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# INTRODUCTION

The world is currently in an evolution with the existence of the modern technology phenomena. The technological change and globalization process which have progressing in the preceding years have created a brand-new global economy empowered technology, fuelled by information and driven by knowledge. At the present time, Information and Communication Technologies (ICTs) have revolved into one of the most important parts in the modern age and are playing a huge and vital role in our everyday life in regular basis. The application of ICTs in education has transformed the organisation and delivery of teaching and learning in schools, universities and other learning institutions. As the result of booming of pedagogical and socio-economic intensity, most learning institutions take measures to adopt and incorporate ICTs in teaching and learning for better information access, better communication, synchronous and asynchronous learning, improved cooperation and collaboration, cost-effectiveness and pedagogical development. Aligned with this, the researchers were intended to evaluate the students’ awareness and attitudes towards ICTs in their life.

# LITERATURE REVIEW

**Definition of ICT**

ICT is an acronym that stands for Information Communication Technology. However, there is no specific or definite definition of ICT due to the concepts, methods and applications involved in ICT are continuously changing from time to time. It is quite a challenge to keep up with the constant changes, they happen so fast. According to Blurton (2002), ICT is defined as *“diverse set of technological tools and resources used to communicate, create, disseminate, store, and manage information*”. *Techopedia* defines ICT to all the technology used to handle telecommunications, broadcast media, intelligent building management systems, audio visual processing and transmission systems, and network-based control and monitoring functions.

Meanwhile, *TechTarge*t which is an online website defines ICT an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as various services and applications associated with them, such as videoconferencing and distance learning. Likewise, there are other sources that describe ICT as the hardware and software that enables data to be digitally processed, stored and communicated. There are countless of definitions or meanings of ICT provided by many institutions, online website and people throughout the world.

According to the European Commission, the significance of ICTs lies less in the technology itself than in its ability to create greater access to information and communication in underserved populations. ICT has more recently been used to describe the convergence of several technologies and the use of common transmission lines carrying very diverse data and communication types and formats. ICTs are often enunciated of in a specific context, for instance, ICTs in education, health care, or libraries. The term is rather more mutual outside of the United States.

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**Integration of ICTs in Education**

It is publicly known education is the backbone of a nation. ICT plays an important role in the development as well as producing and providing goods and services at relatively lower cost. Deployment of ICT in education have fundamentally change the way education is conceived and delivered to students. Due to its easy access, this type of education has become very popular all over the world. The rise of this new global economy has serious consequences for the nature and purpose of educational institutions. Fears over educational significance and quality exist with the essential of escalating educational chances to those made most vulnerable by globalization of developing countries in general.

In this modern era, ICT is considered as productivity tools. Moreover, it can also act as enrichment resources. Generally, it means that they become the support to the traditional teacher-led mode of instruction in subject areas such as language, social studies, and science. In the publication Shah Md. Safiul Hoque (2010), transformative applications of ICTs discuss about the non-traditional emerging uses where exposure to and deployment of ICTs basically change the way education is conceived and delivered to students nowadays. ICTs become the enablers which improve student-centred pedagogical methods. They are used to cultivate broad, generic skills such as problem solving, independent and collaborative learning, and communication. They lead to more individualized instruction, and an emphasis on problem-solving and cooperative learning situations. Teachers take the role of facilitators and skills developers. Additionally, they support the students to secure a deeper understanding of information by making use of the new technologies. Additionally, computer technologies also provide tools for data analysis or access to huge scientific resources, but as well enable students to communicate with each other or access huge scientific field through email, electronic forums or instant messaging systems (Bransford, Brown, and Cocking, 2000).

During the past time, educational institutions have provided limited choice for students in relations of the method and style in which programs have been conveyed. Students have typically been forced to receive what has been delivered. The institutions involved in the process have a tendency to be quite serious and traditional in terms of the conveyance of their programs. The use of ICTs offers many options and choices and nowadays many institutions are now generating competitive edges for themselves through the selections they are offering to the students. These choices extend from when students can choose to learn or where to learn (Oliver, 2000). According to a publication by Victoria L. Tonio (2003), it has shown that when it is used appropriately, the different type of ICTs category are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality, by among others, helping make teaching and learning into an engaging, active process connected to real life.

# RESEARCH OBJECTIVES

The objectives of this study are:

1. To investigate the involvement of ICT usage in everyday life especially for educational purposes.
2. To find out what are the tools of ICT, students usually utilize for learning.
3. To discover the skills obtained from the usage of ICT.
4. To explore how frequent students use ICT in everyday life for learning purposes.

## Research Questions

1. Which ICT tools do the respondents usually use?
2. What types of ICT tools do the respondents use for Internet access for learning?
3. Which type of learning would the respondents prefer?
4. How do the respondents use ICT in their life?
5. Which kind of environment would the respondents prefer for learning process?
6. Do the respondents agree that the usage of ICT improves their learning and teaching experience?
7. Do the respondents need live instructor for better learning?
8. Do the respondents learn better in electronically-mediated environment?
9. Do the respondents prefer a range of activities in education using ICT learning tools?
10. Do respondents agree that ICT helps to educate both in formal and informal settings?
11. Do the respondents think ICT can help them to develop my High Order Thinking Skills (HOTS)?
12. Do respondents agree that social media brings more positive effects on students?
13. Do the respondents believe that everyone should have ICT skills in today world?
14. Do the respondents favour online open learning than traditional classroom learning?
15. Do the respondents think ICT motivates both students and teachers during learning process?
16. Do the respondents agree that the application of ICT in teaching and learning is very important to them as a student in the 21st century?
17. How often do the respondents practice computer skills for educational purposes?
18. How often do the respondents use social media for educational purposes?
19. How frequent do the respondents use search engines?
20. How frequent do the respondents use presentation software for educational purposes?
21. How often do the respondents use ICT tools for educational purposes?
22. How frequent do the respondents use various kinds of creative tools to support their learning process?

# METHODOLOGY

The study intends to investigate the perception of university students regarding learning about ICT in their education. Thus, this study will determine whether ICT is beneficial in education as well as useful for future needs. To achieve the aim of the study, primary research is conducted. The descriptive approach will be used. This descriptive type of research utilizes observations in the study. To illustrate the descriptive type of research, Creswell (1994) guided the researcher as he stated “*descriptive method of research is to gather information about the present existing condition”.* Primary research is conducted using Google Form questionnaire surveys that are disseminated to university students via link through social media, such as Whatsapp, WeChat and Facebook within two weeks. Then, the questionnaires will be used to collect quantitative data and will be analyzed to get the result of the study.

## Sample

The respondents of this study are university students in Malaysia from both public and private institution. Total numbers of respondents that took part in this study were 32 students with 26 of them are female. The respondents that participated in the survey are categorised into two age groups; 18-20 years old and 21-25 years old with 14 and 18 students correspondingly. Majority of the respondents is Malay with 25 students, followed by 3 Chinese students, 2 Bumiputera students from both Sabah and Sarawak and no Indian student participated in this survey. Most of the respondents studies at Universiti Kebangsaan Malaysia (UKM) (n=22), followed by Universiti Putra Malaysia (UPM) (n=2), and only one respondent from Universiti Malaya (UM), Universiti Pendidikan Sultan Idris (UPSI), Universiti Sains Islam Malaysia (USIM), International Islamic Universiti of Malaysia (IIUM), Institut Pendidikan Guru Kampus Bahasa Antarabangsa (IPGKBA), Universiti Teknologi Malaysia (UTM), Universiti Sains Malaysia (USM) and Management and Science University (MSU) respectively. On the other hand, most of the respondents are currently pursuing undergraduate studies and the rest is Diploma students (n=3). 31 respondents are pursuing full time mode of study and only one student takes part-time study. Last but not least, first-year students are the dominant respondents in this study with 27 people overall, followed by two second-year and two third-year students with balance only one person from Year 4.

Table 1: Demographic Factors of the Respondents

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Level | Number of Students | Percentage |
|  |  |  |  |
| Gender | Male | 6 | 18.8% |
|  | Female | 26 | 81.3% |
|  |  |  |  |
| Age | 18-2021-25 | 1418 | 43.8%56.3% |
|  | 26-30 | 0 | 0.0% |
|  |  |  |  |
| Race | Malay | 25 | 80.6% |
|  | Chinese | 2 | 6.5% |
|  | Indian | 0 | 0.0% |
|  | Bumiputera SabahBumiputera Sarawak | 22 | 6.5%6.5% |
| UniversityEducation LevelMode of StudyProgramYear of Study | UKMUMUPSIUPMUSIMIIUMIPGKBAUTMUSMMSUDiplomaUndergraduatePostgraduateFull timePart-timeTESLSpecial EducationPsychologyEnglish LinguisticBusinessArab Language and CommunicationPlant BiotechnologyMicrobiologyBusiness ComputingBiomedical ScienceHistoryTranslation and InterpretationCounselling English Language StudySoftware EngineeringCommunicationScience1234 | 22112111111328031114311111111111111127221 | 68.8%3.1%3.1%6.3%3.1%3.1%3.1%3.1%3.1%3.1%9.7%90.3%0.0%96.9%3.1%43.8%9.4%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%3.1%84.4%6.3%6.3%3.1% |
| Total |  | 32 | 100.0% |

Source: Google Form

## Data Collection

The data was collected using Google Forms and disseminated via various social media such as Facebook, Whatsapp and Wechat. The respondents in this study completed the questionnaire anonymously and individually. The questionnaire was divided into four sections which were Section A, Section B, Section C and Section D.

Demographic information of the respondents which included gender, age, race, university, education level, mode of study, program in university and year of study was recorded in Section A. The respondent’s experience and preference on ICT was asked in Section B which consists of five questions. The respondents were asked with questions which ICT tools do they usually use, what types of ICT tools do they use for internet access for learning, which type of learning would they prefer, how do they use ICT in their life and which kind of environment would they prefer for learning process. The respondents were allowed to choose more than one answer in this section. The responses provided in this section had given a better insight for the researchers of the respondent background experiences and knowledge with ICT. Whereas, the respondents’ opinion of ICT roles in their education life was recorded in Section C using Likert Scale from 1-Strongly agree to 5-Strongly disagree. Eleven statements were asked in this section which were the usage of ICT improves my learning and teaching experience, I need live instructor for better learning, I learn better in electronically-mediated environment, Conduct a range of activities in education using ICT learning tools, ICT helps to educates both in formal and informal settings, ICT can help me to develop my High Order Thinking Skills (HOTS), Social media (such as: Facebook, Instagram) brings more positive effects on students, Everyone should have ICT skills in today world, Online open learning replacing traditional classroom learning, ICT motivates both students and teachers during learning process and the application of ICT in teaching and learning is very important for me as a student in the 21st century. The respondent were required to rate their agreeableness with the statement given using Likert Scale ranging with 1-Strongly agree, 2-Agree, 3-Neutral, 4-Disagree and 5-Strongly disagree. The respondents’ frequency of using ICT daily for educational purposes was asked in Section D with six questions. The respondents were required to answer the question using scale provided started with never, least frequent (1-2 times per week), moderate (3-4times per week) and most frequent (5 times and more per week). This survey can only be taken once by each respondent to avoid overlapping responses.

## Data Analysis

Descriptive analysis was made on the quantitative data by using Google Form application The survey form was closed and the responses were collected at the end of the survey duration which was after one week. The data was analyzed individually and descriptively using Microsoft Excel. The descriptive statistics were calculated according to the answer choices for section A and B. Whereas for Section C and D, the data was sorted according to their respective scale. From the data that had been sorted, the researcher derived general conclusion of each question.

# FINDINGS

## Experience and Preference on ICT

This section illustrates student’s experience and preference on ICT. This section basically shows which type of ICT tools the students normally use and prefer using, which type of learning they want to experience and love to attend, and roles of ICT in their life.

The first question in section B is about student’s choice on ICT tools which they commonly use. Based on the table and the bar chart, majority uses mobile phone and laptop frequently on daily basis. Almost all of them prefer using those gadgets while, 15 students usually use computer. This followed by 13 students watch television for ICT purpose, 8 students use tablet, 7 students listen to radio and lastly, only 5 people commonly use digital camera.

Table 2: Student’s Preference on ICT Tools

|  |  |  |
| --- | --- | --- |
| Favourite ICT Tools | Number of Students | Percentage (%) |
| Computer | 15 | 46.9 |
| Mobile Phone | 29 | 90.6 |
| Laptop | 29 | 90.6 |
| Tablet | 8 | 25.0 |
| Television | 13 | 40.6 |
| Radio | 6 | 18.8 |
| Digital Camera | 5 | 15.6 |

Figure 2: Student’s Preference on ICT Tools

Table 3 and Figure 3 are the result of the second question from this section. The purpose of this question is to identify student’s preferences in types of ICT tools to access Internet for learning. Almost 90% of the students use laptop for Internet access, three quarter of 32 students utilise smartphone, 10 students prefer computer and this followed with only five people employ tablet for better learning through Internet.

Table 3: Student’s Preference in ICT Tools to Access Internet for Learning

|  |  |  |
| --- | --- | --- |
| ICT Tools | Number of Respondents | Percentage (%) |
| Laptop | 28 | 87.5 |
| Computer | 10 | 31.3 |
| Smartphone | 24 | 75.0 |
| Tablet | 5 | 15.6 |

Figure 3: Student’s Preference in ICT Tools to Access Internet for Learning

Both Table 4 and Figure 4 show that most of the students (81.3%) would love to attend blended learning which is the combination of classroom practice with online learning. 18 students which make up of 56.3%, prefer lifelong learning that means the ongoing, voluntary and self-motivated learning for either personal or professional reasons. While 34.4% chooses to have e-learning or also known as online learning, and less prefer open or distance learning, which makes up about a quarter of respondents. Open or distance learning is a type of independent learning with separation of teachers and students in time or place.

Table 4: Student’s Choice in Type of Learning

|  |  |  |
| --- | --- | --- |
| Type of learning | Number of Students | Percentage (%) |
| E-learning | 11 | 34.4 |
| Blended learning | 26 | 81.3 |
| Open/Distance learning | 8 | 25.0 |
| Lifelong learning | 18 | 56.3 |

Figure4: Student’s Choice in Type of Learning

 From table 5, it is obvious that most of the students, about 91% of them use ICT as a tool which works for both learning and teaching purposes. 41% of the students utilize ICT for learning purpose only which ICT plays role as a tutor. More than a quarter use ICT as a tutee just for teaching purpose.

Table 5: The Roles of ICT in Student’s Life

|  |  |  |
| --- | --- | --- |
| Roles of ICT | Number of Students | Percentage (%) |
| As a tool | 29 | 90.6 |
| As a tutor | 13 | 40.6 |
| As a tutee | 9 | 28.1 |

Figure 5: The Roles of ICT in Student’s Life

Figure 6 shows student’s preference in learning environment. Both classroom and electronically-mediated environment are preferred by three-fifths of respondents.

Table 6: Student’s Choice in Learning Environment

|  |  |  |
| --- | --- | --- |
| Learning Environment | Number of Students | Percentage (%) |
| Classroom | 19 | 59.4 |
| Electronically-mediated | 19 | 59.4 |

Figure 6: Student’s Choice in Learning Environment

## Opinion on ICT

Section C demonstrates the student’s opinion on ICT. Their opinion is measured by the rate of satisfaction as stated below:

1- Strongly agree 2- Agree 3-Less agree 4-Disagree 5-Strongly disagree

Figure 7 shows the rate of satisfaction of students on if ICT improves learning and teaching experiences in their life. The number of students who believe that ICT brings benefit to them is 23, whereas only 9 students disagreed to the question. 11 students agreed to extend that ICT improves their learning and teaching experience, meanwhile, 3 students firmly reject the idea.

Table 7: Number of students that agree on the usage of ICT in improving their learning and teaching experience

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 1 | The usage of ICT improves my learning and teaching experience.  | 11 | 7 | 5 | 6 | 3 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 7: Number of students that agree on the usage of ICT in improving their learning and teaching experience

Question 2 asks about the need of live instructor for better learning among students. The result shows from table 8 indicates that most of the students agree on the presence of live instructor when learning. 12 students strongly agree, while only 9 students (4, strongly disagree, and 5 disagree) do not agree on this matter.

Table 8: Number of students that agree that they need live instructor when learning

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 2 | I need live instructor for better learning.  | 12 | 6 | 5 | 5 | 4 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 8: Number of students that agree that they need live instructor when learning

Question 3 tests on effectiveness of learning in electronically-mediated environment among students. Mostly less agree with the statement which shows that better learning is not achieved in an environment which fully surrounded by only technology. Only 9 of 32 students agree with the matter which they improve their learning in this type of environment.

Table 9: Number of students that agree that they learn better in electronically-mediated environment

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 3 | I learn better in electronically-mediated environment. | 3 | 6 | 16 | 4 | 3 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 9: Number of students that agree that they learn better in electronically-mediated environment

 Question 4 enquires student’s opinion on organizing activities using ICT learning tools in education. More than half of the number of respondents agrees that they want activities using ICT in their learning process. However, 9 students less agree with the statement, and 8 students disagree (include strongly disagree) that they do not want many variety of activities using ICT learning tools.

Table 10: Student’s opinion on conducting a range of activities in education using ICT learning tools

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 4 | Conduct a range of activities in education using ICT learning tools. | 7 | 7 | 9 | 5 | 3 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 10: Student’s opinion on conducting a range of activities in education using ICT learning tools

 Table 11 shows the result of Question 5 which tests student’s stand on whether ICT helps education both in formal and informal settings. Half of the respondents believe that ICT assists in learning and teaching process both in formal and informal situations. Although 6 students less agreed, they slightly believe ICT helps in certain ways. 10 students completely reject the idea of the aid of ICT in education in formal and informal settings.

Table 11: ICT helps to educates both in formal and informal settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 5 | ICT helps to educate both in formal and informal settings. | 8 | 8 | 6 | 7 | 3 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 11: Number of students that said friend is the reason for choosing the shuttle bus

Question 6 enquires students to answer whether they need ICT to develop HOTS. More than half of the responses think that ICT can help them in improving their HOTS. Meanwhile, 25% of students disagree with the statement.

Table 12: ICT can help me to develop my High Order Thinking Skills (HOTS)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 6 | ICT can help me to develop my High Order Thinking Skills (HOTS). | 4 | 12 | 7 | 4 | 5 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 12: ICT can help me to develop my High Order Thinking Skills (HOTS)

 Table 13 shows the result from Question 7 which asks the respondents about impacts of social media on students. Overall, most of the students believe social media gives negative effects and only few (8 students) thinks social media have advantages on students.

Table 13: Social media brings more positive effects on students.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 7 | Social media such as Facebook and Instagram brings more positive effects on students. | 3 | 5 | 10 | 11 | 3 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 13: Social media such as Facebook and Instagram brings more positive effects on students.

From the result from Table 14 and Figure 14, we can imply that majority agrees that everyone should have ICT skills in today world. However, 11 students do not agree that ICT skills should be possessed by everybody in this modern time. Only 3 students less agree with the idea.

Table 14: Everyone should have ICT skills in today world.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 8 | Everyone should have ICT skills in today world. | 13 | 5 | 3 | 5 | 6 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 14: Everyone should have ICT skills in today world.

Based on the results shown in Table 15, it is obvious that most of the students do not prefer online open learning replaces traditional classroom learning. Majority of 14 students less agree on the idea of substituting learning in classroom to online learning, while 7 of them like the idea.

Table 15: Online open learning replacing traditional classroom learning.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 9 | Online open learning replacing traditional classroom learning. | 2 | 5 | 14 | 9 | 2 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 15: Online open learning replacing traditional classroom learning.

 Question 10 states that ICT gives drive to students and teachers during learning process. Majority agrees with the statement, 8 students less agree and 11 students believe otherwise.

Table 16: ICT motivates both students and teachers during learning process.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 10 | ICT motivates both students and teachers during learning process. | 4 | 9 | 8 | 7 | 4 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 16: ICT motivates both students and teachers during learning process.

Table and Figure 17 show student’s opinion on the impact of importance of ICT in education on them. The number of students who believe that ICT is important to them in this 21st century is 20, whereas 10 students disagree on this matter. Only 2 students slightly believe that application of ICT in teaching and learning is important to them.

Table 17: The application of ICT in teaching and learning is very important for me as a student in the 21st century.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 |
| 11 | The application of ICT in teaching and learning is very important for me as a student in the 21st century.  | 14 | 6 | 2 | 6 | 4 |

1. Strongly agree
2. Agree
3. Less agree
4. Disagree
5. Strongly disagree

Figure 17: The application of ICT in teaching and learning is very important for me as a student in the 21st century.

## Skills and Knowledge about ICT Applications

Section D is created to investigate which ICT applications, students normally use and what ICT skills they practise and apply every day. The frequency of application is rated as the following:

* Never (0 time per day)
* Least frequent (1-2 times per day)
* Moderate (3-4 times per day)
* Most frequent (5 and more times per day)

 Table 18 shows the result to Question 1 in this section; how often do you practice these computer skills for educational purpose. From the findings, majority of the respondents frequently use internet browsing and word processing for educational purposes and some use them in moderation. In the meantime, many students (14 of them) never use spreadsheet and graphic designing before, which makes these computer skills are the most unpopular ones. Web designing, on the other hand, is applied by students when necessary only, that is used less frequently by them.

Table 18: Frequency of students applies various types of computer skills per day

|  |  |
| --- | --- |
| Computer Skills | Number of Students |
| Never | Least Frequent | Moderate | Most Frequent |
| 1 | Word Processing | 0 | 3 | 12 | 17 |
| 2 | Spreadsheet | 14 | 13 | 4 | 1 |
| 3 | Internet Browsing | 0 | 2 | 3 | 27 |
| 4 | Graphic Designing | 14 | 10 | 6 | 2 |
| 5 | Web Designing | 8 | 14 | 7 | 3 |

Figure 18: Frequency of students applies various types of computer skills per day

 Based on Table 19, we can see that most of the students often use Facebook and Whatsapp/Telegram daily. Only 2 of the students have never used these types of social media before. Wechat/Line/Kakao Talk is a social messaging application that rarely used by the respondents, which shows the highest number of students never uses it daily; 12 students. Wordpress/Tumblr/Blogger is another least favourite social media; more than one quarter of total number of students hardly uses it. Same goes to Twitter and other application.

Table 19: Frequency of students uses different kinds of social media per day

|  |  |
| --- | --- |
| Social Media | Number of Students |
| Never | Least Frequent | Moderate | Most Frequent |
| 1 | Whatsapp/Telegram | 2 | 3 | 2 | 25 |
| 2 | Facebook | 2 | 8 | 7 | 15 |
| 3 | Wordpress/Tumblr/Blogger | 8 | 13 | 5 | 6 |
| 4 | Twitter | 11 | 9 | 4 | 8 |
| 5 | Wechat/Line/Kakao Talk | 12 | 10 | 2 | 8 |
| 6 | Other | 9 | 11 | 3 | 7 |

Figure 19: Frequency of students uses different kinds of social media per day

 Next question in this section asks the respondents about which types of search engine they normally use. Majority uses Google Chrome regularly in a day which makes about 75% of total students. Second place is Mozilla Firefox, with 7 students use it more than 5 times per day, followed by Internet Explorer and Yahoo! Search with 3 students respectively. Bing, Ask and other search engines are the most unpopular with majority, more than three-quarter of total students never use of it.

Table 20: Frequency of students uses certain search engine daily

|  |  |
| --- | --- |
| Search engine | Number of Students |
| Never | Least Frequent | Moderate | Most Frequent |
| 1 | Mozilla Firefox | 11 | 9 | 4 | 7 |
| 2 | Bing | 24 | 6 | 1 | 0 |
| 3 | Google Chrome | 0 | 3 | 3 | 25 |
| 4 | Internet Explorer  | 15 | 8 | 5 | 3 |
| 5 | Yahoo! Search | 16 | 6 | 6 | 3 |
| 6 | Ask | 23 | 4 | 3 | 1 |
| 7 | Other | 21 | 3 | 3 | 2 |

 Figure 20: Frequency of students uses certain search engine daily

 From Figure 21, the tallest purple bar represents the highest number of students use particular presentation software and it shows that most students use Microsoft Powerpoint more than 5 times daily. 14 of them use the powerpoint in moderation. In the meantime, almost half the students use Prezi, Powtoon and Piktochart less frequently (1-2 times per day) for their presentation. However, another more than half of them never heard or use Powtoon, Piktochart and other presentation software before.

Table 21: Frequency of students employs particular presentation software daily

|  |  |
| --- | --- |
| Presentation Software | Number of Students |
| Never | Least Frequent | Moderate | Most Frequent |
| 1 | Microsoft Powerpoint | 1 | 9 | 14 | 8 |
| 2 | Prezi | 9 | 13 | 7 | 3 |
| 3 | Powtoon | 15 | 9 | 8 | 0 |
| 4 | Piktochart | 17 | 10 | 4 | 1 |
| 5 | Other | 18 | 4 | 5 | 3 |

Figure 21: Frequency of students employs particular presentation software daily

 From the bar chart in Figure 22, it is clear that students make use of computer or laptop and phone completely in their daily life. About 75% of the total number of students uses these ICT more than 5 times daily. The least frequent usage of radio, television on other ICT tools per day is well-presented in the bar chart, and almost half of them never utilize the technology in daily basis.

Table 22: Frequency of students using ICT tools per day

|  |  |
| --- | --- |
| ICT tools | Number of Students |
| Never | Least Frequent | Moderate | Most Frequent |
| 1 | Computer/Laptop | 0 | 4 | 3 | 25 |
| 2 | Smartphone/ Phone | 0 | 3 | 5 | 24 |
| 3 | Radio | 16 | 8 | 7 | 1 |
| 4 | Television | 11 | 12 | 6 | 3 |
| 5 | Other | 18 | 5 | 4 | 3 |

Figure 22: Frequency of students using ICT tools per day

 The last question in this questionnaire is asking about frequency of students using various types of creative tools per day. According to the table below, majority uses web-based learning frequently in a day. Besides, many students as well use computer stimulation, web-based learning and discussion board in moderation, and the rest only uses the other creative tools such as video conferencing and games rarely or never at all.

Table 23: Frequency of students using creative tools daily

|  |  |
| --- | --- |
| Creative Tools | Number of Students |
| Never | Least Frequent | Moderate | Most Frequent |
| 1 | Interactive Video | 7 | 16 | 6 | 3 |
| 2 | Video Conferencing | 14 | 12 | 4 | 2 |
| 3 | Computer Simulation | 10 | 12 | 8 | 2 |
| 4 | Web-based learning | 2 | 7 | 10 | 13 |
| 5 | Games | 5 | 13 | 9 | 5 |
| 6 | Discussion Board | 5 | 11 | 10 | 5 |
| 7 | Other | 17 | 8 | 5 | 0 |

Figure 23: Frequency of students using creative tools daily

# DISCUSSION AND CONCLUSION

From the findings, the demographic data shows that most of the respondents are female, aged from 21 to early 25s, Malay, and studying full-time in public university. First-year TESL students from UKM dominates the survey, in fact that the questionnaire was disseminated randomly via online massaging application. It is learnt that through the research, most respondents have basic skills and knowledge about ICT in their student’s life.

Throughout the years, ICT has developed many tools to assist in many fields we can remember. The utilization upon those fields is almost the same only differs in the content of the information. Education is one of the fields which integrate ICT into great use for their learning purposes. ICT-based education system is to be expected help to develop the capability of the user groups. From the result taken from Section B which focuses on the preference of ICT tools and how frequent it is used by the respondents, laptop and smart phone are some of the common ICT tool used by the respondents to access the Internet for learning. Most respondents chose Blended Learning which is combination of classroom practice with online learning as their preference in their learning process. The traditional classroom environment seems to not attract the students well anymore.

While in Section C, the questions of the survey points out on the skills acquired from using the ICT, how it have affect the respondent’s life learning and the advantages they discover from utilizing them. The results showed gives out mostly positive feedbacks from the respondents. They agreed by conducting activities using ICT learning tools benefits them in many kind of ways. For instance, their way of learning, thinking and solving problems. Additionally, they agree on the statement where ICT motivates both students and teachers during the learning process. Lastly in Section D, the questions emphasise on how well the respondents can employ computer skills for educational purposes such as Microsoft Word, Spreadsheet, and Internet Browsing and so on. The outcome of the results showed most respondents are able to apply the ICT skills as they often use them in daily basis. Nevertheless, not all of them uses these computer skills for educational purposes however the average are just almost equal to each other.

The ICT-based education system is considered as a holistic approach. High level of integrity and moral standard is essential for the user groups. In order to be effective, everyone involved in the process has to upgrade themselves continuously to keep track with the ever changing environment.

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**APPENDICES**