

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

Winter 2-11-2022

THE EFFECT OF INTERNET ON STUDENTS STUDIES: A REVIEW

Mark Quaye Affum
affummark@yahoo.com

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Computer Sciences Commons](#), and the [Scholarly Communication Commons](#)

Affum, Mark Quaye, "THE EFFECT OF INTERNET ON STUDENTS STUDIES: A REVIEW" (2022). *Library Philosophy and Practice (e-journal)*. 6932.

<https://digitalcommons.unl.edu/libphilprac/6932>

THE EFFECT OF INTERNET ON STUDENTS STUDIES: A REVIEW

7 February 2022

Mark Quaye Affum

Email: affummark@yahoo.com

Contact: 0240926843

ABSTRACT

This paper is a literature review on effects of internet use on students' academic performance. Assessing to factors that affect students' use of the internet is the main objective of this research. The paper additionally aims to find out the various activities that students use the internet to do and assess the various technologies students use to access the internet. Several articles were reviewed by the researcher. Articles reviewed were all on factors influencing students' use of the internet. Out of the twelve articles, nine of them looked at the functions of the internet of students activities whiles fourteen articles was also based on the technology students use to access the internet. The inclusion criteria focused only articles relating tertiary education. The internet has a vital impact on student academic outcomes as it helps students to access journals and articles which otherwise are not made available in the libraries. The study concluded that increase in internet use was very useful in the improvement of the learning outcomes. The study also found the negative impacts of internet use which leads to distraction as time is spent on social media instead on studies. Therefore, it is proposed that University authorities should provide guidelines to help students overcome some of the challenges faced when using the internet.

Keywords: Effect, Students, Studies, Internet, Internet Technology, Information Technology, Learning Outcomes.

Background to the Study

Globalisation creates opportunities and challenges for learners in higher education to emphasis on information and communication technologies (ICTs) such as internet uses (Nyakwende, 2011). The internet is useful for searching information easily and helps students to do their assignments with just only search on search engine that they want to know. It also let them to interact with each other for exchanging their idea and information from a different location in a same time. The internet is the key information and communication technology that led to a worldwide revolutionary change in the information scenario. The interaction between students offers them to gain different perspectives on a problem discussion by sharing one's own learning activities with other learners into problem solving strategies. Siraj (2015). So, internet based learning increase students' satisfaction with learning as a very important mediating role (Hsieh, 2011).

The internet is developed to serve as a platform for various activities for all age groups in society (Akin Adaeamola, 2014). The internet is a technology that has become an enormous part of people's daily lives. Through its ability to act as a support medium in different functions for which people use it, the internet was introduced to academic institutions as a tool to enhance student's academic experience in the mid-1990s (Ngoumandjoka, 2012).

Over the last decades, internet connectivity has improved tremendously and is available everywhere such as homes, offices, travels and schools (Ellore, 2014) Today, empirical studies (Akende, 2015) report that access to information can influence the academic performance of students. The use of credible internet resources is of greater importance for academic study, especially in high class courses which require an academic review of literature (Sahin, 2010). Intern use for educational purpose is found by (Kim, 201) to be the heart of adolescent academic achievement. The availability of internet is almost everywhere; most students have had access to internet on their cellphones (Ellore, 2014). This helps students to broaden their academic information, research and assignments by accessing information worldwide and also enhances easy communication to the academic community (Siraj, 2015). Therefore, the investigation on the impact of internet use on students learning outcomes IS necessary for the implementation of internet use in learning. The relationship of internet use and learning will provide an avenue to

enhance learning environment and technology for problem solving in economics, society and politics. Therefore, we ensure that this is the area of informatics.

Statement of Problem

The lack of funds for effective running of the universities and especially their libraries has adversely affected adequate provision of modern books, updated literate materials and journals where available, are now expensive as warranted by the economic recession, global political crises and currency devaluation compounded by the information explosion that we have witnessed in the global electronic village that the world has turned to. In view of those afore stated problems, Ghanaian students have now turned their attention to the use of internet for the purpose of studying, conducting research and obtaining general information. Therefore, with more attention given to the internet as a result of its numerous benefits, students who have access to this technology may lose some level of significant interest in using the library. This study therefore seeks to know the impact of internet on students learning outcome.

Objectives of the Study

The main aim of this study was to assess the impact of internet use on students learning outcomes. The specific objective is to:

1. Assess the factors that influence students use of the internet.
2. Determine the various activities that students use the internet to do.
3. Assess the various technologies student use to access the internet.
4. Determine the challenges associated with use of the internet by students

Research questions

1. What are the factors that influence students use of the internet?
2. What are the various activities students use the internet to do?
3. What are the various technologies students use to access the internet?
4. What are the challenges associated with the use of the internet by students?

Significance of Study

The study would be useful to curriculum developers in education, policy decision makers, management of universities and the students as it will identify trends and use of internet for teaching and learning. It would also serve as reference point for other researchers who would like to carry out further investigations in the chosen area.

Scope of the Study

The inclusion criteria involved articles pertaining to student's use of the internet in higher institutions. Articles that do not pertain to the use of internet in higher institutions were excluded from the study.

Organization of the Study

This phase of the study deals with how the study will be organized. Chapter one deals with the introduction and background to the study. The section contains the statement of the problem; the research questions, and the objectives of the study. The researcher also stated its significance, the scope of the study and ended the chapter with the organization of the study. Chapter two deals with review of related literature. Here, the researcher has discussed the views of other researchers, which are related to the impact of internet use on students learning outcome. The literature review was based on the objective of the study.

LITERATURE REVIEW

Introduction

This chapter provides the key concepts that are relevant to the different subject areas which follow the research objectives and also look the positive and negative effects of internet use on students learning outcomes.

Definition of concepts

This section mentions short description about the important concepts of literature sources which are relevant to internet uses for student learning outcomes. The internet is an electronic system as interconnected computer networks of a global network system to share and publish of huge information resources and services, by online of the World Wide Web (Www) and the infrastructure to support email.(Merriam- Webster, 2020).

Information Technology (IT)

Information Technology (IT) concerns with the computer system which help to internet is an electronic system as interconnected computer networks of a global network system to share and publish of huge information resources and services, by online of the World Wide Web (WWW) and the infrastructure to support email.(Merriam- Webster, 2020).Information Technology (IT)Information Technology (IT) concerns with the computer system which help to store, transfer, process and present the information. The main goal of Information Technology is to make the people and society benefited by it. The interaction between peoples is the way of generating new technology network to communicate with each other in an efficient way. Internet base learning concerns with the interaction of people and internet through online education service providers that is relevant to HCI perspective. Nowadays, the internet becomes the center of learning to share huge information and communication for education such as: e-learning and distance learning. (Stover, W.J, 2019).

Distance Learning Traditionally distance learning has been used to provide educational opportunities for the group of students for whom the usual educational system is not suitable. For an example people that work in different place, studying at home, living in isolated places or people

with physical disorder. Simonson M. (2019), distance learning is a procedure of remote learning where teachers and students far from each other. Students can study by themselves without physically meeting in the classroom; they don't need to go to schools or universities. The successful teaching can take place even though the teacher and learner are physically separated during the process of learning. Distance learning programs and courses, mainly offerings Web-based, have entered the mainstream of higher education. Distance learning commenced in the twenty century and in this learning system everyone in the world in anywhere has opportunities to study autonomously. (Serrano, D.R., 2019).

Theories of Distance Learning

Just as no single learning theory has emerged for instruction in general, the same is true for online education. A number of theories have evolved, most of which derive from the major learning theories discussed previously (Picciano, 2017). In this section, several theories are examined. Anderson (2011) examined the possibility of building a theory of online education, starting with the assumption that it would be a difficult and perhaps impossible task. He approached this undertaking from a distance education perspective, having spent much of his career at Athabasca University, the major higher education distance education provider in Canada. While he acinformationd that many theorists and practitioners consider online learning as "a subset of learning in general", also he stated that online learning as a subset of distance education has always been concerned with provision of access to educational experience that is, at least more flexible in time and in space as campus-based education (Anderson, 2011).

The number of theories and models focused on the well-respected work of who posited that effective learning environments are framed within the convergence off our overlapping lenses: community-centeredness, information-centeredness, learner-centeredness, and assessment centeredness. These lenses provided the foundational framework for Anderson's approach to building an online education theory, as he examined in detail the characteristics and facilities that the Internet provides with regards to each of the four lenses. Second, he noted that the Internet had evolved from a text-environment to one in which all forms of media are supported and readily

available. He also accurately commented that the Internet's hyperlink capacity is most compatible with the way human information is stored and accessed (Anderson, 2011). The essence of interaction among students, teachers, and content is well understood and is referenced in many theories of education, especially constructivism). Aydemir (2015) Categorizes technological evolution of old and distance learning under three generations.

Correspondence, telecommunications and computer

Likewise, Diaz (2011) made a similar categorization: Mass media, Conferencing, and Web. When we look at the common criteria of these categorizations we can see that the type of interaction (one-way or two way) and role of the participants (active or passive) plays an important role. Furthermore, while analyzing today's and future distance learning technologies, it is crucial to consider Integrated telecommunication systems rather than simply Video versus audio, versus data systems. (Picciano, 2017). E-learning technologies delivered online courses, seminars, discussion forums and other approaches for an innovative way of learning to interact with instructors and other students. Sefton-Green (2016) E-learning is an innovative method for delivering education electronically and interactive learning environments for anyone, from anyplace and anytime by utilizing the internet. According to Frisen (2012) e-learning is an educational system for providing learning through electronic technologies especially the internet. The e-learning system lecture materials and other information are available on different platform like CDs, DVDs and smart devices along with audio and video presentations which make learning easy for the students. E-learning brings a community of learners together and unrestricted by the time and place where students are able to discuss with other fellows and teachers via online and gather different types of information from the different discussion forum (Friesen, 2012).

Internet Use

The use of internet grants its users great awareness of the importance of the world around them. The internet is a platform for several types of information. Internet use will continue to grow as long as its users are not denied easy access (Olatokun, 2012). Recent statistics indicate that the internet gives people the option to access information sites as well as other sites such as social media sites, internet games, and cyber-sex (Siraj, 2015). A study by (Ellore, 2014) on the influence

of internet use on academic performance and face to face communication revealed that as a result of the availability of internet, most students have had access to internet on their cellphones. This helps students to broaden their academic information (Siraj, 2015) the use of computer and access to online resources according to (Bamise, 2017) are comparatively important to students.

Time Spent on the Internet

It has been recently reported that adolescents today spend a significant amount of their time on the internet for multiple purposes (Ogedebe D. &., 2012) Evidence abound that excessive internet use has been associated with problems of maintaining daily routines, school performance, and family relationships. A study conducted by (Dowler, 2016) on college students technology use and academic performance indicated that upperclassmen spent significantly more time using technology for academic and work related purposes, whereas underclassmen spent more time using cell phones, online chatting and social networking. Facebook users and non-users reported comparable average daily internet use and the highest category endorsed was between 1 and 2 hours pay day. However, Facebook users were recording lower GPA and spending fewer hours per week studying on average than non-users. According to Singh, (2013) because of non-focused approach (mailing, gaming and social networking) as well as diversity of information on the internet on particular topics, students tend to waste time on the internet.

Impact of Internet

Ngoumandjoka (2012) categorized internet users into heavy and light users. In his view, academic work is the main reason students use the internet on campus. Students who were classified as heavy users were found to use the internet more for recreational purpose than the light internet users. His study further argued that the more the internet is used for academic work the more it is perceived to exert a positive influence on academic grades. A number of authors (Torres, 2016) equally agreed that internet use has a positive impact on academic performance. They opined that students who tend to use the internet more on educational materials are less likely to fail their examinations. Therefore, the disadvantages of lack of access to internet surpass the advantages. Also people who

perform interactive activities with peers and teachers or when they make a balance use of internet tools for their course work tend to have greater academic performance (Torres-Diaz., 2016).

Internet has become a daily commodity in most people's lives. However, the addictive-like features of the internet make any individual who excessively use it a potential victim of its negative effects. Some of its negative effects include impaired sleeping patterns, social relationships break-ups, job losses, mental and physical health as well as poor academic performance.

Psychological issues ranging from mood swings to altered behavior, withdrawn attitude and loneliness have been reported by (Singh 2013) to be the main effect of using the internet mainly for social networking and mailing. This is because they remain in some sort of virtual world of the net. (Turel & Toraman 2015) found in their study that as academic performance of students deemed successfully increases, their internet addiction average decrease. This implies that, internet addiction has an effect on the academic performance of students.

Aitokhuehi (2014) also noted that computer (Austin, 2011) literate students who are not addicted to the use of computer facilities perform better than those who are addicted to its use. Kakkar (2015) established a significant effect of internet addiction on students' performance and mental health. Categorically, he revealed that students who were in the server and profound group of internet addiction were found to have detrimental effect on their academic performance and metal health rather than the students who use the internet moderately.

Similarly results have been obtained by Austin (2011) in their study that categorized internet users into light, moderate and intense users respectively. They discovered that students that use the internet at school and at home (moderate use) produce higher grades than those that do not use the internet. Also students that only use the internet at school (light users) obtained lower grades compared to those that did not use the internet.

Challenges in Accessing the Internet

Sahin (2010) noted that the greatest obstacles to the full exploitation of the internet are inadequate access, inherent risks and problems such as pornography, scams among others. Though evidence showed that students have interest in internet resources than other sources, they have been challenged. Therefore, it is necessary that internet access is made available at all hours and instructors or lectures should refer students to educational websites for more relevant information.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study attempts to review literature on the impact of internet use on students learning outcome. The research investigates the following areas: The factors that influence students to use the internet. The various activities that student use the internet to do. The various technologies students use to access the internet. More than thirty- five articles and journals were used for the research and it was seen that, the internet is perceived as one of the tools that determine students learning outcomes. Prior research on the topic has shown that a significant number of respondents of representative studies use internet for many reasons relating to academic studies. Even though technology has some negative effect on education is undeniable that technology also has made the education system simple and flexible.

Inclusion and exclusion criteria

All articles pertaining to the use of internet in higher educational institutions were included in the study. Besides, articles reviewed were less than ten years. However, all articles not the use of the internet by students in higher education were excluded from the study.

Key findings

From the literature reviewed on the topic; the impact of internet use on students learning outcomes, the study revealed the following: Specific activities students use the internet for. The study uncovered the perceived usefulness and attitude towards the internet as significant factor in

determining the student's behavioral intention in using the internet for academic purposes. The study of online learning illustrates those students perception of ease of use, usefulness, attitudes towards online learning, and social impact of students referent group are identified as substantial factors of the students' intention to practice online. According to the research, the use of internet by student adversely affecting performance negatively is most found in male students rather than females. This is based on behavior of male students as they are more active and spend time on the internet as compared to the females. Extroverted personality can lead to poor learning outcomes, also the study demonstrates that student who spends more than six (6) hours on the internet have

Extroverted personality can lead to poor learning outcomes, also the study demonstrates that student who spends more than six (6) hours on the internet have higher CGPA since they do more research on the internet to expand their information and promote examination preparation. The internet allows students to access more information, one of the several advantages that student retrieve any kind of information they wish to know from the internet through internet search engines example, Google search and also makes assignment flexible for students.

Globalisation in education, the study shows that students now have access to learning any part of the world through the internet by staying in their comfort zone, platform like the Zoom, Google meet, electronic learning, screen casting etc. has made distance learning a success. Students uses the online games as source of relaxation, game consoles and other games software devices are easy to operate. The online games help improve the cognitive skills, coordination, attention and concentration.

Various technologies students use to access the internet. There are many technologies used in accessing the internet, both software and hardware technologies. From the study, it was seen that about 70% uses smartphone to access the internet, 20% uses laptops and 10% uses desktop computers. Most students use software technologies such Apps that assist them online, some of these apps is purposely used for educational reasons & communication and entertainment.

Internet use in tertiary institutions improve educational development using their smartphones, tablets, laptops and other technological devices, however poor internet connection and high cost for subscription is more identified as the major problem confronting students. The internet has brought globalisation in education, as today students in any parts of the world can learn irrespective of the location.

The challenges associated with the use of internet by students

The study shows the challenges associated with the use of internet by students. Below are some of the challenges: Technical Issues and poor internet connection. Many students are not provided with the high bandwidth or the strong internet connection that online courses require, and thus fail to catch up with their virtual course mates: Their weak monitors make it hard to follow the Course Management System and their learning experience becomes a problem. Moreover, most of them live off campus and find it difficult to keep in tune with the technical requirements of the chosen course. Some of them don't even own computers and seek help in Learning Resource Centers for technical assistance.

Adaptability Struggle Switching from traditional classroom and face to face lecturing online makes the learning experience entirely different for students. Their resistance to change doesn't allow them to adapt to the online learning environment, whereas it takes time for them to get accustomed. While passive listening and notes taking are expected in a traditional classroom, online discussions or creating a web page demand springing into action. Students with a "traditional" mindset find it difficult to adapt Computer Literacy.

Although students are generally tech savvy, and thus able to manage computers well, lack of computer literacy is a major issue among students today. Many of them cannot operate basic programs such as Microsoft Word and PowerPoint and therefore are not able to handle their files. Furthermore, many students find fixing basic computer problems troublesome, as they have no information in this area.

Time Management

Time management is a difficult task for students, as online research requires a lot of time and intensive work. Students turn out to be addicted to the internet as they do their regular research on it and also the news on social media can keep students on the internet the whole day thereby causing them to decline in their learning outcomes.

High cost of subscription and Self-Motivation

The cost involved in subscribing internet packages is quiet expensive, leading to frustration in accessing the internet for learning. Though the internet allows students to learn or access education irrespective of their location however some students lack self-motivation in eLearning essential requirement. After enrolling in distance learning courses, many learners fall behind and nurture the idea of giving up, as difficulties in handling a technological medium.

Conclusion

The purpose of the study was to investigate the literature review on the impact of internet use on students learning outcomes. From the findings, the internet is very useful in the learning outcomes of students, however there are several negative impacts that can cause students to decline in their learning outcomes and therefore they have to set time boundaries for themselves when using the internet and authorities should assist students to overcome some of the challenges faced by students in learning electronically with the internet.

Recommendations

The internet is a platform where millions of people exchange information including students. The internet has a great impact on student learning outcomes, which includes; information enhancement, education related information, solving queries and improving learning outcomes. The internet use among student is very useful yet it has some negative effects on students and

cause them to decline in their learning outcomes, below are some suggestions to the problem identified as the negative effect of the impact of internet use on student learning outcomes: time management and addiction. A regular schedule planner would be a significant help to these learners, student should set time reminders for learning and assignments done on the internet and minimize the time spent on the internet as it leads to addiction. Students should not limit themselves to articles or note on the internet only but try to inquire from books in the library and also request for information from others, especially assignment that involve practical information which will enhance their creativity.

Technical system and poor internet connection

The only solution to this problem is knowing exactly what kind of technological support student will need for a certain course before enrolling in it, as well as properly equipping themselves for the course's successful completion, the authorities of the institution should assist students by providing technical officer who will help them when difficulties occurs in accessing the internet and also provide strong network device to help ensure smooth flow of internet connection, however student can have their own MIFI device which is portable and can be carried anywhere to assist them have good connection. Cost of internet subscription and self-motivation.

There are several network internet packages in the market, therefore student can make their choices when subscribing for an internet package, moreover if their institution has free WIFL, the students can do all their assignment research on campus before returning to their various hostels. Electronic Learning is simple and effective, but at its initial stage it poses certain threats to students. Attitude change and technological literacy would help them gain confidence in order to succeed in their courses with a positive vibe and overcome the challenges in electronic Learning through the internet; though this is hard to practice, students need to understand that it is necessary in order to reap the benefits in the future.

Suggestion for future research

The Internet and Facebook use on academic distraction of university students. The impact of emotional costs and self-efficacy on the changes students' ICT use patterns".

References

Adegoke, S. P. 2013. Socio economic background and access to internet correlates of students' achievement in agricultural science. *International Journal of evaluation and research in education*. 2(3):123-128.

Adeleke, D. S. 2016. Relationship between information literacy and use of electronic information resources by post graduate student of Ibadan. *Library philosophy and practice*.

Anderson, T. &. 2011. The three generations of distance education pedagogy. *International review of research in open & distance learning*. 12(3):82-94.

Awodele, O. K. 2011. A new dimension to learning system. *World of computer science and information technology*. 1(3): 71-78.

Aydemir, M. O. 2015. A theoretical framework on open and distance learning. *Procedia-social and behavioral sciences*, 1750-1757.

Bragdon, R. A. 2016. College student technology use and academic performance. *International journal of humanities and social science*. 6(1): 12-22.

Diaz, J.C.T., Montoliu, J. M.D., & Becerra, M. H. 2018. Plagiarism, internet and academic success at the university. *Journal of new approaches in educational research*. 7(2): 98- 104.

Edem, M. B. 2010. Reading and internet use activities of undergraduate students of the University of Calabar. *African journal of library, archives and information science*. 20(1): 11.

Ellore, S. B. 2014. The influence of internet usage on academic performance and face -to-face communication. *Journal of psychology and behavioural science*. 2(2): 163-186.

Friesen, N. 2011. Rethink eLearning research. *Retrieved from foundation method and practice [ebook] peter lang-education:htt://books.google.co.uk/books?id*

Garcia, E. E. 2015. Student use of Facebook for informal learning and peer support. *The international journal of information and learning technology*. 32(5): 286-299.

Godlewska, A. B. 2019. Converting a large lecture class to an active blended learning class. *Journal of geography in higher education*. 43(1): 115.

Greitemeyer, 2014. A meta-analysis of the effects of violent and prosocial videogame play. *Personality and social psychology bulletin*. 22(5): 578-589

Healy, K. 2017. Public sociology in the age of social media. *Perspectives on politics*. 15(3): 771-780.

Hsieh, J. Y. 2011. What influences internet-based learning? *Social behavior and personality: an international journal*. 39 (7): 887-896.

Kakkar, N. A. 2014. Influence of internet addiction on the academic performance and mental health of college students. *Scholarly research journal for interdisciplinary studies*. 3(21).

Kirschner, P. A. 2010. Facebook and academic performance. *Computer inhuman behaviour*. 26(6):1237-1245.

Kontinen, I. (ZL0) LCarng 1or development. *Journal of development research*. 22: 591-592.

Kuss, D. J. 2012. Internet gaming addiction: a systematic review of empirical research. *International journal of mental addiction*. 10(32): 278-296.

Lenhart, A. P. 2010. Social media and mobile internet use among teens and young adults. *Retrieved from social-media- and youngadults.aspx*: <http://pewinternet.org>.

Macharia, J. &. 2011. Gender differences in internet use intentions for learning in higher education. *Journal of language, technology & entrepreneurship in Africa*. 3(1): 244-254.

Merriam-Webster. (N.D). Internet in Merriam-Webster.com dictionary. *Retrieved February 9, 2021, from* <http://www.merriam-webster.com/dictionary/internet>.

Ngoumandjoka, U. 2012. Correlation between internet use and academic performance among university students. Johannesburg: University of the Witwatersrand.

Ngoumandjoka, U. T. 2014. Correlation between internet use and academic performance among university students. *Canadian social science*. 7(5).

Nwezeh, C. M. 2010. The impact of internet use on teaching, learning and research activities in nigeria universities. *Electronic library*. 28(5): 688-701.

Ogedebe, P. M. 2012. Internet use and students' academic performance in Nigeria tertiary: a case study of university of maidugri . *Academic research international*. 2(3): 334-343.

Paris, S. R. 2010. Adolescent learning and internet. *The education digest*. 75(6): 10.

Picciano, A. 2017. Theories and frameworks for online education: seeking an integrated model. *online learning*.

Reinecke, L. A. 2017. The effects of communication load and internetmultitasking on perceived stress and psychological health impairment in German probability sample. *Media psychology*. 20 (21), 90-115.

Rouis S., L. M. 2011. Impact of Facebook use on student's academic achievement. *Electronic journal of research in educational psychology*. 9(3): 961-994.

Rouis, S. 2012. Impact of cognitive absorption on Facebook on students' achievement. *Cyberpsychology, behaviour and social networking*. 15(6): 296-303.

Sefton-Green, J. 2016. The class: living and learning in the digital age. *International journal of nyu press*.1.

Serrano, D.R., Dea-Ayuela, M. A., Gonzalez & Lalatsa. (2019). Technology enhanced learning in higher education. *European journal of education*. 54(2), 273-286.

Siraj, H.H. 2015. Professional leaning community: literature review. *The online journal of quality higher education*. 2(2): 65-78.

Siraj, H. H. 2015. Internet use and accademic performance. A study in Malaysian public university. *International medical journal*. 22(2), 83-86.

Stover, W. J. 2019. *Information technology in the third world: can information technology lead to humane national development?* Routledge.

Sushma M., P. D. 2014. The impact of internet addiction on university students and its effects on subsequently academic success. *Issues on information systems*. 15(1): 344-352.

Tanis, C. J. 2020. The seven principles of online learning. *Research in learning technology*, 28.

Torres-Díaz, 2016. Internet use and academic success in university students. *Media education Research journal*. 61-70.

Ullah, A. 2014. Electronic media on academic performance of female student. *International journal of economics, commerce and management*. 2(9).

Wikipedia. 2012. Retrieved from <http://en.wikipedia.org/wiki/communications>.

Wikstrom. 2010. Young people's reading and writing in a new media. *Landscape education inquiry*, 41-56.

Yesilyurt, E. B. 2014. The effect of technological devices on student's academic success. *Journal of internet and application management*. 5(1): 39-47.

Zheng, L. Z. 2019. A literature review of trends of technology- supported collaborative learning settings. *Journal of computers in education*. 6(4): 529-561.