

KEMI-TORNIO UNIVERSITY OF APPLIED SCIENCES

Analysing the Risks and Challenges of the Pad Device as an  
Education Tool and Its Influence on Generation Y

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## ABSTRACT

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The objective of this research was to explore the use of the pad device as an education tool. Furthermore, the research work also intended to study the impact of the pad device among young students. The advantages of using the pad devices instead of computers were studied. The research explored some of the widely used applications by students for learning purposes. The possible financial implications of using pad devices in Kemi-Tornio University of Applied Sciences were studied.

The data for this research work were collected through exploratory research method based on literature analysis. The data were collected from books, articles, journals, and websites. After analysing the collected data, the appropriateness of using pad devices as learning tools in KTUAS and its financial implications were discussed.

Based on the discussion and analysis about the use of the pad device as a learning tool present in this thesis, I found out that it seems to be advisable to use pad devices in KTUAS as learning tools. The financial implications of using such devices as learning tools also seems rather positive as the cost of implementing pad devices as learning tools is more or less the same in comparison with the cost involved in implementing computers or laptops as learning tools.

On the basis of the findings, it is recommended that pad devices should be implemented as learning tools in KTUAS, as it seems to be appropriate and justifiable both practically and financially.

Keywords: Pad device, Tablet PC, iPad, education tool.

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## 1 INTRODUCTION

### 1.1 Motivation and Background

The pad device is a kind of laptop that is portable and convenient to carry around. This device is also referred to as tablet PC. The pad device is larger than mobile phones or personal digital assistants. The pad device is operated using a touch screen instead of a physical keyboard and mouse. The concept of the pad device was first put forward in the 1960s and the early 1970s by Alan Kay. (Holwerda 2010.) The pad device seems to have gained popularity when Apple achieved greatest success from its iPad and iPhone. Today, there are numerous users of the pad device. Picture 1 is an example of a pad device.



**Picture 1.** The pad device (LAPTOP REVIEW SHOP, 2011)

The pad device is convenient to operate and can be used almost everywhere such as home, school, and office. The device seems to be very popular among young people. Therefore, young students can gain tremendous benefits from such a device. For example, if a student meets a teacher in a hallway where the teacher assigns some tasks to the student, he/she can easily make a note of the task in the pad device. The pad device not only makes the tasks convenient and quick to do but also saves money spent

on pens, paper, and books. Almost all the programs that can be run on a computer can also be run on the pad device. In addition, the pad device remains with the user most of the time, as it is portable and small to carry. (Ierardi 2011.)

People who were born around 1976 to around 2000 called Generation Y (Christensen 2012). Since the Generation Y was born in the modern information, high-tech times, they have greater technical knowledge and comprehension ability beyond other people. The Generation Y grew up with new technology. They believe that they can perform their work better if they rely on the new technology, such as laptops, smartphones, and Pad-devices. As young people, the Generation Y prefer to use E-mail and text message for communication, since they perceive that the new online technology is better than the traditional face-to-face contact. (Kane 2011.)

The young Generation Y listens to music with iPods, text their friends with smartphones, and chat online. It is also important to update their Facebook statuses on time and talk with friends and family. Their social lives greatly depend on the network world; their behaviours, attitudes and expectations are affected by technology. According to a new survey from Workplace options, there are 92% of young workers who are of the opinion that offering the latest technology makes employees increasingly attracted towards the completion of tasks. (Butler 2012.)

The use of the pad device is a good example of how the younger generation can integrate new technology into their lifestyles. Young students find that the pad device is easier to use than the traditional computer. They do not want to carry a backpack full of books, but instead they can save all their materials into the pad device. There are a large number of innovative and instructional software programs available in the application store developed for the pad device, which can be used by the students as well as teachers.

The generation Y would like to know and study new technology and their problem solving abilities are faster than adults (Fitzerald 2011). They would rather choose to find out the solutions by themselves when they are faced with technological problems. The touch interface of the pad device makes the user have versatile experience about human computer interaction. Young students can enhance collaboration and communication through database use and social network technology.

According to the Longfield Academy in Kent's research, the young generation enjoy learning through technology and it enhances motivation for better results. (Richmond 2011). As well as the pad device greatly benefitting students, it seems very useful for teachers also. For example, the teacher can move throughout the classroom, using the pad device to take notes on students' work or show different information to different students. In addition, the teacher can highlight text in an article to draw the students' attention to important information. Since the pad device is operated by touch, it can help avoid the noise produced by computer keyboards and mice in a classroom. Students can use the pad device everywhere, which means they can search for information whenever they need it. As a result, students are potentially less reliant on teachers for information source. From reports of many schools, it is shown that the pad device with a data projector is widely used. It seems to be a flexible and neat approach, more suitable for small classrooms, and it is better than using a laptop. The data projector with a pad device enables whole class presentations and share of work. (Sheehy 2007). Therefore, the pad device is an excellent education tool not only for students but also for teachers.

## 1.2 Objectives

Today, an increasing number of people would like to use the pad device instead of a traditional computer. The aim of my research is to explore the use of the pad device as an education tool. The research work intends to study the impact of the pad device among young students. Additionally, the research explores some of the widely used applications that are mostly used by students for learning purposes. Furthermore, the advantages of using the pad device instead of a laptop computer, and the possible financial implications of using pad devices by Kemi-Tornio University of Applied Sciences are to be studied.

The research includes conducting a survey, collecting useful information from the survey, analysing the survey results and writing the final report. First of all, a survey is conducted with the help of a questionnaire. The survey also includes questions related to the usability test of the pad. Further, the data collected from the survey are analysed. The analysis of the data is one of the most important parts of this thesis work. Several factors of the pad device are taken into account during the analysis of the survey results.

These factors include financial factors, convenience of use, the possibility of enhancement in students' learning outcome, and the appropriateness of implementing the pad device as a learning tool. Based on the analysis and the implications of the survey results, and literature reviews, the implementation of the pad device in KTUAS is suggested.

### 1.3 Structure of the Thesis

I have divided this Thesis work into 9 Chapters. The research topic and research questions are introduced in Chapter 2. The research methodology is dealt with in Chapter 3. Chapter 4 focuses on the background information of the pad device, and concrete information about Generation Y. Chapter 5 analyses some challenges and risks if KTUAS are to implement the pad device as an education tool. The impact of the pad device among young students is discussed in Chapter 6. Chapter 7 identifies some useful applications for learning purposes. In Chapter 8, the possible financial implications of the use of the pad device by KTUAS are analysed. Chapter 9 gives the conclusion of the whole thesis.

## 2 RESEARCH TOPIC AND QUESTIONS

### 2.1 Research topic

The title of my thesis is “analysing the risks and challenges of the pad device as an education tool and its influence on generation Y”. The pad device is a popular development in portable computing technology. In comparison with the traditional computer, the main advantage of the pad device is that it is easy to use. The traditional computer requires basic knowledge on hardware and software to use it, but the pad device user can learn to navigate through the direct features and applications within hours (Dooley 2011). In addition to this, the pad device can combine access to all resources in one convenient device and support multiple learning styles.

The pad device has several functionalities which justifies its use as an education tool. First of all, the pad device is smaller and lighter than the traditional computer. Second, users can write and draw on the pad screen, which is a direct interface manipulation method. Third but not the least, the pad device has the ability to function on every document, note, communication, audio/video file, and information resource. The pad device can also provide organisational benefit and streamlines for research & writing processes. (Orlando 2011.)

### 2.2 Research questions

The objective of this research is to explore the use of the pad device as an education tools. Hence, the research work intends to study the impact of the pad device among young students, and analyse the possible financial implications of using pad devices for learning in Kemi-Tornio University of Applied Sciences. To achieve these objectives, the following research questions have been developed for this thesis work.

### 1 What are the benefits of using the pad device as a learning tool?

The major advantages of using the pad device instead of a computer are presented by drawing from literature and previous research. The possibilities of using the pad device as an education tool are studied. The question “how the use of the pad device as an education tool” can improve the learning activities of students is also discussed. Chapter 4 and 5 gives the answer to this question.

### 2 What kind of applications can be used in the pad device?

Some of the major applications used on the pad device by students are evaluated. In addition, the benefits of such applications in terms of improving learning activities are discussed. Some of the important applications are tested practically to find out the efficiency, and subsequently compared with the same programs used on a computer. Chapter 7 gives the answer to this question.

### 3 Would it be reasonable to implement pad devices as learning tools in KTUAS from finance, convenience, and students’ progress point of view?

A survey is conducted to address this question. A questionnaire is used to collect the responses of the students in KTUAS on how comfortable they feel about using pad devices for learning and leisure. Chapter 5 and chapter 8 provide the answer to this question.

### 3 RESEARCH METHODOLOGIES

An exploratory research methodology, together with a survey method is used to conduct this research. Survey research is one of the most important areas of measurement in applied social research. A survey can be divided into two approaches: the questionnaire and the interview. (Trochim 2006.) The former approach is used during this research work. I also use the Webropol survey software, which is an online survey tool that assisted in conducting my survey research. The exploratory research methodology is used because it is an initial research that is conducted through general study and helps acquire findings.

A questionnaire is a set of questions with a choice of answers for survey purposes. The objective of a questionnaire is to collect information e.g. about people's attitudes, ideas, behaviours. (Lanthier 2002.) A questionnaire is a quick and efficient method to receive information from other people.

There are questionnaires with two types of questions: open-ended questions and closed-ended questions. Open-ended questions allow the respondents to describe the work in their own words. Those who answer the open-ended questions are required to think and contemplate thoroughly. Closed-ended questions require that the respondent has to choose an answer from a list of responses. (Glasow 2005.)

Using a questionnaire is a good way to find out the opinion of a large group of people. It is easy to know their attitudes, thoughts and behaviours. A questionnaire can offer useful data to make better decisions. However, there are some disadvantages of a questionnaire. For example, the questionnaire can have a low response rate, and the responses may be incomplete. (Lanthier 2002.) If only a few people respond to the questionnaire, the data gathered may not be sufficient enough to represent the overall target population. Hence, the credibility of the survey can be called into question.

My research questionnaire includes some basic information of respondents and the pad device, usability of the pad device, operating frequency of the pad device, possible financial implications of the pad device, education aspect of the pad device, and most used services and application of the pad device.

In order to finish my research work, literature review methodology is chosen as my research methodology. Literature review is actually the study of other people's research work before starting one's own work. Literature review helps the people to identify related research work, and literature review can help the people to gain a better result. (Khalid 2002). The steps in reviewing the literature include the following steps: making sure the general topic and goal, searching information from preliminary literature, searching information from comprehensive literature, documenting retrieval and final bibliography. (Khalid 2002).

Literature reviews have advantages and disadvantages as other methods of data collection. Literature review can supply information for almost every topic. Literature review is efficient and inexpensive in comparison with other research methodology. The only source which people need is a good library or database, and relevant literature. Literature review can be the excellent in research work, because literature review offers a general structure to future research and plan. (Khalid 2002).

The disadvantages of literature review are that the researchers need to have an excellent skill to analyse and identify relevant resources, write a meaningful summary. The literature the readers read is for what has happened in the past, not for the current actual behaviour. (Khalid 2002).

In conclusion, as discussed in the methodology chapter, different approaches are used to collect information about the use of the pad devices as education tools. Several books, articles, and journals are consulted in order to build up the knowledge base for the thesis work. Collection of data from literature review and my survey and their analysis are taken into consideration.

## 4 BACKGROUND INFORMATION

### 4.1 Background information of the pad device

The pad device, which is a popular development in portable computing technology has a detached screen from a traditional computer, or a smart phone that has been scaled up. It is a wireless, portable personal computer with a touch screen interface. There are several versions of the Pad-devices such as the slate style, the convertible style, the hybrid style, and the rugged style. The slate style Pad-device is similar to a large PDA, such as iPad. The convertible style Pad-device typically has a display that rotates 180 degrees and can be folded to close, screen up, over the integrated keyboard. A hybrid Pad-device is similar to a regular notebook but with a removable display that functions independently as a slate. Rugged tablets are usually encased in a protective shell and have shock-protected hard drives. (Putatunda 2007.)

The pad device offers all the features of a personal computer. People can carry the pad device wherever they want to without any problems. The pad device users maintain that it is very convenient to carry the pad device, because the pad device's weight is less than a half kilogram and it is easy to put in a pocket of a handbag.

Just as its name implies, the convertible pad device is similar to a notebook which can be folded. The convertible pad device has the additional benefit that they have a small keyboard. However, it can operate like a laptop computer. (Putatunda 2007.) the convertible pad device has a special function feature that the screen can rotate 180 degrees angle, which let users to fold its adjacent to the keyboard and the former side folded upwards.

The convertible pad device is considered by many as a great product because the operation is really similar to a laptop computer. Picture 2 represent that what is the convertible pad device.



**Picture 2.** The convertible pad device (Giga-byte technology co, ltd, 2012)

The slate pad device is made up with a small flat panel screens, users can enter information through touch screen or handwritten pen. The difference between the slate pad device and the convertible pad device is that the slate pad device do not have keyboard. This feature enables the slate pad device very light and easy to handle. People can easily carry the slate pad device freely because it is more portable in comparison with compared convertible pad device. However, the disadvantage of buying the slate pad device is that most users are not used to use handwritten pen as input equipment, they may face some of the difficulties in this respect. (Dias, 2011.)

Picture 3 explains the slate pad device.



**Picture 3.** The slate pad device (SlashGear, 2012)

The hybrid pad device is similar to slate but have an attachable keyboard that rotates and doubles as a base. The hybrid pad device does not have the same size and weight of a permanent keyboard, it is a slim and ultra-light design. (Singh, 2012.) The keyboard of some hybrid pad device can detachable, but the hybrid pad devices have innovative docking which provides access to a keyboard, a mouse and a full-size monitor. Picture 4 is an example of the hybrid pad device.



**Picture 4.** The hybrid pad device (David Altavilla and HotHardware.com, LLC 2012)

The rugged pad device is made up of shock proof hard drive and a shell which can perform tasks to the industrial strength. The rugged pad devices are good to be used in rough conditions such as for military duty, during patrolling duties, and in construction areas. (Putatunda 2007). Picture 5 is an example of the rugged pad device.



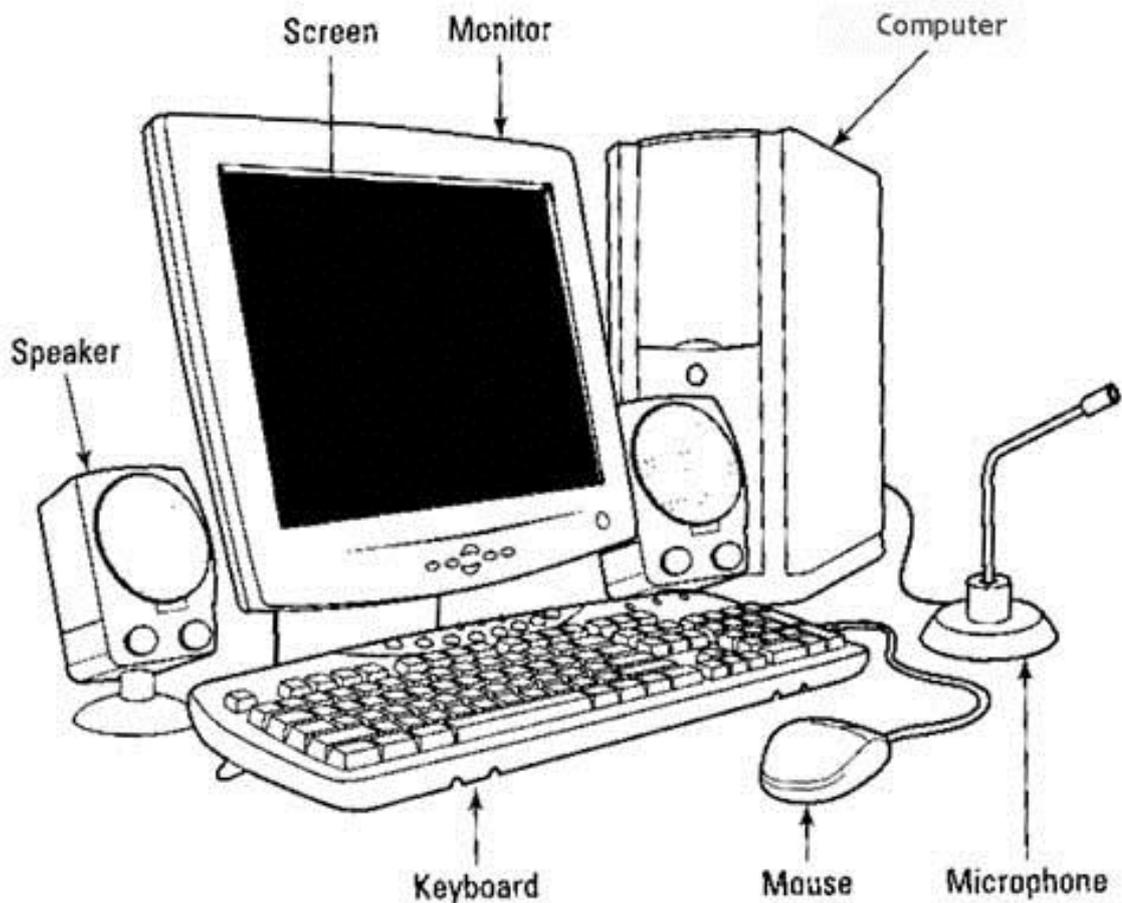
**Picture 5.** The rugged pad device (Yenra 2004)

Today, Pad-devices are known as highly innovative devices that hits the educational technology sector (Cicchino 2012). If Pad-device can be used as education tool, students can work from anywhere. Pad-device provides all the functionalities that a traditional computer does. It allows users to work wherever they are such as in the classroom, at the library or at the coffee house. It helps the students save their time. Pad-device can take all the notes electronically which users can use anywhere, anytime. When students are tired of writing notes during lectures and presentation, they can record audio with open program. This helps students not to lose important information. Similarly, if students become tired of typing, they also can open some program which can use the voice to instead of type, and give their hand a rest.

The pad devices have many same and popular attributes with the portable laptop. The pad devices have roughly the same size as ultra-portable notebook computer. The screen size and speed are same, and they can use the same software. One of main pad device benefits is that the pad device is lighter than a laptop. The battery life of pad device is longer than traditional computer. The pad device has up to 10 hours battery life with one charge. So when people go out, they can easily carry such devices into the pocket. (Ventseslavova 2012.) In comparison with the 3 hours battery life of traditional computer, if people have to stay outside for long time, they need to take a separate bag for the traditional computer.

In addition, there are some differences between the pad device and the traditional computer. The pad device has swept across the world. As a more amiable, user-friendly

laptop, many people buy a pad device and start to learn how to use it. The biggest obvious difference of them is the keyboard. (Ventseslavova 2012.) The operation of the pad device is done by touch screen, but the traditional computer has to use a keyboard. Therefore, this gives an extended visual space to a pad device's application, such as calendar, email system and message service application. The disadvantage is that some people do not like to type on a visual keyboard, it is difficult if the people would like to send a message or an email. Picture 6 illustrates the component of the traditional computer.



**Picture 6.** The component of traditional computer (QuinStreet Inc 2012)

In order to solve the type problem, some companies produce a special stylus as the input to instead of handwriting style (Ventseslavova 2012). This is the best solution especially for the people who learn art or design. People can use picture and edit photos through stylus. There are some applications which can recognize handwriting. It can transfer our specific handwriting to text or graphics, and it can adapt the unique user.

The pad device is efficient in taking notes in a meeting and it does not obstruct people's view if the people have a conversation because the pad device is easy to lay flat on the desk, and the traditional computer sits at 90 degree, which looks like a barrier between users. (Ventseslavova 2012.) When young students sit in the classroom, they can communicate with the teacher directly.

#### 4.2 Background information of generation Y

As was discussed previously, the people who were born between 1976 and 2000 are called generation Y, also known as gen Y, net generation, eco boomers and millennial. The current age range of generation Y is from seven to twenty-seven years old. When the generation Y are studied, they are divided into 3 distinct age groups which are teens who are from seven to twelve, teens who are from thirteen to seventeen, and adults who are from eighteen to twenty-seven. (Asthana 2008.)

The generation Y prefer high-tech device more than high salary, and they would rather lose their wallets than their smart device. In 2011, Cisco announced a report about three parts connect world. One of them is that almost half of college students would like dating with their friends on the Internet. (Cisco 2011.)

From the Cisco survey, 40 percent of college students and 45 percent of young workers can accept low salary jobs if there is more flexibility on device choice. They think that the high tech is more important than the salary. 64 percent of college students ask about the smart device usage policy during their work interview, and 24 percent of them think it is a key factor in deciding whether the work offer is good or not.

The generation Y grew up with the Internet and computer at their fingertips. The world of generation Y is virtual, hence, the generation Y is familiar with information and communication tools. They use the web as the information source and they prefer to contact their friends constantly and immediately. The generation Y in university is different from previous generations of students. Their diversity is considered both within the generation Y and student body as a whole and it influences other generations in the student population, background and experiences. (Christensen 2012.)

Today, many universities are doing their own research, which is built proof of the generation Y students' expectations and experiences. One part of the research is about the access the generation Y students have to tools like pad device, smartphone, laptop etc. and making them easier to use for studying. The learning needs of students is universal, but are mediated by different generational preferences.

There is a large amount of information that indicates the generation Y students use information communication technology to contact their friends and family, to obtain information about their needs. These technologies offer an innovative and exciting way to learning. The generation Y students may give some indications of how things will go on in the future to educators. It is better to use their preferred media if the educators try to communicate with the generation Y. (Christensen 2012.)

The arrival of the generation Y comes with a number of new technologies, rapidly permeate to the development of society, changing many areas of the social and professional life. In the 1980s and 1990s, because of the rise of the personal computer and introduction of the World Wide Web with the mobile phone and the instant communication technology development, people were able to do instant interactivity with each other all over the world. (Kane 2011.)

There are some common characters of the generation Y and they are as follows:

- Tech-savvy: the generation Y grew up with technology and they can complete their work using technology. A smart phone, pad device or other high-tech device is their typical equipment. The generation Y would like to communicate by using email and text messaging instead of communicating face to face. (Kane 2011).
- Starving for attention: the generation Y desires to get more feedback and guidance note. (Kane 2011). They understand that keeping in the loop will help them get frequent praise and comfort. The generation Y can greatly benefit from the teacher who can help, guide and develop their young study and career life.
- Teamwork: When the generation Y were children, they participated in team sports, theatre groups and other collective activity. In comparison with other generations,

the generation Y value teamwork and seek other people's recognition and input. As no one is left-behind in this generation, the generation Y is loyal and committed.

- Family-centric: the generation Y is willing to pay more money for changing time, flexible schedule to balance their work and life better (Kane 2011). Although the generation X can view their attitude, which can be narcissistic and lack commitment, and discipline, the generation Y have a different view of workplace.
- Achievement orientation: the parents of the generation Y are the precious generation who do not want to make mistakes. The generation Y is confident, ambitious and achievement orientated (Kane 2011). The generation Y hope they can find meaningful work and a solid learning curve. Since the generation Y have high expectations for their work environment, they would like to seek new challenges and they are not afraid to question authority.
- Sharing and compromising: the generation Y is tough-minded, full of passion, and optimistic. They have great expectations and requirements to get what they want. In some cultures, such as in China, the one child policy has let the generation of only children, this greatly helps the sharing and compromising abilities of generation Y. (Krayewski 2009).

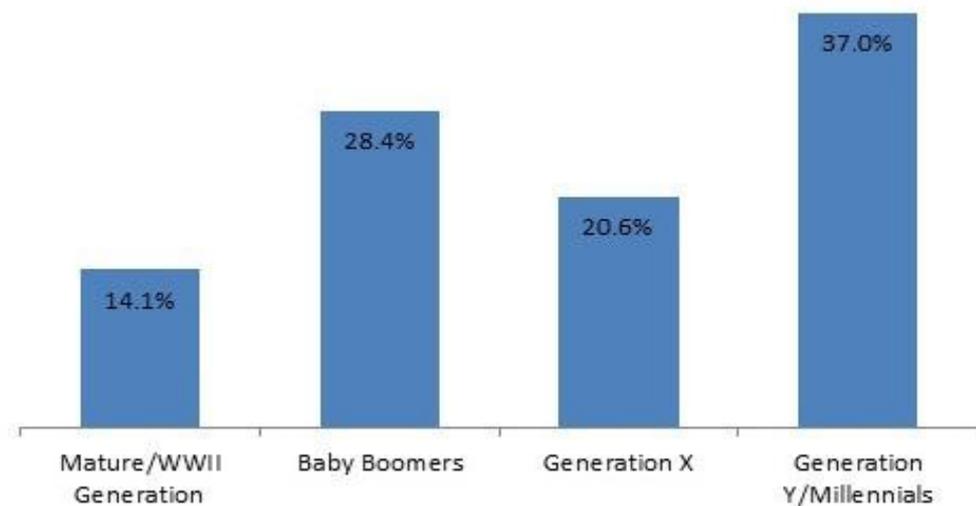
#### 4.3 The difference between generation X and Y

The members of the generation X are born between 1960 and 1975. The generation X can be called as Gen X, and the members of the generation X are often abbreviated as gen Xers. The characteristics of the generation X are that they are well educated but their employment experience is not adequate. Due to the uncertainty in economic climate, it may result in low expectation about their jobs and traditional success models. (Brien 2009.) Sometimes the magazine and newspaper suggest that the generation X work to live, but they do not live to work.

The generation X spend less time with their parents in comparison to previous generations who have children. They are the first generation that is confirmed as latchkey children. The generation X think they can stay at home alone and look after

their siblings and themselves while their parents work. The generation X know that their parents are human and make mistakes, hence, they often find themselves treating their parents like older friends. (Tolbize 2008.) The nature of the generation X is independent and self-supporting, not respect and authority.

The technology innovation gives a different culture to the generation X, this is why this generation can accept the difference from themselves or the experiences. Generation X can accept diversity. Picture 7 illustrates the population of different generations in 2010.



**Picture 7.** The population of different generations in 2010 (Catalyst Inc 2012)

From Forrester research, the differences between the generation X and the generation Y are the use of digital technology. (Leggatt 2008).

The generation Y are the real online native; they use high-tech in their normal life. They spend more time on the Internet than the generation X. They watch more online videos and text more messages using high-tech. (Leggatt 2008.) The new and high technology is the most important part of the generation Y's entertainment and social life.

Charles Golvin, principal analyst at Forrester Research said. "Gen Y is the audience that most companies are struggling to understand right now because it's key to their future revenue growth." About the generation X, they would like to use technologies that can support their lifestyle needs. Such as the online banking and online shopping. They need more convenience lifestyle because they have hectic lives, job and family. (Leggatt

2008.) Even if the members of generation X who use blogs and social media are rising, they still fall behind the people who are younger than them, like generation Y.

The most significant difference between generation Y and generation X is the difference in using technology. They like to use computers, smart devices and social media. The generation Y think that the technology can help them to improve every aspect of their life, such as control the time, make their job easier. (Murillo 2011.)

An article published on Yahoo with the “Make way to Generation Y”, states that 90 percent of the generation Y who are over 18 uses the Internet. 75 percent of the generation Y use the social network, like Facebook, LinkedIn etc. 60 percent of the generation Y access the Wi-Fi when they are outgoing. 83 percent of the generation Y want to keep their phone or pad device nearby whether day or night, awake or sleeping. (Murillo 2011.) High-tech is the motor that keeps their lives going. Technology is always changing and improving. Generation Y receive good education and look to pursue higher education in addition to technical proficiency. “Make way to generation Y”, points out one fourth of generation Y is studying a master’s degree. Picture 8 is a picture for some common social media.



**Picture 8.** Some common social Media (Business 2 Community 2012)

In a word, technology is the biggest difference between generation X and generation Y. Technology is a leading way in the development of daily life. Along with the fast

changing technology, sometimes generation Y may forget where the original ideas came from. However, the generation X works hard to adapt the new technology.

## 5 THE USE OF THE PAD DEVICE AS EDUCATION TOOL

Today, technology is increasing in importance in education. Many modern research techniques can help young students get the best out of the results obtained. Electronic learning is known as the world's most popular way of learning. The pad device is a useful invention for the benefit of electronic learning. This technology not only improves the quality of learning but also helps every ambitious young student to get everything they need.

There are some young students who choose to use the pad device as a learning tool. First of all, an increasing number of companies offer different price categories for pad devices except Apple, which attracts many young students to choose a pad device for their study equipment. This technology provides a competitive price which is affordable. (Gupta 2012.) In addition, it is convenient for young students who can use their pad device anywhere, especially in colleges where they can connect to Wi-Fi. Young students can get all useful information in their pad device fast.

Young students always change their minds; they have to use the list function on their phone because they cannot remember everything. The pad device is the best and convenient tool if young students want to add endless interest list. The pad device is also a cheaper alternative tool to a mobile phone. This kind of small computer not only looks like a cell phone, but also provides all functions. Therefore, the pad device can help young students reduce the cost of their phones.

The pad device for a young student is good equipment that has all the functions in one device. Young students do not need to buy different equipment when the pad device is suited for all their needs. Pad device provides a convenient learning option for all young students. Consequently, the pad device really offers a convenient, rich and fast learning experience to young students.

### 5.1 Analysing the impact of the pad device as an education tool among Generation Y

The pad device seems to be changers for colleges; it is a tipping point to bring in a new age of classroom collaboration and push the electronic textbooks. (Young 2010.) The

pad device will completely affect the use of textbooks, taking notes and learning in schools, colleges and universities. The pad device could improve the learning interest of students because pad devices are able to multitask, as well as develop students' psychological activities and skills at the same time. Students think that the idea of the pad device as an education tool is great and fun and is a useful tool for material review (Crump 2010).

The use of the pad device provides universities the option of reducing the cost of purchasing physical books. Instead, universities can subscribe and pay for e-books. It will also reduce clutter, as books will be in electronic form. Rather than carrying textbooks, which may be burdensome tons, if the students have pad device, they only need to carry a small portable device that can fit into the pocket of their coat (McCrea 2010). Students do not need to worry about loss or overdue of books; they do not have to pay for late return of books. Young students can borrow and buy books or materials from the pad device download system, and thereby they can manage their education resources from the pad device.

Universities and colleges should create a personalized course for young students. Depending on the software development kit, cheap education application software can be developed and tailored for the school and students' needs (McCrea 2010). At present, because of the education funding cuts, it can make the free and affordable software on pad device download system more than valuable.

The battery life of a pad device is almost around 10 hours, which makes it very convenient for use on campus. The pad device is argued to offer science and technology education in the whole transformation and "the mobility of a cell phone with the screen of a computer." (Crump 2010). The pad device's power up time is faster than the traditional computer's and students do not need to waste time for related guidance with other computer's.

Today, some organizations in UK and US try to use the pad device as an education tool. Computer hardware has been the college's education system for many years. In recent years, the use of the interactive whiteboard has become the basic component in teaching ways. However, the pad device points out that in the new age of teaching, it will provide a moving, easy to use education tool which can engage learners. The people who use the

pad device say it is easy to see, which is why pad device is a useful education tool. Picture 9 shows teachers and students using the pad device in a classroom.



**Picture 9.** Teacher and students use pad device in classroom (Appir 2010)

It is unprecedented that the pad device makes young students feel free. Mobile learning improves the level of interaction and the ease of use of software is better for participation. These are all functions in the education system that needs to strengthen. (Wilson 2011.)

Educators also praise the pad device's physical properties, including its wide touch screen and graphic design that make it easy for the students to maintain eye contact. (Hu 2011.) Picture 10 shows students using the pad device in the classroom.



**Picture 10.** Young students start to use the pad device in a classroom (The New York Times Company 2011)

## 5.2 Analysing the challenges of using the pad device as an education tool

Electronic equipment seem to have appeared in classrooms for a few years now. Originally, young students used to carry heavy computers to classrooms, and the size of desk and computer sometimes would not match. However today, because of the pad device which is smaller and lighter than computers, young students have a wider choice for study. The pad device is becoming increasingly popular and it is used as a household product. In educational institutions, the pad device is used to make notes and study, and is also used by teachers for viewing multimedia content.

If the pad device is used as an education tool for students, young people will have lighter equipment to carry about than a laptop, and the screen is sufficiently large for note taking. Although young students have to use the virtual keyboard, it is not a comfortable way to type. There are some functions like recorder in the pad device, which enables the user to input text into the pad device through voice commands. Young people can use the recorder function on the pad device to record all information in classroom. All the writing and note taking can be finalized at the same time, and young students can focus on the teacher.

Since the screen size of the pad device is between 7 inches and 10 inches, the pad device provides a visual way to study. Many applications, for example, can teach how to paint or how to write letters and because the pad device has a visual properties function, young students can even learn foreign languages easily. An increasing number of companies realize the pad device will be the major device of the future, so they provide applications that run on the IOS or android platforms. Cable News Network and The New York Times website offer their own application to people, so young students can discuss about current events with pad device in time. (F 2011).

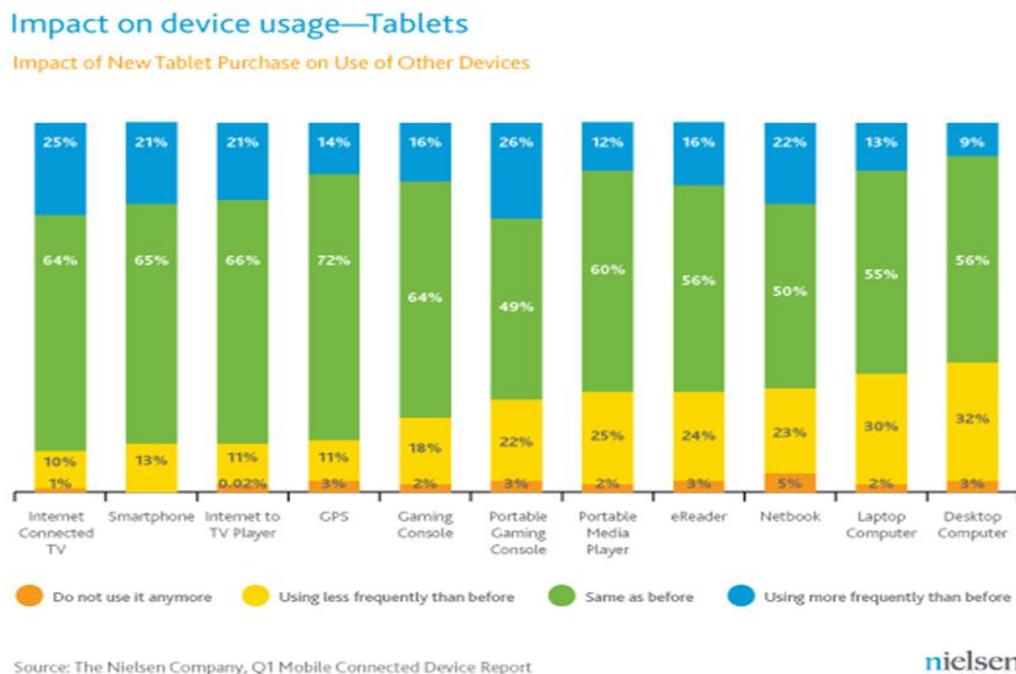
Today, the pad device can easily be a textbook. In fact, there are places all over the world where the pad device is considered to be an education tool. It has recently been announced that by 2015, the South Korean students will use pad device instead of textbooks. (F 2011). From the South Korean ministry of Education and Technology, the organization says the government wants to invest 200 million dollars to support the measures that use the pad device to replace textbooks.

First of all, the pad device is the best way to show textbooks. The pad device is able to provide enhanced e-books with images, video and audio. This element is impossible to include in print or in a standard e-book. (Madan 2011). When young students read the speech “I have a dream”, they can see a picture of Martin Luther King at the same time. This gives an integrated learning experience and is more engaging for young students. The pad device also allows young students to highlight text, take notes in the margin of pages and check the dictionary directly within the book itself. Picture 11 shows that the pad device is a good tool for showing textbooks.



**Picture 11.** The way to show textbooks in Pad device (Apple Inc 2012)

Secondly, the classrooms in universities are ready for the pad device. Although the pad device is the recent phenomenon, most students in universities had used smart phones for many years, so the young students are already familiar with the touch screen technology. (Madan 2011). Young students are expecting to use the pad device in the classroom because they have become accustomed to using the pad device. Picture 12 explains the impact of the pad device usage.



**Picture 12.** Impact on device usage-Tablets (The Nielsen Company 2012)

The pad device can be a very useful education tool for students, but there are some challenges when universities use the pad device as an education tool. If the teacher wants to implement a pad device program in the classroom, the teaching methods must change. There are many teachers who would like to use popular Flash-based applications, however, not all pad devices support Flash websites. Especially for students in IT field, if they want to design a game or application based on Flash, they cannot use the pad device to support their ideas.

Even though the touch screen is more common nowadays, there are still many people who do not like to type on a touch screen. It is a challenge for these people, regardless if they are teachers or students. The pad device uses a virtual keyboard on the touch screen

for typing instead of physical buttons. It is not as easy for typing on the small touch screen, and typos are common. To overcome this problem a product named Swype was invented. (Wortham 2010). Swype is a new technology that allows the users spell words by gliding one finger across the virtual keyboard. Swype's system can detect if the user's finger pauses or changes direction. Some old input methods for the pad device are based on scribbled gestures.

### 5.3 The risk of using the pad device in learning

The risk of using the pad device in learning is that the pad device may not prove a "sustaining innovation" learning technology. "Sustaining innovation" means innovation can be integrated into the current practices, including the innovation, organization, destruction of the practice of the standard model.

The idea of "Sustaining innovation" was introduced by Michael Horn at the 2009 EDUCAUSE ECAR Symposium (Horn 2009). "Sustaining innovation" is not only increasing the quality of a product's service but also driving up the costs. Higher education is already going through sustaining innovation, upgrading equipment, facilities and process of technology that can improve the experience of campus fidelity.

The pad device in educational organizations can drive a new round of "sustaining innovation". Universities should design the study, applications for campus and investment tools that can connect the pad device on campus (Kim 2010).

The pad device can be a wonderful education tool, which can reduce cost of constructing or providing education. If universities want to use the pad device as a learning tool on campus, first of all, they have to adjust the campus network to support the pad device. The universities can discuss with the wireless security vendors, to make sure that the pad device is able to run smoothly on campus. If necessary, the universities may register to the pad device's company. The teachers, students and staff can use the pad device on the network.

In addition, universities should encourage teachers to use the pad device as learning tool. They can provide the pad device to students who are in same lesson. (Harrison 2010.)

Bound by the objective of courses and mastering the usage of the facilities, universities can develop some direct proof of knowing whether the pad device improves the effectiveness of teaching and studying.

The IT departments in universities should spend time to think of the pad device's security, and set up the infrastructure policy before deployment. (Caldwell 2012). The laptop and traditional computer security plan cannot be transferred into the pad device; it is not useful. Traditional IT security should focus on the pad device security. When universities set up new security plans, they can still try to make the students control their behaviour. Protection and control have an obvious difference between them. Protecting the students mean that the university should find a way to solve students' problems. These problems are mostly about getting rid of the pad device's virus or blocking pornographic websites.

Young students have to ensure the data in the pad device is safe after the educational institution offers the pad device to them. There are some advices to protect the data:

- Erase all the data from the pad device after the password fails for 5 times.
- Backup the data in the pad device. Since the data can be stolen from the desktop you use to synchronize and backup the data. Young people can encrypt the backup data in the pad device from download system, like iTunes.
- Effectively use a password. The password input screen of the pad device requires the user to input four digits by default, but people can download an application that uses the full keyboard characters to lock the pad device. The password can also help to encrypt the mail settings and attachments in the pad device, so this kind of application is safer than the four number passwords.

## 6 SURVEY RESEARCH

This chapter aims to present an overall review of the questionnaire used in this thesis. The information gathered through the questionnaire is used for the purpose of exploring the pad device as an education tool and analysing the impact of the pad device among the generation Y. The questionnaire for this thesis is discussed in this chapter. In addition, this chapter includes a brief summary of the survey results and a comparison of these results with the theory of the generation X and the generation Y.

Survey research as discussed by Pinsonneault and Kraemer (2012) can be defined on the basis of three distinct characteristics. Firstly, a survey research presents quantitative descriptions of some particular aspects of study population. Secondly, the pre-defined questions are asked to the study population for collecting information. Thirdly, instead of collecting information from the whole population, sample information is used for the statistical analysis. The use of samples reduces the amount of time consumed for the collection of information.

To study the pad device as an education tool and analyse the impact of the pad device among the generation Y, a large amount of information about the use and impact of the pad device is required to be collected from target population. Since this information should come from the real users of pad devices to maintain the reliability, the appropriateness of using a questionnaire is justifiable. One reason for using a questionnaire as a survey tool for this thesis work is to acquire reliable information, analyse them, and produce correct results. As questionnaires can be distributed to the target population electronically and the answers can also be retrieved via the same channel, it saves a great amount of time in the information collection process. Due to the limited amount of time allocated for this thesis work, the questionnaire seems to be an appropriate tool.

## 6.1 The questions of the survey

The questions used in the questionnaire while conducting the survey research were formulated considering the objectives of this thesis. The purpose of these questions was to collect relevant information regarding the main objectives of this thesis for the statistical analysis purpose. As the target population for this survey was the population of the generation Y, the questionnaire was distributed electronically to the target population using Webropol which is an online survey tool available at <https://www.webpolsurveys.com/Home.aspx>. This tool was effective and useful for creating and distributing the questionnaire due to its user-friendly interface and flexibilities in making choices of different forms of questions. The questionnaire used in this thesis for the purpose of this survey is included in Appendix 1.

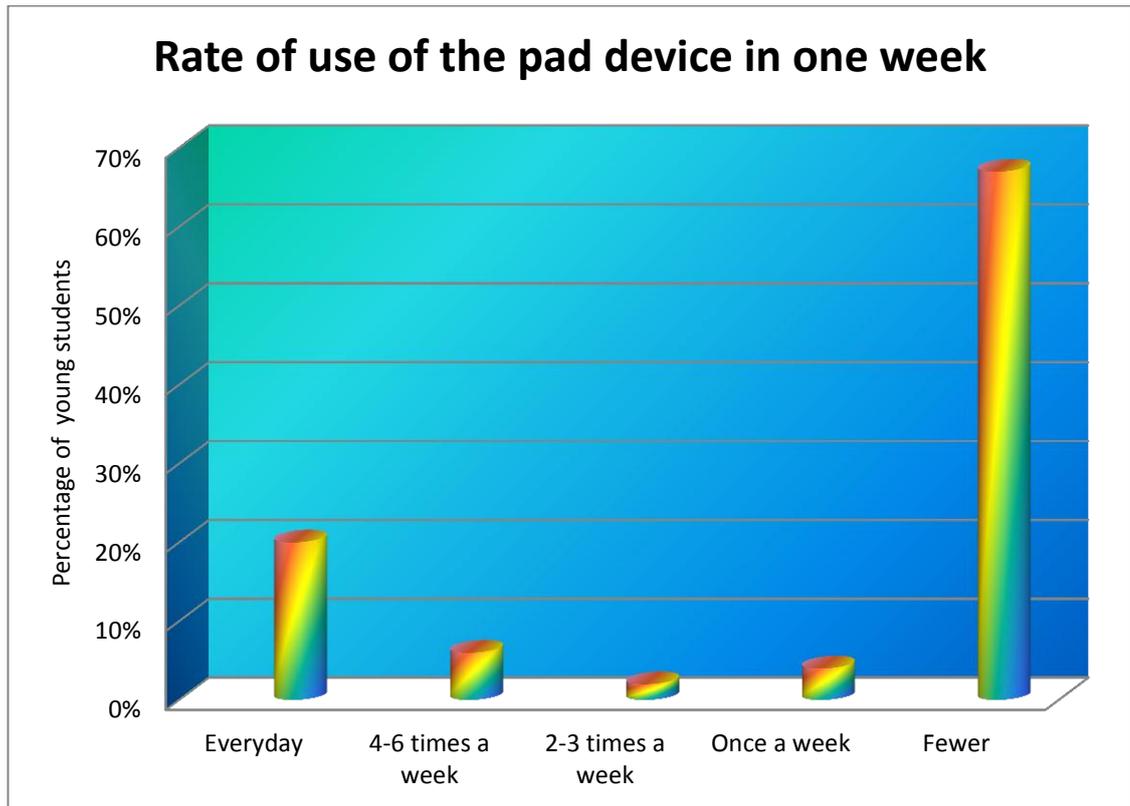
The questions used for survey in this thesis were divided in to five different categories. The first category dealt with some general questions to collect information about the age, gender, and the type of pad device used by the target population. The second category of questions was about usability of pad devices. These questions aimed to gather information about usability issues of pad devices in comparison with computers. The third category of the questions was about the rate of use of pad devices among the target population. These questions helped collect information such as how often and how many hours are normally spent using pad devices. The fourth category of the questions was about the use of the pad device as an education tool. This included questions such as how important the pad device is as a learning tool, how challenging can the use of pad devices be in terms of configuring and using them. The last category of questions dealt with the willingness of buying and using pad devices as an education tool. With the help of these five categories of questions, the required information for the statistical analysis of the use of pad devices as an educational tool, and its impact on the generation Y was gathered.

## 6.2 Results of survey

Based on the questions discussed above, several identical answers, as well as some entirely different opinions were received. These answers received by the target population were further analysed to draw conclusions. After the thorough analysis of the answers provided by 46 participants in total, it was realized that the number of male users of pad devices was greater than the number of female users. Although there seems to be a lower number of people who own pad devices in comparison with computers, a higher number of people inform that they have used pad devices. Several respondents criticise that the user interface of pad devices are less user-friendly, and completing tasks on pad devices takes more time than computers. A lower number of respondents are in favour of using pad devices as a learning tool. The survey shows that pad devices are not used as often as computers. However, the main attraction of using pad devices is that they are more portable than computers. As some of the respondents pointed out, one of the major limitations of pad devices is the limited number of applications that can be used on them. The survey also shows that there are many parents who buy pad devices. However, the use of pad devices is mostly found for just Internet surfing, social media, and entertainment rather than using them for educational purposes. The statistics of the questionnaire is included in Appendix 2.

Based on the results presented above, the implications can be drawn that there is still not a high demand for the pad device as an education tool. The user interface needs to be improved. In addition, the number of applications that can be used on the pad device should be increased. The pad device also needs to be less expensive. In the survey, a question related to the use of services of the pad device was asked as question number 18 in the questionnaire. Appendix 2 includes the details of the answer received by the participants of the survey research.

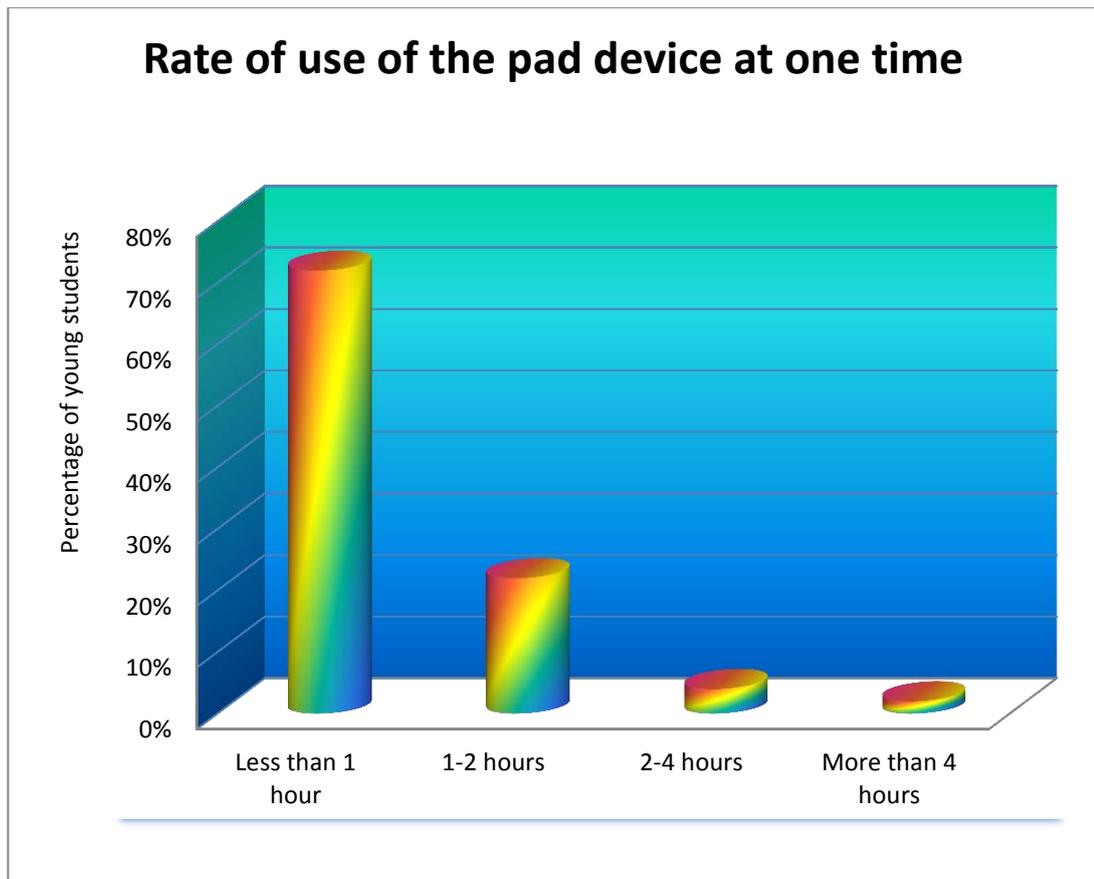
Figure 1 is a table showing the frequency of use of the pad device in one week.



**Figure 1.** The frequency of use of the pad device in one week

From the figure 1, we can see that only 20% of people use the pad device every day, 6% of young students use the pad device 4-6 times in one week, 2% of young students use the pad device 2-3 times a week, 4% of students use the pad device once a week, and 67% of the generation Y use the pad device less than once in one week. Not all young students are convinced by the appeal of the pad device. More than half of respondents use the pad device less frequently.

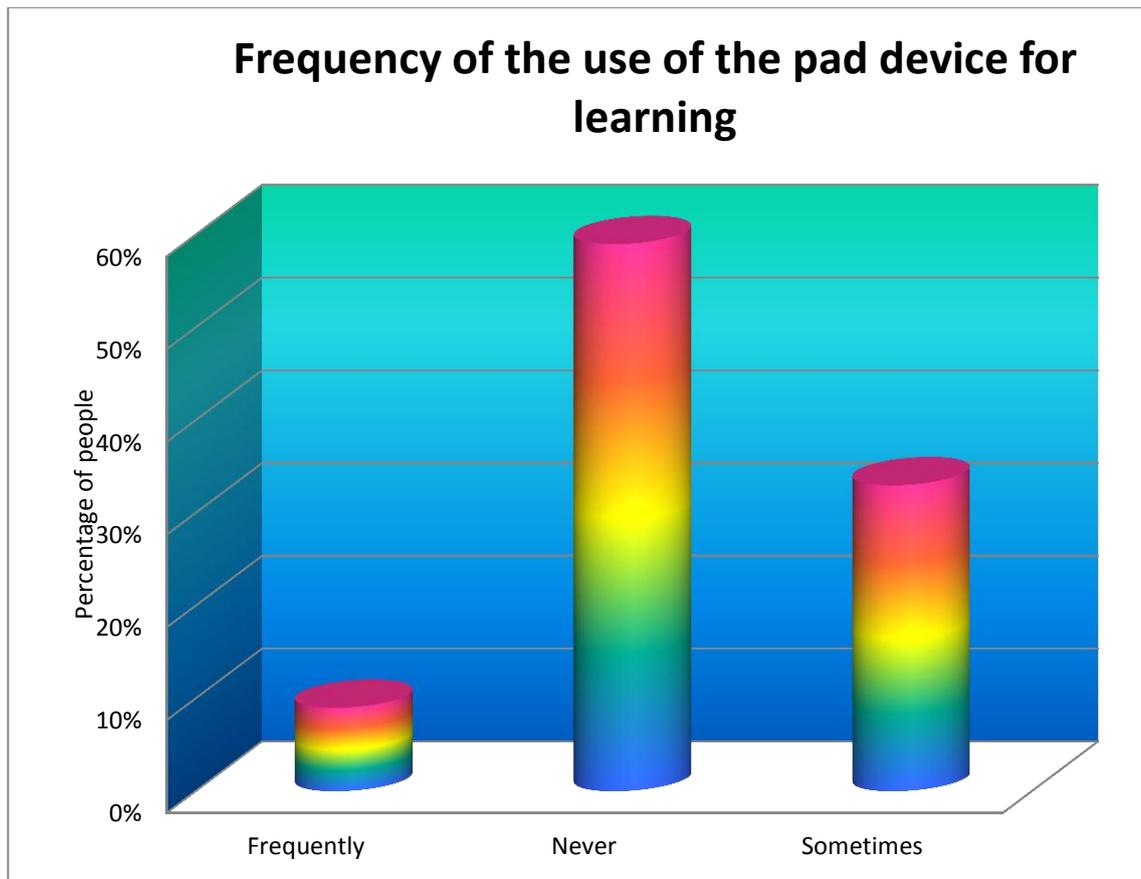
Figure 2 shows the frequency of use of the pad device at one time.



**Figure 2.** The frequency of use of the pad device at one time

72% of young students use the pad device less than an hour whenever they use the pad device. There are 22% of the respondents that spend 1-2 hours on the pad device when they use the pad device. However, only 4% of the respondents can spend between 2 and 4 hours on the pad device, and only 2% of people can use the pad device for more than 4 hours.

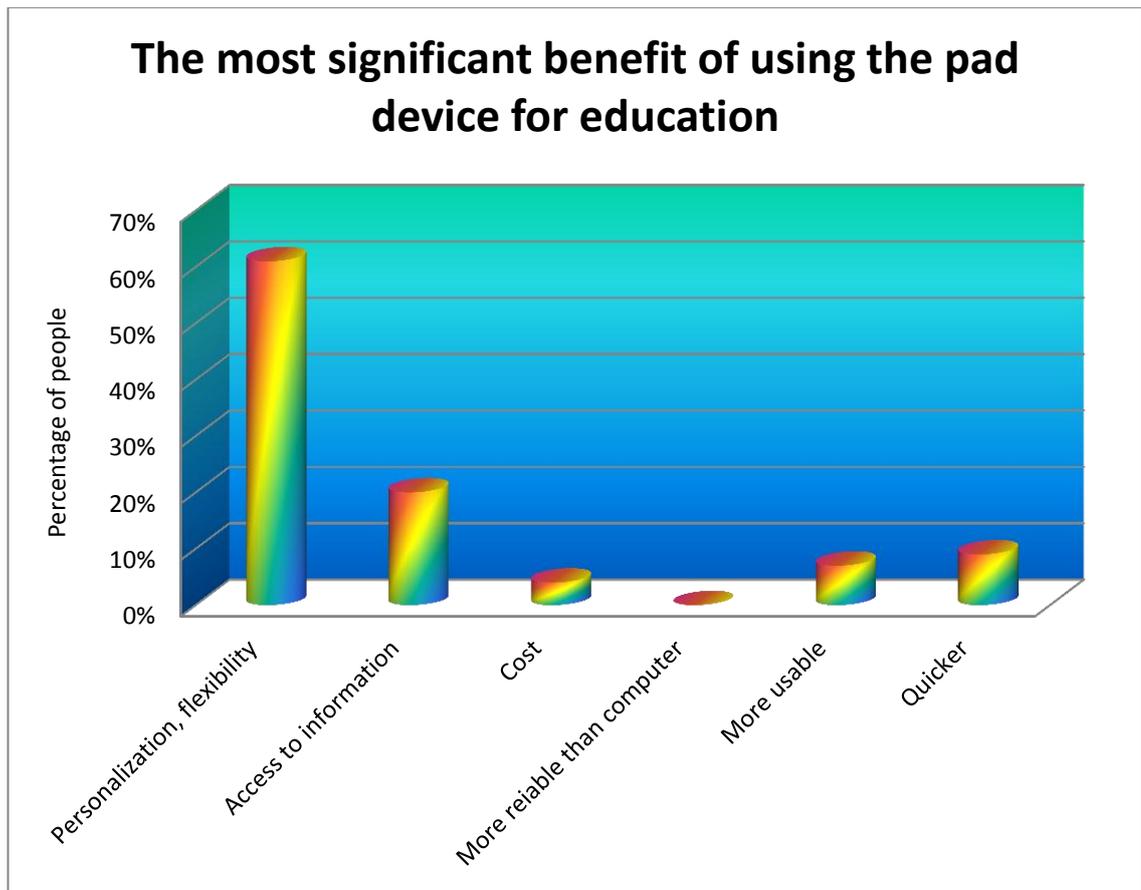
Figure 3 shows how often young students use pad devices for education.



**Figure 3.** Frequency of the use of pad devices for education by young students.

It is important to know if young students think the pad device is suitable for education. From my survey, only 9% of young students use the pad device as an education tool frequently, 59% of the young people never use the pad device for learning and 33% of the respondents use the pad device for study sometimes.

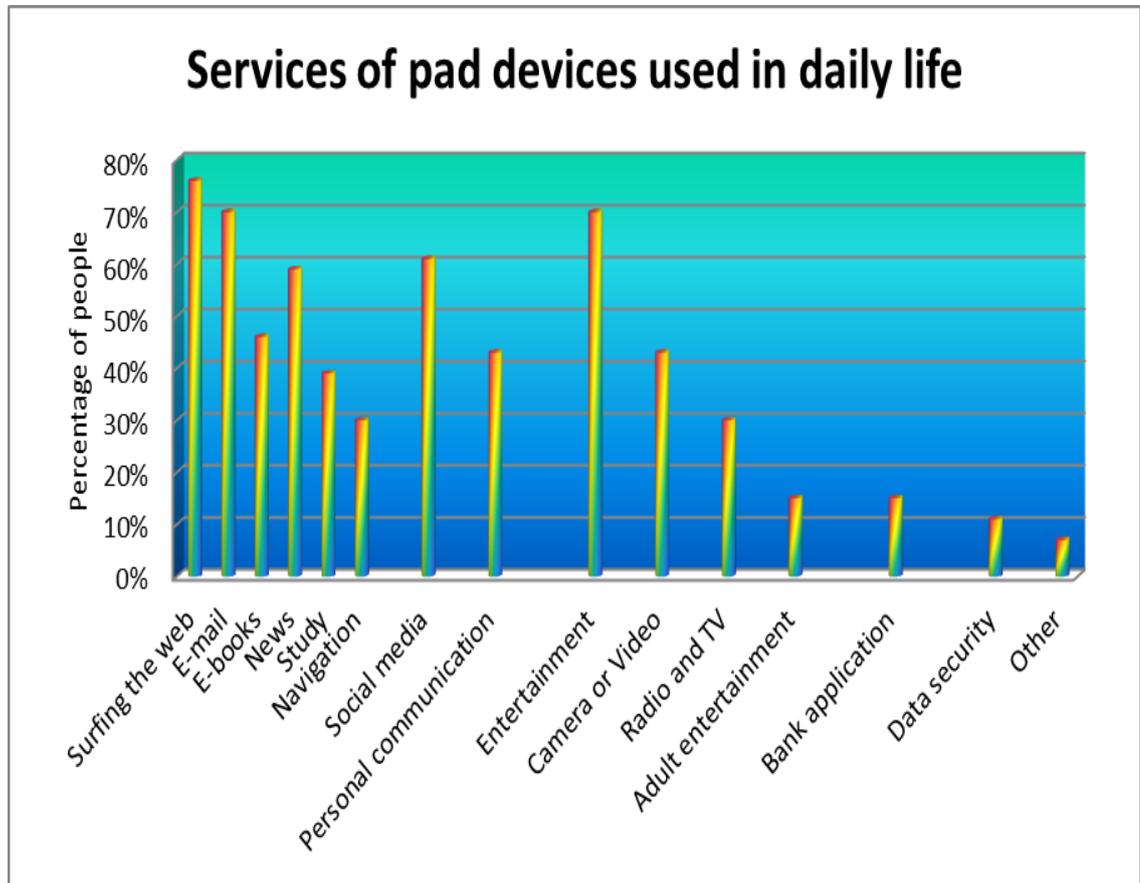
Figure 4 shows the significant benefits of using the pad device for education.



**Figure 4.** The significant benefits of using the pad device for education.

Most people think the most important benefit of the pad device is flexibility and ease of use; this is backed up by the survey. There are 61% people think the significant benefit of using the pad device for education is personalization and flexibility, 20% of young students think that accessing information on the pad device is easier than the computer, 4% of people think cost is the most important thing. Whilst nobody thinks the pad device is more reliable than computer, 7% of students think the pad device is more usable, and 9% of respondent prefer the quicker option.

Figure 5 shows the services of the pad device that young people use frequently in daily life.



**Figure 5.** Services of pad devices used in daily life

As shown in Figure 5, the service of the pad device that has the higher rate of use is surfing the web. The use of pad devices for entertainment purpose holds the second position which indicates that the figure might increase in future. The third service that the pad devices are used for is E-mail. These three categories of services are the most frequently used on pad devices. There was a specific question included in the questionnaire as question number 19 which dealt with the use of different applications on pad devices. The answers received by the participants were evaluated based on the all the applications which provided some sort of services. It was realized from the received answers that the applications related to social media and entertainment were used most frequently while applications related to education held the second position. To conclude, when relating these answers with the answers of question number 18, identical results were found.

From the questionnaire, young people do not think that the pad device is better than traditional computer as an education tool. However, there are more than half of them who think that the university should provide pad devices with access to wireless networks for free to students. Most of these people would like to use laptops for learning, while the pad device will be used in their free time for social work and leisure.

### 6.3 Comparing survey results with the theory of the generation of X and Y

The results achieved from this survey have different impacts on the generation X and Y. As was discussed in section 4.2.2, the generation X can accept the diversity in technologies. However, they seem to use devices such as pad devices for different purposes. Those of the generation X use the pad devices to support their general lifestyle such as using online banking. However, the people of generation Y use the pad devices mostly for surfing the Internet, social media, and entertainment. Using pad devices as a learning tool does not seem to be the main focus in any of these two generations. However, since the number of applications that can be used on pad devices is growing rapidly, and the willingness to purchase pad devices is also increasing, there are strong possibilities that the use of pad devices can have a great impact as an educational tool.

Moreover, the generation Y seems to have greater attraction towards the use of pad devices. With the increasing tendencies of spending significant time on pad devices, the interest of people to use the similar services and applications on pad devices, as they use on computers and laptops, is increasing. This growing interest holds the possibilities of increasing the rate of using pad devices as a learning tool. In addition, with the growth of the number of applications related to education, the overall use of pad devices as a learning tool can also increase. The answers received through the questionnaire reveal that there are many young students who wish to get pad devices from their universities free of charge. The growing interest of the generation Y in the use of pad devices also justifies that the school can encourage students to use pad devices as a learning tool.

## 7 APPLICATIONS FOR LEARNING PURPOSE

An increasing number of people think that technology can promote the children's society, language and cognitive development essential as learning tools. (Gimbert & Cristol, 2004). Today, the teacher's question is no longer about what kind of technology should be used with young students in class, but rather how it should be used. (Clements & Sarama, 2003). Following the use of this new technology for classroom education, the pad device poses a continuous challenge for teachers because they realise the potential of this technology, which aims to improve students' learning ability, problem solving, and the expression of their ideas. One of the key questions for teachers to consider is the role of this new technology in the curriculum (Swaminathan & Wright, 2003).

The kids in preschool or in the primary school are going through the stage of recognising and thinking. When the students are using the computers actively, they will be controlled by the operation of the computer and also the software. The National Council for Accreditation of Teacher Education (NCATE) approves that in the early childhood education, use of the technology is important for active decisions, drawing and writing, and the logical thinking. In addition, technology also helps teachers by opening the window into the development of young students (Swaminathan & Wright 2003). Research works reveal that computer-assisted instruction (CAI) encourages and supports the students learning process through the picture and sound. The early academic stage is full of challenge and the factor of motivation is really important to the result. According to the studies and research, young students are willing to learn when they access the computer and they spend more time on computer-related activities (Talley, Lance & Lee 1997).

The ISTE reveals some strong empirical findings about the application of the pad device in classes. The first one is creativity and innovation which points out that when using technology, students improve their creative thinking, construct knowledge and improve innovative products and processes. The second one is communication and collaboration that points out that students work together and communicate by using the pad device even when they are at a distance. The pad device enhances their ability to learn by themselves and learn from others.

The third one is research and information fluency which points out that pad devices are used for students to research, analyse, use and evaluate information. The fourth one is critical thinking, problems solving and decision making which shows that pad devices generate information which enhance students' skills of critical thinking, plan, research, problem solving and informed decision making. The fifth one is digital citizenship for students which points out that technology enables students understand the societal, cultural and human issues which they can practice as ethical and legal behaviour.

### 7.1 TED

The application TED stands for Technology Entertainment and Design. The TED application offers viewers videos of talks from some of the world's most intellectual people. These people can be educational speakers, leaders, artists, musicians or people who have a great deal of knowledge in their individual fields. (Miles 2010). This application provides video from these people on the pad device and in addition, supports videos lasting from 3 minutes to 30 minutes. (Lamkin 2010.)

Young students can search any video by name, keyword and different categories in TED Talks application. The best feature of TED Talks application is "entertain me". Young students can choose the category which they are interested in and choose how much time they have. TED Talks application can make a good choice for young users. It makes young students watch some good video in limited time.

### 7.2 Dictionary.com

This is a dictionary application for searching words. Dictionary.com offers almost 2 million words, and these words make Dictionary.com application a good companion in the university environment. (Jacobs & Hyman 2010). Dictionary.com application can be used if the pad device does not connect to the Internet, and there are some additional features only available when the pad device connects to Wi-Fi.

The Dictionary.com also provides the audio pronunciation of the words. When young students find a new word, they can check the new word in this application and know the correct pronunciation. The amazing point of Dictionary.com is that when young students cannot spell a word correctly, they can pronounce the word to this application and it can help them find the word. Dictionary.com can search the synonyms for words, if young people want to find an alternative word to use; this application can help them to find it quickly.

### 7.3 Khan Academy

Khan Academy application is a good way to watch Khan Academy's e-library, which has more than 2700 videos. Khan Academy is a popular, good education service. It focuses on different fields of studies such as biology, chemistry, physics, humanities, world history, finance, programming, computer science fundamentals, and K-12 mathematics, which are accessible for free. (Horowitz 2012.)

This free access combined with the width and conversational tone, these programs provide an alternative to traditional classroom teaching in many complex subjects that students usually struggle with, such as science and mathematics. People can download videos from Khan Academy, and can watch the video offline. Young students can also upload their own video and get some credits for watching videos. This kind of learning experience can make young students think that it is a game. (Kolawole 2012.)

### 7.4 Instapaper Pro

Instapaper Pro application is a tool used to save webpages people are interested in, and later read these websites when they have time or are offline. (Costa 2010). If young people tag some stories that they search online, Instapaper Pro application provides a perfect bookmarking system for them. This enables them to read it offline on the pad device. (Haider 2012).

Instapaper Pro application enables people to change the text fonts, size and colours. Since, not all websites are perfectly suited for viewing on the pad device, the Instapaper Pro application arranges the website automatically in order to improve the usability.

### 7.5 Kindle

Kindle application is a tool used for reading books, newspapers, magazines, textbooks and PDFs on the pad device. Kindle application provides users a perfect, easy to use interface. People can read more than 1 million eBooks on the Kindle application. (Lardinois 2010). They can highlight, take notes and bookmark directly while using the application to read.

During a class, young people can listen to the teacher and take notes at the same time. This enables them to save time when reviewing the materials; they can find the important points very quickly. In addition, students can also read books from Kindle application anywhere and anytime.

## 8 FINANCIAL IMPLICATIONS OF USING THE PAD DEVICES IN KTUAS

Due to the increased portability of pad devices, the use of pad devices as learning tool is obvious. Despite the fact that they have some risks and challenges related to keyboard and storage capacity, these devices hold strong possibilities to work with increased efficiency with additional keyboards and accessories. Therefore, pad devices seem to be advisable devices to be used as learning tools in universities.

The costs required to implement pad devices as learning tools in KTUAS fall close to the cost of implementing laptops instead. However, the growing attraction of the generation Y towards pad devices can highly motivate students for their study. Pad devices are used as handheld devices, which most of time are with the users. This gives the opportunity to users to make maximum use of them for the desired purpose. The use of pad devices as a learning tool can therefore enhance the study process, as students can use such devices in their free time anywhere. Enhancements in students' study process can bring about better results, and further increase the university's reputation. Also, this can reduce the time and extra effort teachers sometimes need to put in for weak students, as students' progress with their study by spending more hours on it.

In addition, the maintenance costs of pad devices are lower than the maintenance costs of laptops or computers as components failure is less likely to happen in pad devices in comparison with the laptops or computers. As experienced in KTUAS, the amount of time and costs involved for the maintenance of computers and laptops are high. The implementation of pad devices as a learning tool in KTUAS has a possibility to reduce such costs.

Apple Ipad seems to have great inroads in schools. After the announcements of the iBooks Author software together with the iBooks textbook distribution method, a large number of iPads were noticed to be used for educational purpose. 1.5 million iPads together with 20,000 education applications were claimed to have been used in the year of the release of iBooks Author software. 1800 iPads were distributed to high school students in Zeeland Public Schools in Michigan. Also, 10,000 iPads were distributed among students in Chicago Public Schools. (iPod in school 2010.) These data show the growing interest of schools towards the use of iPad as an educational tool. Also, it justifies the financial implication of using such a device in schools.

Studies conducted in kindergarten schools show that there is significant progress in the students' motivation, engagement, and learning process due to the implementation of iPad. (iPad in school 2010.) Picture 13 shows Fourth graders in teacher Kristie Mahin's class at El Camino Creek Elementary School using their school issued iPads.



**Picture 13.** Fourth graders using iPads (iPad in school 2010)

By being inspired by this research, it seems plausible to implement pad devices as a learning tool in KTUAS. There is an opportunity that the use of pad devices can enhance the learning process and learning capacity of students in KTUAS. In addition, the implementation of pad devices as a learning tool does not require greater budget in comparison with the cost involved in implementing computers or laptops as learning tool. This drives a positive implication for implementing pad devices as learning tools in KTUAS both from the study point of view as well as from the financial point of view.

## 9 CONCLUSIONS

The main objectives of this thesis work are to study the use of the pad device as an education tool, to analyse the impact of the pad devices on generation Y, and to assess the financial implications of using the pad device in KTUAS.

This thesis work used survey research method to collect the information about the interest of the generation Y in using the pad device as a learning tool. To implement this method efficiently, a questionnaire was created using online survey tool available at <https://www.webpolsurveys.com/Home.aspx>. This questionnaire was distributed among 90 young students who fall under the generation Y. 46 of them replied the questionnaire. While analysing the answers of the questionnaire, it was realised that the majority of them had experience using pad devices even though only a few of them owned a pad device. Also, the easy portability of the pad devices seems to have increased the students' motivation and engagement in study, and has enhanced the study process. Even though there are some challenges in using the pad device, especially in terms of producing large text documents, these challenges can be overcome by implementing additional keyboards and accessories.

Based on the discussion and analysis about the use of the pad device as a learning tool present in this thesis, it seems to be advisable to use pad devices in KTUAS as learning tools. The financial implications of using such devices as learning tools also seems rather positive as the cost of implementing pad devices as learning tools is more or less the same in comparison with the cost involved in implementing computers or laptops as learning tools. Also, the maintenance costs of the pad devices are relatively lower than the maintenance costs of computers or laptops. This reduces the time and effort required for the maintenance. In addition, as students can progress with their study by spending more hours on the pad devices, it can reduce extra effort that teachers need to put in for weak students.

Therefore, based on the information gathered in this thesis and utilising the answers received from the questionnaire, the implementation of pad devices as learning tools in KTUAS is advised as it seems to be appropriate and justifiable both practically and financially.

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## APPENDICES

## BACKGROUND QUESTIONS

1 Age:  under 20  21-25  26-30  over 30

2 Gender:  female  male

3 Do you have a Pad-device e.g. iPad, Kindle or Galaxy?

Yes  No

If no, have you ever used a Pad-device?

Yes  No

## USABILTY

4 Do you think that the usability of a Pad-device is better compared with a computer?

Yes  No

5 Do you think using Pad-device enables you to accomplish tasks more quickly?

Yes  No

6 Do you think that Pad devices suit better for education than laptops?

Yes  No

7 Would it be important if the university uses Pad-devices as education tools?

- Yes      No

#### RATE OF USE

10 How often do you use your Pad device?

- Every day     4-6 times a week    2-3 times a week       Once a week    Fewer

11 How many hours do you use your Pad-device at one time?

- less than 1 hour    1 to 2 hours    2 to 4 hours    more than 4 hours

#### PAD-DEVICES AND EDUCATION

12 Do you use a Pad-device for education?

- Frequently    Never       Sometimes

13 What is the most significant benefit of using a Pad-device for education?

- Personalization, flexibility    Access to information    Cost (cheaper than computer)  
 More reliable than computers    More usable    Quicker

14 What is the most significant hurdle in using a Pad-device for education?

- Cost    Device management    Limited functionality (Keyboard/word processing)  
 Useless for education

15 Do you need help from current IT Staff of your school in configuring your Pad device or in setting the wireless network/Internet connection?

No

Yes, in configuring

Yes, in network settings

Yes, in other issue, \_\_\_\_\_

#### COSTS

16 Have you ever bought any applications?

Yes       No

If yes, give names, please:

\_\_\_\_\_

If no, give arguments, please:

\_\_\_\_\_

17 Do you think that parents would be willing to pay for the Pad device for their studying children?

Yes    No

18 Do you think that the school should provide Pad devices with access to wireless networks for free to students?

Yes No

#### MOST USED SERVICES AND APPLICATIONS

Multiple Choices

8 What services of Pad-device do you use?

Surfing the web E-mail E-books News Study Navigation

Social media Personal communication Entertainment

Camera or video Radio and TV Adult entertainment Bank application

Data security

Other \_\_\_\_\_

9 What application of Pad-device do you use regularly?

Google apps Maps Facebook Skype Twitter iLinc Moodle

Mahara E-mail E-reader Youtube Word processor Calendar Notes

Games Messages Dictionary iTunes or Spotify Ebay Photoshop

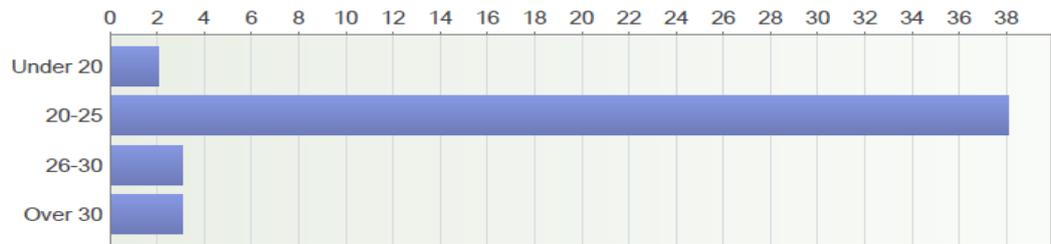
Settings

Other \_\_\_\_\_

### Pad device

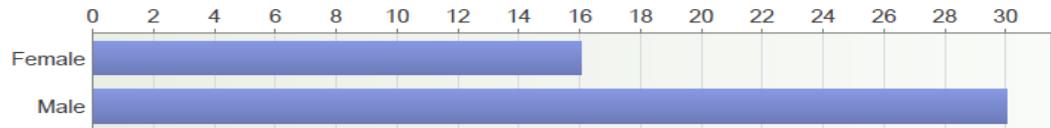
#### 1. Your age

Number of respondents: 46



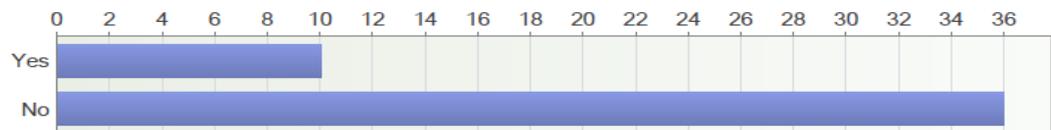
#### 2. What is your Gender?

Number of respondents: 46



#### 3. Do you have a Pad-device, like Ipad, Kindle or Galaxy?

Number of respondents: 46

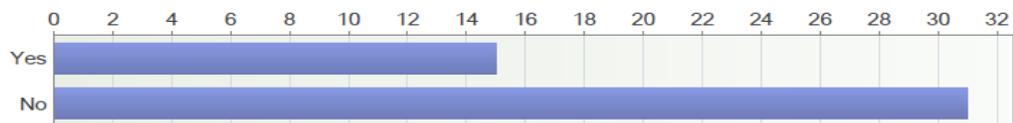


**4. If no, have you ever used a pad-device?**

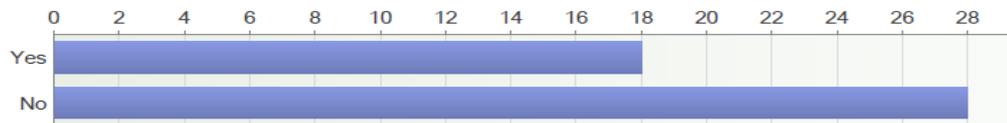
Number of respondents: 41

**5. Do you think that the usability of Pad-device is better compared with a computer?**

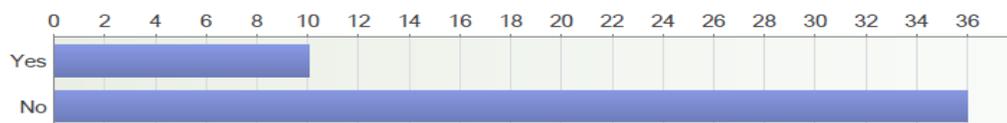
Number of respondents: 46

**6. Do you think using Pad-device enables you to accomplish tasks more quickly?**

Number of respondents: 46

**7. Do you think that Pad devices suit better for education than laptops?**

Number of respondents: 46



3 (8)

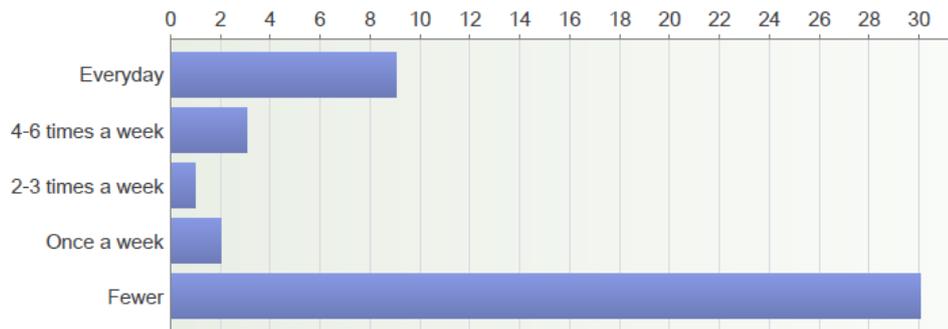
8. Would it be important and useful if the university uses Pad-devices as education tools?

Number of respondents: 46



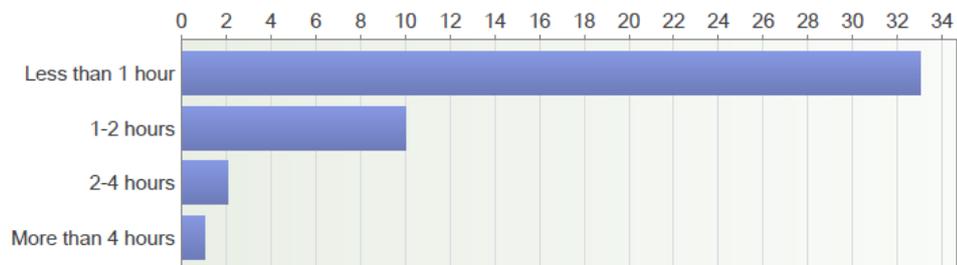
9. How often do you use your Pad device?

Number of respondents: 45



10. How many hours do you use your Pad-device at one time?

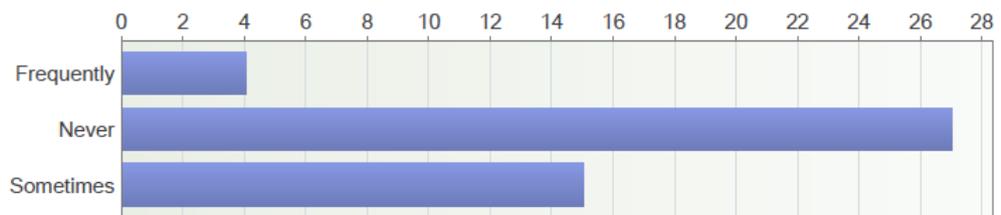
Number of respondents: 46



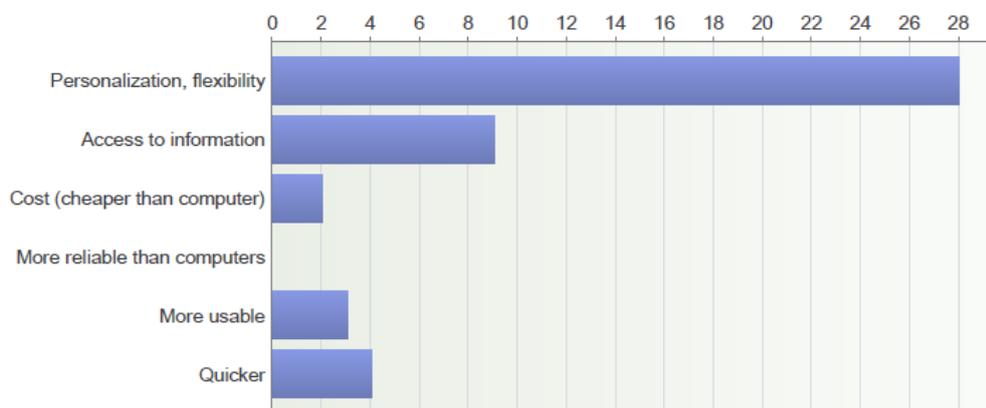
4 (8)

**11. Do you use a Pad-device for education?**

Number of respondents: 46

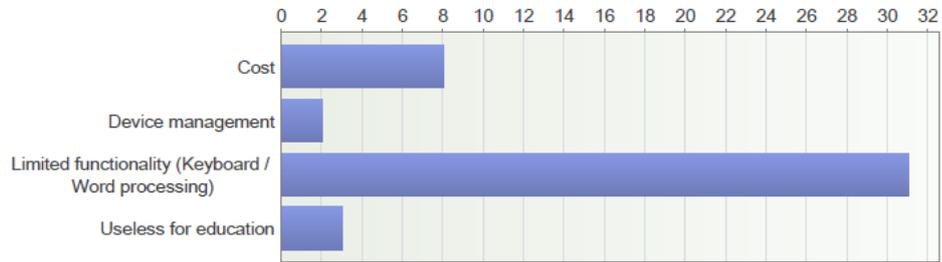
**12. What do you think is the most significant benefit of using a Pad-device for education?**

Number of respondents: 46



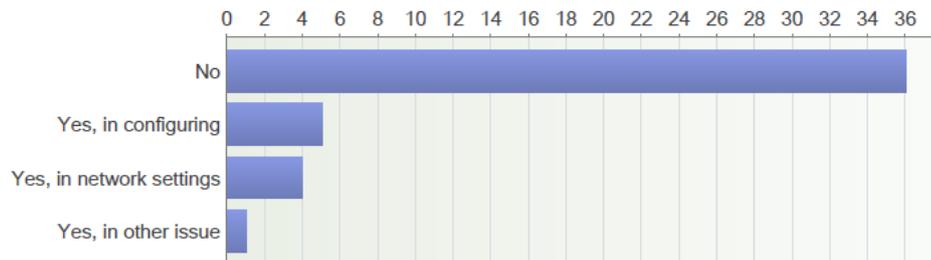
13. What do you think is the most significant hurdle in using a Pad-device for education?

Number of respondents: 44



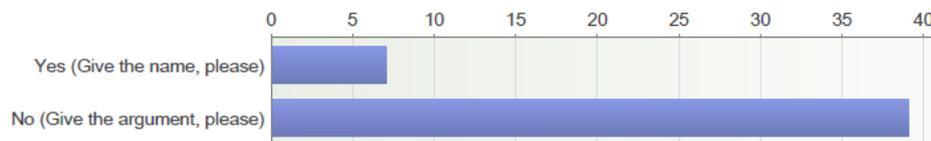
14. Do you need help from current IT Staff of your school in configuring your Pad device or in setting the wireless network/Internet connection?

Number of respondents: 46



15. Have you ever bought any applications?

Number of respondents: 46



Open text answers: Yes (Give the name, please)

- E-reader

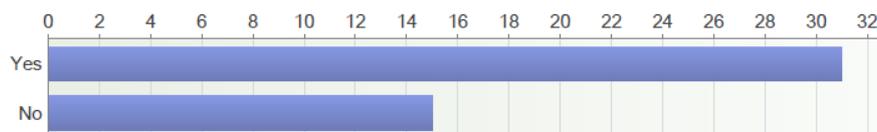
- Bui Le Duy
- Angry Birds
- skype
- Lingoets Dict
- IPHONE

**Open text answers: No (Give the argument, please)**

- Open source alternatives are always available.
- No need, all necessary are with the product.
- piracy
- used only free one
- I dont find it necessary to buy the full version.
- I don't need those applications
- I like free and open source applications
- They seem to be too expensive for me.
- Free applications were enough for me. but if i will find any useful paid application i will buy it
- I can download it
- I didnt need
- because i don't have a pad device
- i'm too greedy to pay for applications :D
- jailbreak
- not have a pad
- cuz dont have money to pay. more like download free one
- i don't own a pad
- I don't have Pad device
- costly
- free applications is enough

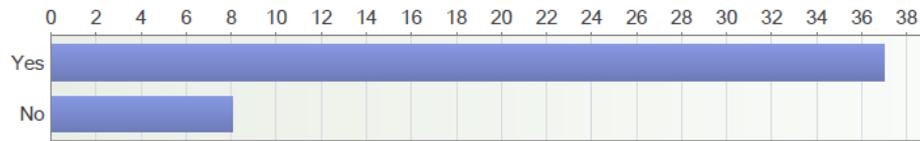
**16. Do you think that parents would be willing to pay for the Pad device for their studying children?**

Number of respondents: 46



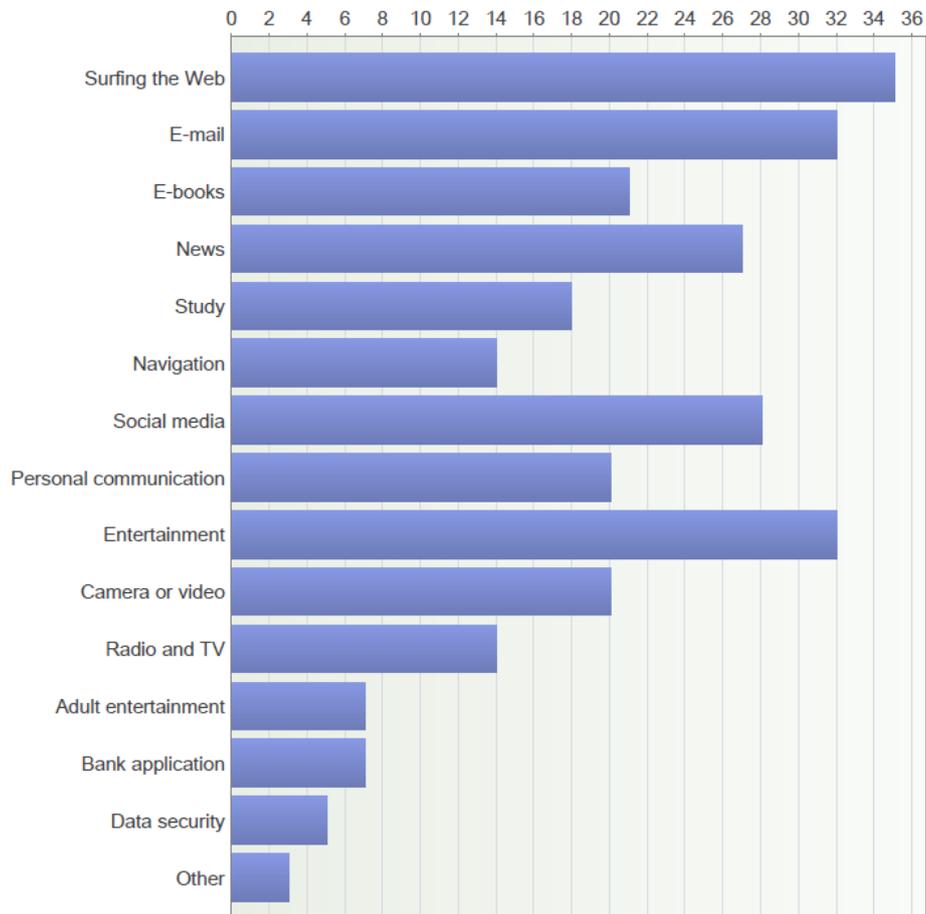
**17. Do you think that the school should provide Pad devices with access to wireless networks for free to students?**

Number of respondents: 45



### 18. What services of Pad-device do you use?

Number of respondents: 41



#### Open text answers: Other

- i don't use a freakin' pad device
- none

**19. What application of Pad-device do you use regularly?**

Number of respondents: 42

