



A Survey of International Students' Opinions on Digital Technology at the Master of Education Level at a Thai Private University

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Abstract

This study aimed to find out what the surveyed respondents thought of digital technology and how they used it to support their learning and to identify the strategies that they used in helping them learn at the master's level. The survey was conducted in Term 1, Academic Year 2019, with a group of 41 international students in the Master of Education Program at a Thai private university. Four open-ended questions with an IOC analysis score of 1 were used in the survey. The responses collected from 41 filled-out surveys were then categorized into themes, of which their frequencies were counted to show the preference level. It was found that students used digital technology currently available to support their learning. They enjoyed the fast speed, convenience, and real-time of the Internet through Google delivers, although caution was given that digital technology should be used for the right purposes. The most common IT gadgets students used were mobile phones and laptops, while the most often employed search engines were Google and Chinese websites and applications. YouTube came in the third. The learning strategies adopted by the participants were group discussion, reading literature (theories and books), and watching YouTube videos. Learning by memorization was found at the bottom of the list. In conclusion, the respondents were using the right learning strategies; however, they could not maximize the use of digital technology because of difficult access to the library databases. It is suggested that the students should be trained to use the resources available and that the academic resource systems should become more accessible.

Keywords: *digital technology, survey of digital technology use, supporting learning with digital technology*

1. Introduction

The Digital Age has changed many things in our lives, including the ways we learn, especially the way we obtain information. In other words, we are inevitably faced with pedagogical changes with the integration of technologies in education (Thierstein, 2009; Richtel, 2012; Bernard, 2017; Bernacki, Greene, and Crompton, 2020). Concerning this, Glassman (2016, p. 1) talks about his realization of the role that the Internet could play in creating a new type of education. He defines education in the digital age as "Internet-infused education." The same idea is reflected by Li, Leh, Fu, and Zhao (2009, p.299), who state that "Internet-based learning resources are playing an important role in the learning process." Thus, it can be said that neither teachers nor learners can escape from the power of information technology. As we are progressing more in-depth into the 21st Century, we will experience more changes in the scenario. Kelly, McKain, and Jukes (2009, pp. 228-229) believe that online communication will become much more natural and interactive than today.

The 'Teacher-centred Approach,' in which the teacher directs student learning (Knowles, 1975) has been slowly rejected at the rise of the 'Student-centred Approach' in which students enjoy a high level of student choice and power (O'Neil and McMahon, 2005) casting a wild imagination for us about what learning in the future will be. Will the teachers still be needed to transmit knowledge to class as expected by students and parents? Thus, when 'learning' (the responsibility of learning on the learner) is the focus of education rather than 'teaching' (the responsibility of student learning on the teachers) (Starkey, 2012, p.7), we have now turned to access knowledge from various sources available especially the Internet. As a result, when students no longer depend on the teachers for knowledge transmission as the only source for information, teachers must change their roles. They, too, are expected to possess information access skills and other advanced multi-media online skills to do their jobs properly (Blazar and Kraft, 2017, pp. 146-170).



Currently, outstanding services of digital resources such as e-books, classic databases such as Web of Science and Scopus as well as well-known free-of-charge platforms like Google Scholar and Research Gate turn out to be useful and handy when information in specific areas is sought after (Research and Writing Guides, 11 March 2020). It can be concluded that in the current period, reading one book or data from one source is no longer sufficient, and digital technology has tremendously influenced the field of education (Thierstein, 2009).

On the other hand, students of this generation have developed their strategies of learning. According to Ferdian and Chayanuvat (2017, p. 41), students in their study liked to access websites to download English resources. Also, they had positive attitudes toward the use of ICTs and the Internet to support their learning. Another reason to explain why students in the digital age are familiar with digital technology is that most students in their twenties are digital natives who are familiar with computers like the back of their hand. "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach" (Prensky, 2001) and are easily attracted to the riches of the Internet as they change from "being active learners to passive learners, students are held responsible for their learning" (Michael, Cater III, and Varela, 2009, p.398).

The question is then—As teachers, how can we best serve the students? This question is not difficult to answer. As professional teachers, all know they must serve the needs of their children. To teach the content of a particular lesson through a long lecture is considered boring as students now cannot concentrate well enough. Discussion of the brain shape of a child born nowadays reveals that the pre-frontal lobe tends to be larger, resulting in him or her being a "multi-tasker" who can perform a few tasks at the same time. However, some experts have doubts over the young generations being multi-tasking because it may damage their concentration power. Sousa (2011, p. 31) says that "the brain cannot multitask. It can focus on only one task at a time. Alternating between tasks always incurs a loss." This point should also be considered when students are put into a multimedia environment." One certain thing is that students today need to learn in different ways from previous generations. To make them learn effectively, teachers must find out how they want to learn and in what way they learn best. This survey, however, was not about how IT could be best integrated into the lessons but about how the students made use of it to maximize their learning.

Related researches in connection with this study have provided some clues to the focus of the inquiry. Fast and Campbell (2004) conducted a qualitative study with interviews and think-afters involving 16 students, eight of whom were first-year undergraduate students, and another eight were graduate students in Library and Information Science. The study revealed that while students were aware of the problems inherent in web searching and that online public access catalogs (OPACs) were found to be more organized in many ways, they still preferred web searching (Google) because of the speed, convenience, and ease of use. Jones et al. (2008) explored U.S. college students' uses of the Internet in their studies and their academic life online in both perception and usage from 2002 to 2005. The study sample was systematically selected based on their demographics. The findings showed that overall Internet use for academic purposes has increased. Also, students reported positive opinions about the Internet's utility for academic work. However, satisfaction with it for academic interactions was on the decline. Kvalik (2004) surveyed with 4,374 students from 13 institutions in five states. 45% of the respondents reported living on campus. The study revealed that 93.4% of the total number of students owned a computer each. Cell phones were owned by 82% of the students. They had access to technology and the Internet, using technology more for education than communicative purposes. For the skills obtained, the group reported a score of 2.88 on a scale of 1-4 for online library resource skills. Apuke and Iyendo (2018) investigated the place of the Internet in academic research and learning of students, through both quantitative and qualitative research approaches using 250 undergraduate students at three African universities. Most of them used their smartphones or handsets to access the Internet and depended heavily on Google, Yahoo, and open access e-Journals. The study revealed that a large proportion of the students (89.6%) claimed to make use of the Internet for their academic purposes, and more than half (62%) used the Internet daily. Ozonuwe, Nwaogu, Ifijeh, and Fagbohun analyzed 230 questionnaires to investigate the use of Internet search engines and online resources among students and staff of the university. The findings showed that students were aware of internet search engines and online



resources. Major challenges found were information overload, inadequate Internet search skills, and low internet bandwidth. Libraries and librarians were recommended to stop viewing the Internet and search engines as threats in their jobs as well as organizing more search skill training for users. The findings pointed out Google (50%) as the most preferred search engine, followed by Yahoo (19%) and MSN (14%). Besides, 88.6% of the questionnaire respondents agreed that they used the search engines to search for information to do their assignments. The study concluded that the use of search engines to find information on the Internet for academic purposes appeared to be an established and growing practice among students and staff of the University. In her longitudinal study of large public university students over four years into their information-seeking behavior, Perruso (2016) found that although students preferred using common search engines at the beginning, as the students mature, they used library resources more frequently. A vast majority of students reported that Google or another web search engine was the starting place for academic research Librarian instruction and faculty source requirements both were associated with the increased use of library resources. However, when using Google, they frequently visited commercial sites such as Amazon. They did not examine the topics to identify keywords and related terms. In another study, Georgas (2014) found that a small number of students visited Wikipedia, suggesting that undergraduates understood that a Wikipedia article was not a reliable source for research papers.

Based on the findings of these studies, it can be concluded that although popular search engines are often believed to be not academically solid, they are the closest alternatives to the library databases. Students should be aware of their limitations in the academic area.

The above point is the reason why this survey was worth doing, especially with this particular group of students who need to embark on their research work. As a classroom-based survey, data about the use of information technology will be beneficial to both the lecturers and the students who are looking for the most appropriate ways to enhance student learning. Also, it is useful to know whether our students use the right digital technology learning strategies and whether the findings fitted in with the available context in the literature of the field. Proper advice and support can be provided to the students to enhance their information searching skills.

2. Objectives

This survey was conducted to collect data from a class of international students based on the following objectives:

- 1) To find out what this group of students thought of digital technology and how they used it to support their learning
- 2) To identify the strategies or techniques that they used in helping them learn at the master's level

3. Materials and Methods

This survey research was done in Term 1/Academic Year 2019 in ECI-605 Psychology, Virtue, Morality, and Teaching Professional Ethics. The total population of this program was 80 students (Year 1 and Year 2 combined). The sample of this study was a class consisting of 46 international students, the majority of whom (93.48%) were Chinese students. The rests were Nigerian and Myanmar. The class itself was offered in a module approach; that is, the class met five times during the term. Each module took one full day (9 hours). The teacher of the class adopted a 'Blended Learning' Approach with the postings of materials in the Google Classroom, so students could read the materials all the time if they wished before coming to class and after class. They were also able to look for the related materials themselves as the lesson plans were already distributed electronically in the Google Classroom. The class time was spent doing all other activities, for example, group work, group discussion, presentation, and lectures on new concepts. By having international students in the class, the teacher felt it was necessary to help them learn to work with others rather than individual students assigned a task to complete in class.

Definitions of Terms

'*Opinions of the students*' refers to their beliefs formed based on experiences and practices.

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'*International students*' refers to foreign students who are from other countries, mainly Chinese, not Thai students.

'*Digital Technology*' refers to the use of computerized applications such as various websites to access and transmit information from smart devices such as computer notebooks, smartphones to support learning.

'*Master in Education Level*' refers to a Master in Bilingual Education Programme, the content of which prepares students to become teachers with significant knowledge about education, bilingual schools, and students as well as matters related to what teachers should know.

The Constructed Survey

With the two objectives in mind, the survey was conducted to collect the trend in students' online resource use was designed with four open-ended questions calling for students to write their answers instead of checking from 1 to 5 as in a Likert-scale survey. According to Andres (2012, p.70), "Open-ended questions allow the respondent to provide answers in the form of words either written or spoken in a question." These survey questions were aimed at identifying a trend of how this group of students used IT to enhance their learning. Three experts were consulted for the Item Objective Congruence (IOC) Analysis (Rovinnelli and Hambleton, 1977) with scores ranging from +1 to -1 and the average mean for this was 1. The questions were:

1. As a student taking M-Ed in either Bilingual Education or Curriculum and Instruction, please describe what learning strategies do you use? ("Learning strategies" means Ways to make your study successful)
2. It is said that "We are now living in the Digital Age under the strong influence of Information Technology." Please indicate which IT gadgets, applications, and websites do you use and visit most of the time?
3. What do you see as benefits of Information Technology (IT) for your Master's level study?
4. Add any comments you wish.

Matching the style of survey research (Creswell, 2005, p. 174), these questions offered flexibility to students. They could respond with the information in a spontaneous way showing their own thoughts and practices. The second instrument in use was interviews of five volunteers right after the survey questions were analyzed, about two weeks later. The 5-minute interviews were used as a follow-up to investigate the points that emerged from the survey. The interviewer only used one question—Why do you prefer to use Google more than the library databases?

For data collection, the lecturer distributed the survey questions to the students in the final period of the course and collected them after 20-30 minutes. To protect the confidentiality, students were not required to write their personal particulars, mainly names and surnames. Secondly, the researchers promised them in writing that this was not part of the course. Thirdly, as an act of ethical consideration showing concern that they can choose not to respond to the questions in the survey, they were asked to check with the box that says

- I agree to take part in this survey.

Forty-one filled-out surveys were returned, and they were up for data analysis. The other five were not returned, but that was an acceptable sample size. According to Krejcie & Morgan's Table (1970), when the population was 46, the sample size should be 40.89 (41). That means the number of the surveys returned was acceptable as a big-enough sample size.

The table is constructed using the following formula: $S = \frac{X^2 NP}{(1-F) + d^2 (N-1) + X^2 P (1-P)}$

X = required sample size

X² = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N = the population size



P = the population proportion (assumed to be 50 since that would provide the maximum sample size)
d = the degree of accuracy expressed as a population (0.5)

Data Analysis

Data analysis was done with the counting of frequent similar answers question by question. The similar answers were grouped based on the topics that represented all the answers in the groups. Therefore, though the respondents' responses were written in their own words, the frequencies of similar responses were counted so that the main responses for each topic can be derived. According to Kent (2015, p. 41), the responses to the open-ended questions are typically classified, which are then coded. Frequencies for each topic were shown together with a column for percent for ease of interpretation for the readers.

Findings

The findings based on the four questions asked in the survey were as follows:

Question 1) The learning strategies that most students in this group used were: 1) group discussion, reading literature (theories, books), and watching YouTube videos. The two learning strategies account for 78.04 %. Following the lecturers and taking notes were common strategies used by students as while they were listening to the lectures, they were keen to take their notes (24.39%). From the findings, the researchers are confident in saying that students found group discussion useful, helping them to learn further. They also watched YouTube videos, which are in great variety and readily available on a variety of topics. Some are proper lessons to learn. The evidence is also the fact showing that students did not learn by memorizing as appeared at the bottom of the list. Some of the responses derived before the analysis as follows:

- I read books that are related to the lessons and I prefer to take some notes that help me stimulate my brain. Also, I will look for some opportunities to do practices.
- I use three techniques—first, preview lesson notes before class; second, listen carefully in class and finally, reflect after class.
- Group discussion, presentation, reading, doing assignment and Internet
- Reading, taking notes and watching videos
- Listen to the teacher in class and look for information on the Internet after class
- Follow the teacher's suggestions, read more and more, writing and group discussion
- Read more and more and take notes
- Listen to the teacher's lecture
- Watch related videos
- YouTube, Internet, self-study, listen carefully in class
- Seriously arrange time, work and rest
- Make the most of class time with the teacher and discuss in groups
- Take notes, discuss with classmates and search for information

**Table 1:** The Most Used Learning Strategies

Strategies/Techniques	Frequencies	Percentage (calculated from the total of 41 students)
Group discussion	16	39.02
Reading literature (theories, books)	16	39.02
Watching YouTube videos	13	31.1
Following the lecturer	11	26.83
Taking notes	10	24.39
Planning time for study	8	19.51
Finding information on the Internet	6	14.63
Reviewing the notes	4	9.76
Memorizing	4	9.6

Question 2) The IT gadgets and applications as well as websites students used/visited most of the time.

The analysis of the responses shows the following:

- A) The IT gadgets used were mobile phones and Laptops.
- B) The most visited websites and the most used applications of the time are shown in the table.

Table 2: The Most Often Visited Websites and Applications

Websites and Applications	Frequencies	Percent
Google	37	90.24
Chinese websites and applications	35	85.37
YouTube	23	56.10
Facebook/Line/skype/WeChat	17	41.46
TedTalks	5	12.20
Audiobooks	5	12.20
Wikipedia	2	4.88

Google is the top search engine. It has become a particular part of life. According to (Obernaus, 1994), the Internet is a self-organizing network interconnectivity different computer platforms. There has even said, “Whatever information you need, I believe, you can get it from Google.” The top three students



say they access most are Google (90.24%), Chinese websites and applications (85.3%), and YouTube (56.10%). The reasons are evident that Chinese websites came second because students are not confident about their use of English. They feel familiar with Chinese websites and applications. When they want to look for the meaning of a word, they will go to a Chinese dictionary. Some of the responses derived before the analysis were as follows:

- Google and Google Scholar
- YouTube
- EWA
- www.Dapengjiaoyu.com
- Baidu
- Baicizhan
- Google
- Weibo
- Youdao
- Facebook
- TedTalk
- Bilibili
- Facebook
- Line
- WeChat
- Wikipedia

Question 3) The benefits of Information Technology (IT) for your Master's level study?

Table 3: The Benefits of Information Technology

Benefits of IT	Frequencies	Percent
Fast, Quick and Convenient	41	100
Knowledge from all over the world	15	36.59
Real-time	10	24.39
Contact/Connectivity	3	7.32
Development of Language learning	2	4.88

The table shows that the students know the Internet is fast, quick, and convenient, and we all agree with what they say. It offers knowledge from all over the world. That is why people can learn about places far away easily and in a short time, particularly in real-time. It shows how our life has tremendously changed with the support of the Internet. However, only a few see the benefits in the development of language learning and connectivity, which means the students tend to use the Internet as their primary source of information. Some of the responses derived before the analysis were as follows:

- I get knowledge faster.
- If I go to the library, I get only one book at a time.
- There is abundance of materials online.
- I can collect information more easily than before.



- I gather information faster
- I can search information anytime, anywhere
- I see IT as a source of resource for my learning. It also aids my presentation.
- It can help us to access different sources for our studies.
- Real time information
- It is my primary source for research.
- It can provide me with more learning materials. I can find the information which I need.
- I see uncountable benefits such as easy data collection and development of language learning.

Question 4) Additional Comments

Table 4: Additional Comments

Additional Comments	Frequencies	Percent
Don't use it in the wrong way	12	53.66
Important for learning	10	24.39
Important	2	4.88

The students realized that the Internet is useful for them, but they also expressed concern over its threats. So they said, "Do not use it in the wrong way," as it may bring danger and problems. Indeed, we can currently see cases of cheating, threat, and victimization, even cyberbullying from it. However, for this survey, the responses did not reveal any other threats except for the fact that students should know how to use the Internet, in particular, the various search engines and applications. Some of the responses derived before the analysis were as follows:

- My skill will be complex and perfect.
- It facilitates effective learning.
- Do not use it in the wrong way. Teach students how to use IT.
- There are many dangers in IT.
- IT is convenient for both students and teachers.
- Students must know how to use it.
- It is important for 21st Century learning.
- Knowing how to use it is a productive way for students.
- It is an important innovation.
- I recommend that IT is efficiently handled for learning.

4. Results and Discussion

This part is presented with the responses to each of the objectives:

- 1) To find out what this group of students thought of digital technology and how they used it to support their learning?

The responses from both questionnaires and interviews show that students of this class were well aware of the significance of IT. They know that it is fast and convenient, which means it is available for them any place, any time, and any way. They know that they can obtain knowledge from all over the world and in real-time, especially all that they want from various search engines and applications. The group's perception of IT confirms other studies' findings databases (Perruso 2016; Ozonuwe, Nwaogu, Ifijeh and Fagbohun, 2018; Apuke and Iyendo, 2018). However, these students rarely use the databases available for academic information, usually provided by the library. They search directly from Google or YouTube Chinese websites



and applications, Facebook/line/skype WeChat, which allow them to have academic articles (Fast and Campbell, 2004; Kvalik, 2004; Perruso, 2016; Salehi, Du, and Ashman, 2018) although they realize that some information may not be what we can fully trust (Georgas, 2014). They admitted to reading literature in terms of theories and books (probably the requirement of the course). Besides, due to Chinese being the mother tongue of the group of students in the survey, while English is a foreign language, they reported using Chinese websites and applications a lot to solve their problems of understanding English.

For this group of students, Google is an excellent learning resource. Some of the responses are listed below.

“We have to admit that this is a major source engine we use every day to search for everything that

we want to know more or be clearer about, and rarely does Google fail us.”

“I can find the information what I need quickly. I can study at any time and place.”

“It is my primary place for research.”

That probably means they access Google or other easily available search engines or websites more than search for information from library databases (Perruso 2016; Ozonuwe, Nwaogu, Ifijeh, and Fagbohun, 2018; Apuke and Iyendo, 2018; Salehi, Du and Ashman, 2018). According to Liu, Zamir, Li, and Hastings (2018), one finding from their study is similar to what was found in this survey. They say, “College students rely more heavily on the Internet sources more than library resources, even for their course-related work.” Maybe it takes time for the young students to learn about the academic world and what is expected of them when they become part of the teaching circle. Students need to be taught to use library resources so that they can maximize their learning. The group of students in the survey is in their first year, so after studying for a more extended period, it is hoped their learning maturity will make them turn to library resources, as Perruso (2006) suggests.

The five interviewees gave the same answer about why they preferred Google to other academic databases. One interviewee said, “Google is more open, but the library databases are limited and specific. There is no doubt about trustworthy sources because from Google, I can check where certain papers were published, especially published works in PDF with the sources shown,” Another interviewee said, “I know WIKI is not OK.” Besides, some students mentioned in the interviews that the library databases were not convenient for them because when they went home, they could not connect with the library websites. They were required to be on campus. This preference of Google over the library databases was also resonated in the literature.

Asked if the students were aware of the dangers of IT, the message is clear for us with the responses in Question 4. IT is essential, but do not use it in the wrong way. Therefore, the idea of being selective with online Internet information should be stressed among students. They should be trained to use professional databases, and access to the system should be made faster and more convenient for the students.

2) To identify the strategies or techniques that they used in helping them learn at the master’s level?

One thing we learned from this survey is that students did use online resources a great deal, and they got their computer gadgets that made the search for information easy. When students showed a tendency to learn from one another in group discussions more than studying alone trying to memorize information. As teachers, we believe that they are on the right track. Learning cannot or should not be an activity for one person as we now go for collaborative and cooperative learning. Collaborative learning involves groups of learners working together to solve a problem, complete a task, or create a product (Laal and Ghodsi, 2012, p. 486).



5. Conclusion and Suggestions for Future Research

Only one sample group was studied in this survey; thus, generalizations of the findings cannot be made with other groups of students in other contexts. The researchers would like to suggest that more in-depth studies be done in this area of the various uses of IT to benefit students and their learning. If possible, various actions or strategies students adopt while doing their master's degrees should be identified. Besides, the teachers' perspectives on whether students effectively use the university library databases can also be another area of study.

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7. References

- Andres, L. (2012). *Designing and Doing Survey Research*. United Kingdom: CPI Group (UK, Ltd.).
- Apuke, O.D. and Iyendo, T. O. (2018). University Students' Usage of the Internet Resources for Research and Learning: Forms of Access and Perceptions of Utility. In *Heliyon 4, Elsevier, Ltd.*
- Bernacki, M.L., Greene, J.A. and Crompton, H. (2020). Mobile Technology, Learning and achievement: Advances in Understanding and Measuring the Role of Mobile Technology in Education. In *Contemporary Educational Psychology*. Vol. 60, pp.1-8.
- Bernard, H. R. (2018). *Research Methods in Anthropology*. United States of America: Rowman & Littlefield.
- Blazar, P. and Kraft, M.A. (2017). Teachers and Teaching Effects on Students' Attitudes and Behaviours. In *Educational Evaluation and Policy Analysis*. Vol. 39 (1), pp.146-170.
- Creswell, J. W. (2005). *Educational Research—Planning, Conducting and Evaluating Quantitative and Qualitative Research*. United Kingdom: Pearson Educational International.
- Fast, K. V. and Campbell, D. G. (2004). "I Still Like Google": University Students Perceptions of Searching OPACs and the Web. In *Proceedings of the 617th ASIS & T Annual Meeting*. Volume 1, pp. 138-146.
- Ferdian, N.R. and Chayanuvat, A. (2017). Reflections on Digital Learning: Learning Strategies, Environments, and Opportunities. *Rangsit University Journal of Educational Studies (RJES)*. Vol. 4 (2).
- Glassman, B.L. (2016). *Educational Psychology and the Internet*. United States of America. Cambridge University Press.
- Georgas, H. (2014). Google VS the Library (Part II): Student, Search Papeerns and Behaviours When using Google and a Federated Search Tool, Portal: Libraries and the Academy, 24, Vol 4, pp. 503-532.
- Jones, S., Johnson-Yale, C., Millermaier, S. and Perez, F.S. (2008). Academic Work, the Internet and U.S. College Students. In *Internet and Higher Education*, 11, pp.165-177.
- Kelly, F.S., Mckain, T. and Jukes, I. (2009). *Teaching the Digital Generation*. United States of America: Corwin Press.
- Kent, R. (2015). *Analysing Quantitative Data*. United Kingdom: CPI Group (UK, Ltd.).
- Knowles, M.C. (1975). *Self-Directed Learning*. The United States of America: Follett Publishing Company (Chicaco).
- Krejcie, R.V. and Morgan, D.W. (1970). Determining Sample Size for Research Activities. In *Educational and Psychological Measurement*. Vol. 30 (3). pp. 607-610.
- Kvavik, R. B. (2004). *Convenience, Communications and Control: How Students Use Technology*. A document of EDUCAUSE Center for Analysis and Research and the University of Monnesota, Twin Cities.
- Laal, M. and Ghodi, S.M. (2012). Benefits of Collaborative Learning. In *Social and Behavioural Sciences*. Vol 31, pp. 486-490.



- Li, S., Leh, A., Fu, Y. and Zhao, X. (2009). Learners' Preferences in Using Online Learning Resources. In *The Quarterly Review of Distance Education*, Vol. 10 (3), pp. 299-303.
- Liu, J., Zamir, H., Li, Y. and Hastings, S. K. (2018). Search Systems and Their Features: What College Students Use to Find and Save Information. In *Library and Information Science Research*. Vol. 40 (2). pp. 118-124.
- Michel, N., Cater III, J.J. and Varela, O. (2009). Active Versus Passive Teaching Styles: An Empirical Study of Student Learning Outcomes. In *Human Resource Development Quarterly*, Vol 20 (4). pp. 397-418.
- Ozonuwe, O.S., Nwaogu, H.O., Ifijeh, G and Fagbohun, M. (2018). An Assessment of the Use of Internet Search Engines in an Academic Environment. In *International Journal of Library Science*, Vol. 16, No.2
- O'Neil, G. and McMahon, T. (2005). Student-centred Learning: What does it mean for Students and Lecturers. In *eprints. teaching and learning*. pp.1-10.
- Prensky, M. (2001). Digital Natives, Digital Immigrants, Retrieved 11 March 2020 from <https://www.macrcprensky.com>.
- Richtel, M. (2012). Technology Changing How Students Learn, Teachers Say, Retrieved 12 March 2020 from <http://www.nytimes.com>education>.
- Rovinelli, R. J. & Hambleton, R. K. (1977). On the use of content specialist in the assessment of criterion-referenced test item validity. *Dutch Journal of Educational Research*, Vol. 2, pp. 49-60.
- Salehi, S., Du, J.T. & Ashman, H. (2018). Use of Web search engines and personalisation in information searching for educational purposes. *Information Research*, 23(2), paper 788. Retrieved from <http://InformationR.net/ir/23-2/paper788.html> (Archived by WebCite® at <http://www.webcitation.org/6zzbbBIN3>)
- Sousa, D. A. (2011). *How the Brain Learns*. United States of America: Corwin.
- Starkey, D. (2012). Educational Technology in Medical Imaging Education. In *the Radiographer*. <http://online-elibrary.wiley.com>. Vol.59/3, pp.85-88.
- Thierstein, J. (2009). *Education in the Digital Age*. <http://cnx.org>. Retrieved on 27 October 2019.