet use has significantly penetrated children's lives. The steady rise in time children spend online raises the question about the control of their internet use. According to Livingstone (2012), observing the usage of the internet by children creates public concerns that both weakens and guides research, confusing the present thought provoking review of children within the privacy of the home. This recognizes that the digital technology use offers new opportunities to improve participative learning, innovation and communication (Plowman et al, 2011). Young children's online encounters are being described in the following areas of education, entertainment and edutainment (Livingstone, 2012). As vital

as it can be in today's society, the internet is a reflecting thought of the corporation both good and bad. Young children watching pornography and sexual predators have been the major concern for parents. On an almost daily basis we read and hear in the media about how technology can be misused including by those intent on sexually harming children and young people. We are also learning of how children may place themselves at risk and be vulnerable to abuse. Uwah (2009), states that children tend to become less wary and talk about things far more openly when communicating via the internet than when talking to someone face-to-face. Children may not always follow the advice, "keep safe" on the internet. By the very nature of their age and development, they tend to be adventurous and prepared to take risks. Livingstone (2012) opines that it is important that all adults are aware of the potential dangers to children on the internet and be able to protect them from harm.

IV. CHILDREN'S COMPETENCE AND ACCESS TO INTERNET MATERIALS

The internet has become an integral part of children and young people's lives. The internet is an increasing part of today's culture especially for children and youths for whom school work, online gaming and social networking are among the most popular activities. It is a versatile and innovative medium that has completely changed the lives of people much as television did in the 1950's and 1960's. It has changed people's lives in terms of reaching, disseminating, creating and evaluating a huge amount of information easily and quickly; communicating with many different kinds of people, separated by space and time and reallocating time for their daily activities (Tapscott 2005).

Studies about the internet started from investigating who had internet access. Researchers then moved to investigate actual internet use including how much time people spent on the internet and what they were doing. Studies have now focused on children's access to the internet. Children are particularly interesting subjects for studying the internet for several reasons. First, the internet is at the heart of a new generation, called the Net generation. According to Tapscott (2005), the Net generation consists of babies still in diapers to people who are in their twenties. The internet is an essential part of the Net-generation's lives. Unlike their parents, this generation doesn't have any fear toward the new medium. Second, the number of children who are using the internet is growing fast every year (Zolli, 2012). Third, children are in a developmental stage. The fact that children spend more time in front of a computer, using the internet, suggests the possible impact of internet use on children's physical, social and mental development (Bianchi, 2007). The possible positive influence of the internet on children is concerned with educational or informational purposes, which suggests that children can acquire lots of information and apply it to their education. However, Kubey (2000) asserts that the claim about the positive impact of the internet is arguable because children may not only get educational information. He opined that children may use the internet for various reasons including getting information, communicating with people,

playing games, surfing and visiting different kinds of web sites, etc. The fact that there is no specific regulation about the internet, nor proper knowledge and guidance of children's internet use by government, schools or parents raises more concern.

Also, there have been several claims by media scholars of a possible negative effect of the internet on children's daily lives. There have been more concerns about the negative effect of the internet on children concerning violent and sexual contents. According to Demner (2007), a displacement effect in such areas as social relationships, including interacting with family and friends, physical activity and other leisure-time activities, such as reading and playing and a negative effect on psychological well being such as loneliness. It is therefore vital for parents, educators, guardians and peers to educate children on risks and responsibilities they may encounter while using the internet.

Trends indicate continued increase in the number of children accessing the internet, the amount of time they spend online and the complexity of their online behavior (Livingstone & Helsper, 2007). Currently, there are two conflicting public anxieties surrounding children and the internet, first, that the internet may harm children (by exposure to inappropriate content) and second, that children without internet access are socially and educationally disadvantaged (Jackson et al, 2006, Sandvig, 2003). In either case, the internet is viewed as an environmental element with potential development impact.

V. PURPOSE

Our study, therefore, investigated in school children's internet use competence and access to online materials with a view to determining whether in-school children in primary schools in Nigeria, know how to use the internet properly and if they have access to materials on the internet that could be helpful or unhelpful to the cause of their lives. We had four objectives. These were:

- ✓ To determine these in-school children's competence in internet use;
- ✓ their access to internet materials;
- ✓ sources of access to internet materials; and,
- ✓ their access to inappropriate internet materials.

VI. METHOD

We used the survey method to generate data for this study. The data collection instrument was the questionnaire. Our questions were framed in such a way that they would supply answers to the research questions that asked to know in-school children's competence in internet use; their access to internet materials; sources of access to internet materials; and, their access to inappropriate internet materials. The area of study was the South East region of Nigeria which consists of Abia State, Anambra State, Ebonyi State, Enugu State, and Imo State. The South East makes up one of the six geopolitical zones in Nigeria. We designed our study as a regional study that informed our focus on one particular zone. Our

belief was that future studies may replicate our study in other regions of Nigeria, to establish what obtains there in relation to the research problem we explored. Our study population was In-school children in primary schools in South East Nigeria. Table 1 shows a breakdown of the population of these pupils in the selected schools in South East Nigeria.

S/N	STATE	SCHOOL	TYPE	POPULATION
1	Anambra	Royal Saints international schools, Amikwo Awka South Local Government Area.	Private	75
		Nnamdi Azikiwe University primary school Ifite, Awka South Local Government Area	Private	537
		Ikwodiaku Primary school Obinagu, Awka South Local Government Area.	Public	218
		Udoka primary school Awka South Local Government Area	Public	180
2	Abia	Hilltop primary school Afara, Umuahia	Private	58
		World changers academy, Ugwunchara, Umuahia	Private	72
		Amuzukwu community primary school, Amuzukwu, Umuahia	Public	288
		Library avenue primary school, Ubakala, Umuahia	Public	123
3	Ebonyi	Stella Maris Primary school Amofia Ukabu Abakaliki Onicha Local Government Area Ebonyi State.	Private	96
		Madonna primary school Umuhuali, Abakaliki Ishelu local government area Ebonyi State.	Private	258
		Central school Umuhuali Abakaliki, Ishielu Local Governemnt Area	Public	323
4	Enugu	Holy child primary school, Federal housing Transekulu, Enugu	Private	92
		Pinecrest primary school independence layout Enugu.	Private	135
		Transekulu River primary school, 1 Transekulu Enugu	Public	426
		WTC (Women Training College) primary school 1 Ogui New layout, Enugu.	Public	508
5	Imo	Rosy kids montessori primary school, Umuocham Owerri.	Private	84
		Brainfield Montessori primary school, Ofeuzo Owerri.	Private	68
		Eziobodo community primary school, Umuayo Owerri.	Public	314
		Owerri City primary school, Ihiagwu Owerri.	Public	309
Total				4561

Table 1: Sample Frame

The working population for the study was 4561 (four thousand, five hundred and sixty one) In- school children in selected primary schools of South East Nigeria. The sample size was 368, derived using the Yamane formula $n = \frac{N}{1+N(e)^2}$. Purposive sampling technique was used to choose four schools (2 public, 2 private) each from each state capital in the South East. We chose schools from the state capitals because by virtue of being state capitals, more people migrate to them and as a result, they have more population. This has led to the establishment of more schools in these state capitals than other areas in the various states. Therefore, we purposively chose two public and two private schools each from Awka, Enugu, Owerri, Umuahia and Abakaliki, which are the capital cities of the five states of the South East. Three hundred and sixty eight (368) copies of the questionnaire were used for the study units who were selected, as per their study classes, using the table of random digit.

VII. RESULTS

Our data show that a gender spread of 48% male and 52% female among our respondents. These are between the age range 5-13; 32% were between 5-8years; 44 % were between 9-12 years and 24% were 13 years and little above 13 years. Similarly, 30% of our respondents were within Primary 1-3 and 70% were within Primary 4-6.

ANSWERS TO RESEARCH QUESTIONS

A 14- point questionnaire was used to elicit answers to research questions from the respondents. We presented the data that were generated in chart and tabular formats with attendant analysis.

RESEARCH QUESTION 1: Are in-school children competent in using the internet?

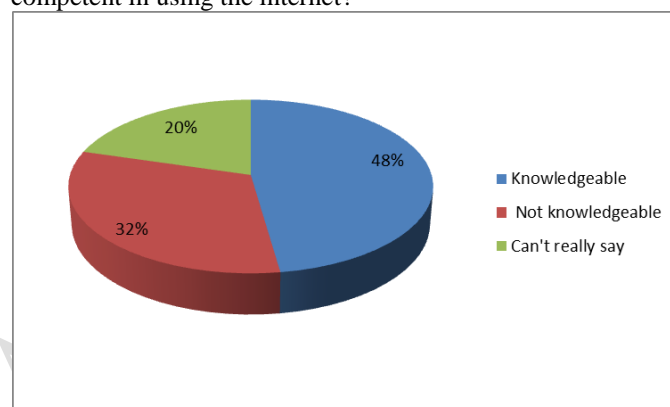


Figure 1: Respondents knowledge of the internet

Data in Figure 1 shows that 73% of the respondents claimed they were knowledgeable about the internet, 21% respondents say they had no knowledge of the internet while 6% respondents could not say if they were knowledgeable of the internet.

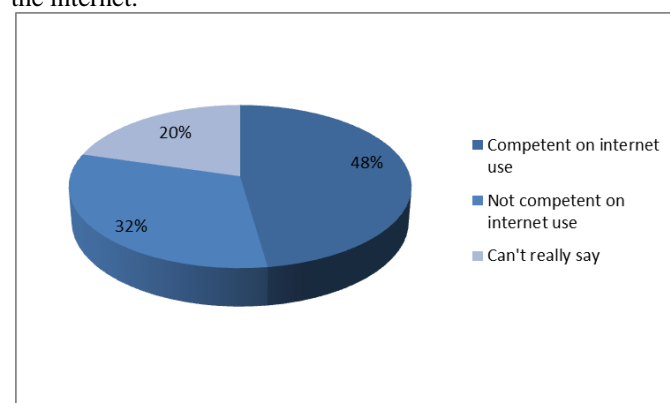


Figure 2: Respondents Competence of the Internet

Data in Figure 2 show that 48% of the respondents were competent with the internet; 32% of respondents were not competent with the internet while 20% of respondents could not say if they were competent with the internet.

RESEARCH QUESTION 2: Do in-school children have access to internet materials?

Data in Tables 2, 3, 4, and 5 lend answers to this research question.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	203	56%
No	73	21%
Can't really say	76	24%
Total	352	100%

Table 2: Respondents who have access to internet in school

Data in Table 2 show that 56% of the respondents had internet access in their schools, 21% of the respondents don't have internet access in their schools while 24% of the respondents were not sure.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	143	41%
No	156	44%
Can't really say	53	15%
Total	352	100%

Table 3: Respondents' access to internet at home

Data in Table 3 indicate that 41% of respondents had internet access at home; 44% of the respondents did not have internet access at home while 15% of respondents were non committal.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	192	55%
No	124	35%
Can't really say	36	10%
Total	352	100%

Table 4: Respondents access to internet materials

Data in table 4 show that 55% of respondents had access to internet materials 35% of the respondents did not have access to internet materials, while 10% of respondents were not sure.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	138	39%
No	171	49%
Can't really say	43	12%
Total	352	100%

Table 5: Respondents access to internet materials with the aid of an adult

Data in table 5 show that 39% of respondents had access to internet materials with the aid of an adult; 49% of the respondents had access to internet materials on their own, while 12% were not sure about accessing internet materials with the aid of an adult.

RESEARCH QUESTIONS 3: What are the in-school children's sources of access to internet materials?

Data in tables 6, and 7, lend answers to this research question.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	146	41%
No	164	47%
Can't really say	42	12%
Total	352	100%

Table 6: Respondents access to internet materials through computers

Data in Table 6 indicate that 41% of respondents had access to internet materials through computers; 47% of the respondents did not have access to internet materials through computers, while 12% respondents were non committal.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	179	51%
No	144	41%
Can't really say	29	8%
Total	352	100%

Table 7: Respondents' access to internet materials through Smart-phones and iPads

Data in table 7 indicate that 51% of respondents had access to internet materials through smart phones and ipads, 41% of respondents did not have access to internet materials through smart phones and ipads while 8% were not certain.

RESEARCH QUESTION 4: Do these children have access to inappropriate internet materials?

Data in Tables 8 and 9 are relevant to this research question.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	180	52%
No	86	24%
Can't really say	86	24%
Total	352	100%

Table 8: Respondents access to inappropriate materials on the internet during use

Data in Table 8 show that 52% of the respondents came across inappropriate materials on the internet; 24% of the respondents did not come across inappropriate internet materials, while 24% could not say if they come across internet materials while using the internet.

RESPONSE	FREQUENCY	PERCENTAGE
Yes	175	50%
No	87	25%
Don't know	90	25%
Total	352	100%

Table 9: Respondents access to violent and pornographic materials on the internet

Table 9 shows that 50% of respondents affirmed that they had come across violent and pornographic materials on the internet; 25% of respondents did not come across violent and pornographic materials on the internet, while 25% of the respondents were non committal about having come across violent and pornographic materials on the internet while using it.

VIII. CONCLUSION

From the findings of this study we can conclude that these children studied were knowledgeable of the internet; competent in using the internet, have access to internet materials, whereby they chanced upon inappropriate materials; worked around the internet mostly without the supervision of an adult; and, have the smart phone and iPad as the main platforms for access to the internet.

The internet phenomenon presents one of the inevitable changes due to technological advancement. Rather than it being abhorred due to challenges it poses to the children, it would be better if means are developed to eradicate the challenges. Barring children from assessing the internet would not be an option because if children properly use the internet, it offers them and the society more benefits than otherwise.

The internet is like fire, if properly utilized, the gains are exponential. Surveys all over the world have proved that children are masters of the game when it comes to internet use. They are born with the intellect and speed required to survive in this swift age and era. It is one thing for children to use the internet efficiently; it is another thing for them to be technologically, morally and emotionally prevented from being victims of internet hazards (Bates, D. 2013).

Against the backdrop of the foregoing, we recommend that:

- ✓ There should be constant supervision of children as they use the internet to avoid their having access to harmful internet materials.
- ✓ Children should be properly educated on how the internet should be used.
- ✓ Full use of filtering and parental controls should be made both at home and in the school environment.
- ✓ Parents and educators should familiarize and educate themselves about the dangers of the internet in order to protect the children from harm.
- ✓ Children should be discouraged from spending excessive time on the internet as this may lead to their being psychologically weak and defenseless to the online environment, which could lead to serious emotional problems in the children.
- ✓ Schools that have not incorporated the teaching of ICT in their curriculum should do so, so that more children would be competent in using the internet.

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