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Information Technology in Learning Institutions: An Advantage or A Disadvantage?

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Abstract

This study set out to find out the prevalent advantages and disadvantages of using IT in learning institutions, using a private Nigerian university as case study. The core research question was, is the use of IT in tertiary learning institutions more of an advantage than a disadvantage? The survey design was adopted. Two hundred and fourteen students responded to a questionnaire while twenty-four participated in focused group discussion. Ten responded to interview questions. It was found that the greatest advantage of IT is easy access to information while immorality was top on the list of the disadvantages identified by the interviewed study participants, with 60%, followed by cybercrime and distraction. It was recommended that more concerted training and sensitization should be undertaken to help the teeming students in Nigeria and the world at large to make more productive use of IT devices in the learning institutions in the face of multifarious web traps and distractions.

Keywords: Information technology, Learning, University, Advantages, Disadvantages

1. Introduction

With the advent of information technology [IT] age, which finds greater expression on the internet and in the use of mobile communication gadgets, human lifestyle across the globe has changed dramatically [14,15]. The literate world seems to be more affected as the stimuli overload tend to cause so much distraction and by extension stress, such that those who are weak in self control are likely to end up ‘drowning while surfing the internet ocean.’ Conversely, for those who are self-disciplined and focused, the same ferocious waves of the ‘internet ocean’ and related information technology is likely to become a powerful leverage that propels them into higher heights of achievements. It is indeed a paradoxical trend worth exploring, hence this study. The IT age has literally turned the world into a global village. For instance, with the google map satellite images, you can literally see the activities on the streets of virtually all major cities in the world in real time. The core objective of this study is to find out the prevalent advantages and disadvantages of using IT in learning institutions, with the view of ascertaining whether IT is eroding or adding value to learning in tertiary institutions.

It is posited that ICT is a generic term for describing the devices and the methods of accessing, retrieving, storing, organizing, manipulating, producing, presenting and exchanging information electronically [9, 15, 20, 22]. The devices include computer

hardware like desktop computers, laptops, scanners, digital cameras, mobile phones, faxes, modems, flash drives, monitoring screens, CD and DVD (digital view disc). The media include videos, audios, texts and pictures. In this presentation, IT is used predominantly.

The term IT is used to refer to tools used for communication and computing while educational technology is used to indicate the application of IT tools to teaching and learning [27-30]. Educational technology may also be classified into instructional technology, that focuses on the tools based in the delivery of educational material, and learning technology, which focuses on the experience of the student [16]. IT represents the union of telecommunication, video, and computing technology. Alternately, the term educational technology has also been described as the systematic application of human and technological resources in teaching and learning [17, 22]

Learning has often been defined as a permanent change in behaviour as a result of experience [1]. This definition can, however, be taken a step further. It can be postulated that learning that leads to destruction of self and our neighbours is hardly true learning. It is therefore posited that learning is permanent change in *positive or life-promoting* behaviours. Going by this latter definition, many of the 'learnings' taking place in schools today could hardly be described as true learning. Though learning institutions are in levels – primary, secondary and tertiary, the focus of this paper is on tertiary institutions.

2. Background and Literature Review

Consider the Google search engine, it is quite apparent it has significantly enhanced learning in virtually all areas of life and for all categories of people. The impact of the search engine has become so strong that it has become part of people's vocabulary – "google it!" There is even a robotic version of the search engine for children that are known to be inquisitive and always pestering their parents with questions. A number of parents have now trained their children to ask google all their bugging questions. The dramatic outcome is that everyone is learning so much at a fast pace. The pathetic part is that quite a number of persons are learning bad things as well. For instance, some students use the search engines to cheat during examinations [21]. By extension, it can also be argued that the search engines tend to inculcate mental laziness. Since you know the answer is just at the click of a button away, why task your brain?

Online publishing has clearly contributed to significant enhancement of the quality and quantity of global empirical research. This advantage nonetheless, the spate of plagiarism around the world is alarmingly on the increase, apparently due to ease of copying and pasting [22]. This is also an offshoot of mental laziness.

Social media platforms like Facebook, Twitter, Instagram, constitute another powerful medium of learning [8, 24]. Human beings, like most animals, learn predominantly through social interactions and observations. Social media interactions transpire predominantly through text communication and chatting. However, video and audio sharing are also thriving. The online social media platform however goes beyond national boundaries. Consequently, it paves way for cultural 'cross-pollination' as well as pollution. The greatest challenge with users of these IT platforms, who are predominantly students, appears to be poor self-control [1, 2, 3, 4,

5]. It is this weakness that that appears to birth the woes and disadvantages of IT in learning environment. Computer games seem to be another great threat to productive learning. As it applies with chatting, a teeming population of students are almost becoming addicted to digital games [21, 22]. The likely attendant result of this unwholesome behavior, which could also be attributed to lack of self control, are distractions, poor academic performance, drop-outs, social miscreants, juvenile delinquency and dismal indigenous productivity and development. Gaming, online charring, and video watching tend to constitute avenues via which precious time that could be unvested in productive learning is being wasted.

The rapid changes taking place in IT world require speedy adjustment by the populace. Learning is a continuous process. The use of IT tools has its advantages and disadvantages. As reiterated earlier, though IT offers diverse benefits, there are also bad and dangerous sides to IT [18]. For instance, there are increasing cases of cyber insecurity such as hacking, increasing spate of anti-social behavior among youth and uncontrolled pornography [21].

Some of the disadvantages of e-learning are: lack of real human relation; communication skills of learners is becoming grossly affected; assessments under e-learning is also prone to examination malpractices; e-learning is also prone to piracy and plagiarism, with ease of copy and paste [9]

Another study [20] revealed that in many schools, basic ICT facilities like computers are not available. Not all students can afford personal laptops and this has greatly affected e-learning and e-communication channels like email, and e-board. The recommendation became necessary that students be provided with workstations and that ICT be incorporated into the curriculum to accelerate students 'acquisition of computer knowledge.

Though IT is vital in everyday living, it is undergoing some ethical difficulties. As more IT's emerge in the market, challenges like lack of privacy, security, copyright violation and increased computer misconducts are emanating. IT makes it easy for users to have access to any information and artifacts [9].

3. Method

To verify the claims made in the preamble of this paper, the survey design was adopted. Consequently, the following data gathering methods were utilized: questionnaire, interview, focused group discussion and observation. Two hundred and fourteen [214] undergraduate students in a Nigerian private university responded to the questionnaire. Twenty-four [24] students participated in the focused group discussion while Ten [10] were interviewed. Their mean age was 17.

The key instruments used were self report questionnaire, interview guidelines and focused group discussion guideline. The core questions asked the respondents were: what are the advantages of IT in learning institutions? What are the disadvantages of IT in learning institutions? Describe some of the negative experiences you or a close person had while using IT. Questionnaires were administered directly to students after seeking their consent. The focused group discussion was done with a group of Psychology students while the lead researcher served as moderator. The discussion was guided by the focused group discussion guideline. The lead researcher also made

several observations of students' manner of using the IT devices within and outside the classroom.

Qualitative and quantitative analysis were made of the data collected. The latter involved simple descriptive statistics like frequency count and percentages.

4. Results

The results obtained sequel to data analyses are presented below. The result presentation was done based on the instrument type – questionnaire, interview, focused group discussion and observation.

4.1 From Questionnaire

The results obtained from analysis of responses to the questionnaire are presented in [21]. Out of the 214 that responded, 41.8% (90) 37.7% (81), and 32.6% (70) of the respondents reported they used the free data provided by the university in downloading academic information, downloading e-books and downloading and watching non-academic videos respectively. When dichotomized against the parameter of advantageous and disadvantageous usage, the proportion looks like this: Advantageous usage (downloading academic information and e-Books) – 171 (42.4%); Non-advantageous usage – Downloading and watching non-academic videos, music, chatting and games - 233 (57.7%). Please note that this percentage was derived based on overall total here, which is 404.

Further analysis [21] shows that, the most visited websites are Google (87%), Instagram (66.8), BBM (62.1%), Facebook (59.3%), YouTube 58.4%), Wikipedia 52.8%) and WhatsApp (38.3%). The least visited was Skype (22.9%). While Google and Wikipedia could be clearly tagged as advantageous to learning; hardly could the same be said of BBM, Facebook and WhatsApp. YouTube could be both advantageous and disadvantageous, depending on the mindset of the student. From Table 2, the websites that are clearly advantageous to learning are: Google, Wikipedia, and perhaps YouTube. Altogether, 426 (38.4%) students made use of these advantageous websites frequently. The websites that are apparently disadvantageous to learning in Table 2 are: Instagram, BBM, Snapchat, Facebook, WhatsApp, Twitter and perhaps Skype. These are virtually chatting websites. Close observation of students shows they hardly use the chatting period for academic purposes. Altogether, 684 [61.6%] students made use of these disadvantageous websites. Note that a single respondent can use more than one website, hence the seeming larger sample size here.

4.2 From Interview

Responses to the interview by ten [10] randomly selected undergraduate students were analyzed and presented below. Table 1 offers the advantages while Table 4 offers the disadvantages. Immediately after are the thematic ideas gleaned from the respondents' report of their IT related negative experiences.

Table 1: Perceived Advantages of Using IT in a Private University

Advantages	Frequency	% (N=10)
Easy access to information	10	100%

Quick and effective communication	6	60%
Improve commerce and trading	4	40%
Improved education	2	20%
Creation of new jobs	2	20%
Social networking	2	20%
Improved researches	1	10%
Improved security	1	10%
Improved storage	1	10%
Upgrading of medical care	1	10%

Table 2 shows that the greatest advantage of IT as perceived by the interviewed respondents is ‘easy access to information.’ However, the information could be positive or negative.

From Table 4, immorality was top on the list of the disadvantages identified by the interviewed study participants, with 60%, followed by cybercrime and distraction while learning and formal meetings. Twenty percent (20%) of the respondents categorically said IT has bad influence on children and youths.

Table 2: Perceived Disadvantages of Using IT in a Private University

Disadvantages	frequency	% (N=10)
Immorality	6	60%
Cybercrime	5	50%
Distractions while learning & formal meetings	4	40%
Psychological dependence	3	30%
Bad influence on children and youths	2	20%
Exposure to radiations especially at mast sites	2	20%
Accident due to misuse of devices while driving	1	10%
Decline in other professions (with mass movement to IT professions)	1	10%
Neuro-degeneration	1	10%
Cyberbullying	1	10%

*Itemized below are some of the **negative experiences** of the respondents:*

Response 1: Burnt food at kitchen due to phone distractions

Response 2: Had an accident due to picking call while driving

Response 3: Through the internet my friend was defrauded, after ordering a product from Instagram, only to find out it was sponsored page. They gained access to the money in the account through the ATM card information.

Response 4: I know of a two-year-old child that can operate any phone in as much as it is not restricted, but yet to read and write as much as her colleagues will do in same class. This shows her psyche and even IQ is partly dependent in the first set of exposure she had, which is phone. I am sure if not curbed may go a long way to affect her academic performance on short and long term.

Response 5: It affects the mindset or perception of a close person I know in an unimaginable way. The person was open to an un-scrutinized information and it affected the person perception wrongly.

Response 6: Longtime exposure to my device causes me discomfort in the eyes.

4.3 From Focused Group Discussion

The university management gave all students mobile tablets. The focus of the group discussion was to establish the advantage and disadvantages of the device. Was the IT device really facilitating learning? Extracts of the discussion are presented below.

Prompt: Are the Mobile Tablets (tabs) offering advantages or disadvantages in terms of learning?

Student Response (SR) 1: Mobile Tablets are very useful in my view because they provide us less stressful access to the internet and a world of information. It makes everything kind of mobile, therefore, it enables learning.

SR2: In my opinion, Tablets are very effective in facilitating learning. For instance, last week in class, I used my tablet to share note that my classmates did not have. I could easily do this via the internet access on the Tab. So in terms of information sharing, it is very useful and effective.

SR3: Some students do not have their own laptops and have to rely on other students or make use of the systems at the Library. By making tablets available to all students, an equal learning platform is created. The tablets are not only used for reading, they can also be used to design to-do-lists which help to organize and monitor students' activities per day.

Prompt: What are some of the adverse effects of Mobile Tablets?

SR4: For instance, in class, while lecture is ongoing, a student connected to Wi-Fi may embark on snap-chatting or other forms of distractions. These distractions are very common and happen quite frequently. They are major distractions to students.

SR5: Other distractions include the watching of pornography and engaging in internet sex thereby wasting time they would have used for productive activities. This has negative effect on the academic and spiritual life of students.

SR6: Although the Wi-Fi connection is usually at its best in the night, most students do not maximize this for reading but instead are tempted to use it for browsing and downloading things that are of less or no benefit at all.

4.4 Observations

Six years of close interaction and observations of undergraduate students in the private university studied revealed the following:

- Despite the ban on the use of mobile telephone or Simcard-enabled IT gadget on campus, a number of students still get distracted with the mobile tablets they are permitted to use for lecture purpose, largely because of free and quick internet access. It became necessary to seize the tablets of some students during classes.
- A number of students devote a chunk of their time in downloading and watching non-educational videos, even late into the night since this is the time the internet is more functional. This habit denies such students much needed sleep. Such students end up sleeping during lecture hours, while some develop psychological challenges. The bottom-line is that the academic performance of such student dovetails.

- Another strong addiction observed with some students is cyber chats. A student confessed she once engaged in a 10-hour chat, interspersed with few non-productive activities. Such time wasting activity, which often happen late into the night when they should be sleeping, take its toll on their academics.
- The advent of IT also tend to encourage mental laziness as students now find it easier to practice plagiarism.
- Some students with poor self control get lured into pornography, drug addiction and cyber sex while some eventually get into the real act of sexual immorality with attendant consequences like unwanted pregnancy, abortion, sexually transmitted diseases and premature death. Those who did not die, either drop out of school and become social miscreants while those who manage to continue schooling begin to perform dismally in their academics.
- Another negative addiction that emanates from IT usage in learning institutions is gaming. This is another time waster among students at virtually all levels of education.

5. Discussion

The exploration of the advantages and disadvantages of the of IT in tertiary learning institutions made in this study has revealed that IT offers ample advantages to learning, if used rightly and wisely [1-10]. However, when the user is immature and lacks self control, the same IT gadgets and the content they offer could become destructive to the individual, the community and a nation [13-17, 21]. It is a situation that calls for attention and further study. It appears, the world at large tends to erroneously assume that all is well with the world of IT as it relates to teaching and learning.

Popular Ways Students Make use of their IT Gadgets and Popular Websites Visited.

When dichotomized against the parameter of advantageous and disadvantageous usage, 42.4% of the respondents made advantageous usage (downloading academic information and e-Books), while 57.7% of the respondents made non-advantageous usage [downloading and watching non-academic videos, music, chatting and games]. In terms of websites commonly visited, altogether, 38.4% of the respondents made use of websites that tend to be advantageous to learning (e.g. Google, Wikipedia and perhaps YouTube) while 61.6% of the respondents made use of websites that tend to be disadvantageous to learning (e.g. Instagram, BBM, Snapchat, Facebook, WhatsApp, Twitter and perhaps Skype). Findings from the questionnaire, interview, focused group discussion and observation revealed the same thing – more university students make use of IT facilities in a distractive manner that hampers their learning. From the interview result in Table 4, immorality was top on the list of the disadvantages identified by the interviewed study participants, with 60%, followed by cybercrime and distraction while learning and formal meetings. This implies that students tend to make more disadvantageous use of IT, such that adversely affect learning, productivity and development. What should be expected from students that spend valuable time that should invested in concerted studies in frivolous chatting, browsing, video watching and online sexual immoralities? Some hardly sleep in the night while indulging in these immoral acts. Students' responses 5 and 6 from the

Focused Group Discussion extract above tend to confirm these surmises. These findings and surmises find support from submissions in the literature reviewed in the course of this study [11, 12, 22,23 24, 25, 26]

The commonalities in all these are distraction and time wasting. Furthermore, some students tend to end up dwelling on self destructive activities. Many in this category ultimately drop out of school for poor academic performance while those who manage to graduate are so shallow that they could hardly make any meaningful contribution to national development. This situation calls for immediate attention especially in developing countries like Nigeria.

6. Conclusion & Recommendation

This study is quite revealing with regards to importance of IT in the aspect of Teaching and learning. The study revealed that IT is a veritable tool that can be employed to improve teaching and learning generally. On the other hand however, the study revealed that self-discipline is required to maximize the benefits of IT. IT gadgets may be viewed from two perspectives namely tools that enhance learning experiences and tools that are destructive. This being the case, it is recommended that adequate training and sensitizations be provided to users of these technologies which are mostly undergraduates in higher institutions of learning. This will ensure more productive use of IT devices in the learning institutions in the face of multifarious web traps and distractions.

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