A case study on how technology allows students to gain better skills and prepare them for transition to the real world

دراسة عن كيفية تأثير التكنولوجيا في تحصيل الطلاب وإعدادهم للانتقال إلى الحياة العملية.

by

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Dissertation submitted in fulfilment

of the requirements for the degree of

MASTER OF EDUCATION

at

The British University in Dubai

October 2018

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Abstract

The research study has been conducted in order to understand the impact of technological interventions, technology-oriented classrooms skills, and building levels among the students. It has also encountered the notion to measuring the extent to which technological methods prepare the students to face the real time, or professional world challenges. The study is accredited as the first initiative in the education sector of Dubai where it has been conducted at a school located in Dubai .A class of 24 students has been considered as the major area of study.

The study has adopted pragmatism paradigm where mixed method approach has been implemented by using survey questionnaires , and interviews as the data collection instruments, in order to compare the student's achievement levels in the last two years. As per the research findings, technology has the power to improve the communication between students and teachers.it is also makes the learning journey more meaningful and interesting. Teachers play the role of advisors and instructors when the students use technological tools to learn, that leads to an interesting learning environment.

نبذة مختصرة

أجريت الدراسة البحثية لفهم تأثير التدخلات التكنولوجية في الصفوف الموجهة نحو التكنولوجيا لبناء المهارات بين الطلاب ، وقياس مدى إعدادهم لمواجهة تحديات العالم الواقعية أو المهنية. وقد تم اعتماد هذه الدراسة كمبادرة أولى في قطاع التعليم في إمارة دبي ؛ حيث تم إجراؤها في إحدى مدارس الإمارة مع أحد الصفوف المكون من 24 طالباً ، باعتبارهم المجال الرئيسي للدراسة .

اعتمدت الدراسة (pragmatism paradigm) حيث تم تطبيق منهج الطرق المختلطة ، وذلك باستخدام استبيانات المسح ، والمقابلات كأدوات لجمع البيانات ؛ من أجل مقارنة مستوى إنجاز الطالب في العامين الماضيين.

Dedication

I dedicate this work to my beloved wife whose unconditional encouragement and support made it possible for me to complete this study. I wish to express my heartfelt love to my children Marwan and Mayar for coping with the undue paternal deprivation during the course of my study. To my family, I love you all.

I would like to express here the very thanks to my dissertation supervisor, Prof. Christopher Hill, The British University in Dubai, whose guidance, advice and patience have been immeasurable. Your encouragement and support have never faltered; thank you!

This work is also dedicated to my parents, who have always loved me unconditionally and whose good examples have taught me to work hard for the things that I aspire to achieve.

Last but not least, as **Robb Hobb** encloses her dedication:

"To caffeine and sugar, my companions through many a long night of writing."

Table of content

Table of Figures

LIST OF ABBREVIATIONS

Abbreviation	Full Form
KHDA	Knowledge and Human Development Authority
UAE	United Arab Emirates
ICT	Information and communications technology
AP	Academic Performance
TL	Technological learning
SP	Usage of smart phones
Sig.	Significance
Std.	Standard

Chapter 1

1. Introduction

Technology influences all the aspects of life regardless of the domain and geographical influences (Cunha, 2007). In the current era, technological interventions have dominated the classrooms aiding the students to adapt to the modern environment and gain such skills which can prepare them to meet the challenges of the professional life. Furthermore, technology-oriented learning environment foster critical thinking, problem solving, visualization and other intellectual skills of the students at the early ages which helps in transforming their mindset to a highly optimized level (Cunha, 2007). From teacher's perspective, technology has been infused into the lesson plans and has dominated the entire curriculum where the educators had to learn the application of variant software and other technology-based tools, techniques, processes and interventions in order to instill the skills among students in the classrooms. Students are now assigned technology-based assignments which include self-researching about the topic, creating PowerPoint presentations, designing the marketing materials for their projects and other classroom activities as well as utilize the audio recorders and video making devices in order to make their activities and assignment interesting. This technology trend is not confined to a particular class or school (Sargent & Matthews, 1997).

Technological interventions being introduced into the classrooms transform the conventional methods of learning into knowledge-based aspects. Many previous researchers have acknowledged the influential impact of technology on the entire learning process of students as well as the teaching methodologies (Best, 2001). Besides, knowledge centered perspectives of technological classroom, such tech interventions are focused on boosting the students centered

learning and teaching approach where students get a chance to showcase their interests, get out of their comfort zone and are comparatively more willing to explore deep about the domain, subjects or topics they deem to be interested in. Such freedom allows them to take responsibility of their learning and hence they gain competitive skills. Self-learned competitive skills and learned competencies outshine the students in both academic and professional world, improves their academic achievement and enable them to solve real time professional and practical problems in an efficient manner and with more interest without any outside pressures (Baylor & Ritchie, 2002).

Student centers approach is found to be more effective if combined with the skills building approach. Dwyer et al (1991) conducted an extensive research and found that computer aided class room environments improve collaboration among the students, fosters team work in all the subjects and domains, however there is a dire need for the teachers to take such strategic and proactive measures and incorporate different methods of teaching through varied activities and interventions which will eventually improve the level of learning and skills development among the students. Many researchers have claimed the affective use of digital technologies in making the students more active, independent and involved aiding in building the knowledge-based communities with a high level of thinking skills (Roman, et al., 2010). Provision of the opportunity of direct exploration, independent expression and freedom to experience are accredited as major contributors to skills development, transformation and enhancement helping the students in the classrooms to transition from being learners to collaborators (Al-Kaabi & Ali, 2015).

This chapter presents rational of the study in order to enable the reader to understand the context and aims of the present study. Furthermore, research questions, objectives and conceptual framework has been presented in order to formulate the theoretical grounding of the study.

Furthermore, definitions of variables have been discussed. Finally, the chapter ends with explaining the entire thesis structure in order to ease the tracking of the study.

1.1. Rational of the study:

The present study aims to understand the impact of technological interventions and technology-oriented classrooms on the level of skills building among the students as well as measuring the extent to which technological methods enable students to meet the real time or professional challenges. The study has been conducted at a school located in Dubai where a class of 24 students has been considered as the major area of study. The schools is named X school in the study.

The presented study is accredited as the first initiative in the education sector which is aimed at understanding the impact of technology on the skills level of students while directing them towards facing and embracing the real-world challenges in the UAE. The researcher has been working in the school for many years which has aided in data collection. The main reason of conducting the present research is the introduction to technology in the classroom last year where a comparison will be made between the newly adopted technology-based methods and the conventional learning strategies through analyzing the academic results and level of student's achievement in the last two years.

1.2. Research questions:

The research questions which have been devised for the present study have been mentioned below:

RQ1: What are the results of using technology in classroom? (Connection between academic achievements and life skills)

RQ2: What are the benefits of using technology on students' skills?

RQ3: What are the pros of using technology on students' skills?

RQ4: Can technology usage prepare students to the real-life world?

1.3. Research objectives:

Major identified objectives of the present study are as follows:

- To understand the impact of technology on the academic achievement and level of skills building of students in the classroom.

- To explore the major benefits of inculcating technological interventions for skills building among the classroom students.

- To present an analysis about the positive aspects of technology-oriented classrooms.

- To assess whether technology aided classroom environment prepares the students for practical or professional world.

- To add up more relevant data to Innovation and technology, aptitude building and face difficulties.

- To carve a path way for the future researchers to extend and broaden the horizon of the subjected study domain.

1.4. Industrial overview:

Education is redefined in the schools of Dubai where the students have been prone to technology-based learning patterns in order to foster the process of learning among them. Traditional ways of

teaching the students using the chalks or markers on the white and black boards have been replaced with the digitized solutions (Cunha, 2007). Schools in the UAE have adapted technology into their curriculum for several years now, but a study has revealed that 52 per cent of schools have fully integrated them in classrooms while others are not using technology till now. The schools where the shift has been introduced have utilized giant and interactive touch boards to make the learning interesting for the students and hence has enabled the teachers to streamline their course plans in the revolutionized classrooms. However, only 28 per cent of schools have built technology into the curriculum so far. The markets in the other developed countries have entirely shifted their systems and education curriculum to digitized means, however this trend is on the verge of reaching UAE market in a few years (EL-SAADI, 2017). "Since students and researchers spend several hours of the day in front of the screen, we are trying to incorporate features that are friendly to the eyes. The education sector in the region is pioneering new ways to integrate technology in classroom activities that aims to provide better interactivity between teachers and students" (Bakshi, 2017).

1.5. Definitions

This section details the definition of the variables which have been used in the study in order to provide an understanding about their conceptual contexts.

1.5.1. Tech-classrooms:

Tech classrooms refer to technology-based environment of the classrooms with computer aided systems, boards and learning patterns in order to make the learning interactive and interesting for the students (Shaw, 2001).

1.5.2. Professional performance

Professional performance is the after effect of the technological interventions in learning and hence refer to enabling the students and building the capacity in them to deal with the real-world practical problems and propose strategic solutions to address the concerns.

1.5.3. Skills building

Skills building is another after effect of technological interventions in the education sector where students get equipped with certain skills set including problem solving, analytical and high order thinking skills which make them competitive and boost their performance.

1.6. Thesis Structure

The research is divided into different sections. After the introduction, section two presents the literary analysis of the subjected study while referring to different relevant journals, articles, published papers, handbooks and other verified content from credible websites in order to build the theoretical foundation of the study. Section three discusses the methodological interventions being encountered in this research followed by the analysis and discussion section in order to answer the devised research questions. Finally, concluding summary has been presented as the final words of the present study.

Chapter 2

2. Literature Review:

This section of literature review is focused on providing the readers an understanding on the previous researches and studies which have been conducted concerning the impact of technological interventions in the classrooms. Initially, the chapter discusses an integration of technology in the education sector while referring to the researches and findings of previous scholars. Second, a detailed description about the conventional and modern ways of teaching have been discussed followed by an evaluation of classrooms as a technical hub. Furthermore, an evaluation of the impact of technology on the skills development has been presented. The KHDA model adds to the value of this chapter by giving an insight about the inspection framework being followed in the UAE. Lastly, the chapter discusses the role of technology-oriented classrooms in preparing the students for a professional world and hence it covers all the aspects concerning the variables of the subjected research with a validation from the literature.

2.1 Technology and Education sector:

Technological advancement has emerged as one of the latest trends prevailing in all the industries. "Technological inculcation has certainly transformed all the aspects of daily lives" (Quintana-García & Benavides-Velasco, 2008). According to a research being conducted in order to understand the role of ICT advances within the education sector, it has been concluded that technology proliferation has played an integral role in reshaping the education sector. It has contributed as a vital factor in optimizing the classroom environment undergoing a transition from conventional methods to technology-based learning and teaching environments in order to instill competencies, develop skills and prepare the students for real professional world (Angeli &

Valanides, 2009). Technology oriented classroom environment develops a coherence between academia and the real-world practices while enabling the students to co-op with the changing industry requirements and trends. Given the fact that educational technology is not bound by a single means and that is using computer (Scalese, et al., 2008). It includes a broader range of interactive modes encompassing video conferencing, electronic whiteboards and many more matching the learning and teaching patterns or goals of the educational institutions along with considering the technological appropriateness for the students about technology utilizing in the classroom (Dillenbourg & Jermann, 2010).

Introducing technology into the classrooms has been studied by numerous researchers and each of the studies sheds light on the significant role of technology in shaping the student's learning and behavior development patterns. which include improved economic competitiveness of students (Dillenbourg & Jermann, 2010), equal access to technological opportunities (Warschauer & Matuchniak, 2010), increased level of student's achievement in academics (Nora & Snyder, 2008), high level of student's engagement in the class (Roehl, et al., 2013), improvement in the learning and skills development competencies which enhance the student's abilities to follow the instructions in a more efficient and effective manner (Sadik, 2008).

"Technology enriched environment in the classrooms are vital for fostering the students' developmental aptitude and equip them with high level thinking and analyzing skills" (Dillenbourg & Jermann, 2010). The provision of such technology oriented classrooms aid the academicians and teachers to shape the student's lives, instill such varying skills which improve the competency level to an inflected point and hence prepare them to embrace the challenges and hindrances of the practical and professional world (Jackson, 2009). The need to develop the students for practical world through the inculcation of technology is considered to be a recurring approach by

8

implementing the assumed theme for practicing educational reforms (Nora & Snyder, 2008). Another research demonstrated that the prevailing technological advancement and revolutionary age centered on information has a very significant yet critical relationship with fostering the problem solving skills and critical evaluation techniques in order to promote high level thinking skills and enrich the intellectual capability of the students (Scalese, et al., 2008). Cuban et al (2001) explained that it is the need of the hour to utilize technology-based tools, techniques and instructional patterns to teach the students about ways to create coherence with the information age and learn the methods to search, manage, utilize, critique, review and translate the information into useful knowledge to improve the learning curve.

2.2 Conventional vs. constructivism modes:

Traditional modes of teaching the students are based on the manual methods which, as a requirement of technologically advanced era, has been replaced by constructed approaches following the tech inclusion into the class rooms to foster the process of skills development. The traditional modes were famous till the era of late 1980's (Kalaian, 2017) which resulted in the increased level of reading and math skills. But about 61% of the high school students couldn't understand the high level and complex materials when they were being prone to it, and were witnessed to have the limited skills and capability to portray their competencies to a very basic level without having any knowledge about the chronological aspects due to the lack of their exposure towards literature (Kalaian, 2017).

In accordance with the current studies being conducted in 2008 devising the new teaching policies while undertaking technological and simulation aspects develop the cognitive skills amongst the students, stimulates their thought patterns and hence instills skills and is now termed

ad constructivism (Scalese, et al., 2008) . The research further states that the use of technology transforms the student's ideas and viewpoints into more diversified and broad perspective which is new, unique and innovative. According to the researchers and studies being conducted by different academic experts including Kalain (2017); McGuire (2018); Kiraly (2014); Kaya (2015) clearly demonstrate that technology-oriented classroom environment provides the students with a lot more opportunities which are further specified as follows:

- Access to the complex and difficult material or academic content with an availability to plenty of data for practicing and drilling.

- Access to diversified information sources which will help the students to gain such necessary skills which are required for skills development and practical implementation.

- Technological aspects influence brain and hence triggers the human brain which enables the students to create a visualization pertaining both easy and difficult questions (McGuire, 2018).

- Students get to do the on hand real time practice along with obtaining constructive feedback which helps them to identify areas of improvement.

- Students get familiar with the technological tools and software which help them in the future academic and employment career while giving them a competitive edge.

- Collaboration, critical thinking skills, communication and well-constructed writing skills along with improved problem solving are developed among the students due to the technology-based learning activities (Kiraly, 2014).

2.3 Technological classroom environment as skills hub:

"Technology inculcation in the classrooms helps in building the knowledge-based classrooms" (Van der Kleij, et al., 2015). These researchers also claimed the influential impact of computers on the learning and skills building process. Computer aided classrooms are more focused towards the students' individualized learning. Tech oriented environment in the classrooms encourages brain storming and fostering alternative methods of solving the problems (Belland, 2017).

Learning turns into skills when effectively utilized. Considering the industry requirement, globalization and the emerging technological trend worldwide necessitate the establishment of technological classroom environment for the students to improve the level of engagement, mutual understanding, collaboration and learning patterns (Nora & Snyder, 2008). Van der Kleij (2015) made a significant contribution by suggesting the use of computer aided systems and classroom structures to educate the students and instill critical thinking and analyzing skills in them. Similarly the researcher identified the independent nature of both technology and the subjects' nature where computer aided tools can help in establishing and integration between them at all the levels by adopting a practical approach to equip the students with the skill of their interest (Van der Kleij, et al., 2015).

2.4 Tech-enrichment – A key to develop skilled and professionals:

Cognitive skills are termed as the mental or thinking abilities of students which they learn in the classrooms. Reading, writing thinking and analytical skills are mandatory for successful learning at schools which help in understanding and remembering the concepts and logics in order to solve problems (Goldin, 2018). Weakness in any of these skills make the students struggle in

their entire academic career. Concentrated approach is categorized as one of such cognitive abilities which can certainly be improved by making the students involved and practice the sustained attention. Lacking concentration puts an impact on other cognitive areas too effecting their overall academic performance at schools (West, et al., 2016).

According to the research being conducted by West et al (2016), one of the main purposes of academic career is to prepare the students for the real professional world by instilling cognitive abilities and high order thinking skills in them which is considered as a continuous notion. Saido (2018) has currently studied high order thinking skills and hence identified that, in the current swift emergence trend of technological and information age, high order thinking and cognitive abilities are considered as one of the most crucial yet important factor in order to gain future success through promoting tech based learning environment. Hence the exposure of students to such environments which will engage them into the inflected level of thinking taxonomy is quite important (Nora & Snyder, 2008). Previous researches which have been conducted in the late 90's (Harris, 1996; Kelman, 1989, Solomon, 1990) have also backed the concept and validated that the students should have the knowledge about the use of technological resources, be familiar with the process of extracting, filtering and analyzing information in order to develop an insightful visualization which aids in effective decision making. Technological exposure in the classrooms enables the student to access, manage, evaluate, criticize, refer and most importantly transform the gained knowledge into useable practical contexts (Kalaian, 2017). Keeping in view the above notion, high level thinking abilities are developed as one of the most vital instructional area through the use of technology in classrooms.

Computer is one of the most effective tool which optimizes the classroom environment and develops an orchestrated environment which fosters learning ad skills building. According to the

12

recent studies, the extent to which students are engaged in the activities pertaining problem solving and critical thinking skills is raised to the highest level due to the computer aided environments (Nora & Snyder, 2008). The current studies and researches being conducted by academicians have widely validated the need to extend the integrated approach between technology and education while being focused towards striving to establish such a learning environment which evolves into the critical thinking dispositions amongst the students (Dillenbourg & Jermann, 2010) ensuring the provision of active learning modules, complex, practical and challenging assignments, reasoned problem solving scenarios, and the restructured teaching material enriched with real time situations in order to increase the pace of high order thinking skills development (Saido, 2018).

Rowley (2018) and Gould (2017) have focused on reflection focused activities and their relationship with the skills development amongst students ponder upon providing an opportunity to the students to self-evaluate their progress in the classroom and identify the areas of improvement. Technology inclusion in the classroom while doing reflective activities increases the confidence level of students and raises their self-awareness. Students can learn to use Google doc and maintain journal of their reflection activities in the Google drive while keeping a track record of what they have been learning in the class (Gould, 2017). Doing so, aids them in implementing the real professional world practices. Furthermore, it enhances their record keeping, updating and data management skills at school level (Rowley, 2018).

Another aspect of skill building among the students through computer aided solutions in the classroom is through developing peer review and discussion forums online while allowing the students to share their ideas and thoughts about a particular topic extracted from academic module. Such online discussions help the students to review the comments and posts of their fellow students and encourages them to either support or present an argument relevant to any post. (Goldin, 2018).

Such online question and answer sessions triggers the student's though pattern and improve their critical thinking skills while enabling them to look into varying dimensions of the subjected topic. This activity also boosts the confidence level of students and foster their ability to present their point of view backed by logic and validated reasoning where referencing plays a vital role. All such activities develop the students academically and professionally (Belland, 2017).

Researches which include Sunderland (2017), Robin (2015) and Niemi (2016) have clearly identified digital story telling as another emerging concept which majority of schools have been opting as a major technological method of skills building amongst the students along with improving the learning curve. It refers to explaining a concept or logic through making the use of digital media in order to make the session interesting and interactive (Sunderland, 2017). Videos, audio clips and imageries are a few vital contributors using which personal narratives, documented events and the outlined stories constructs can be well analyzed. Students learn to use power point for presentation and Google documents as an online tool to maintain the data base of course content. In short, critical thinking and cognition are un-matching skills which are being further developed due to technology oriented classroom environment at schools (Niemi, 2016). Given the fact that teachers and academic instructors are equally important contributors in order to formulate the skill based ideas, implement in schools and achieve the set objectives or goals. "Technology is a vital and significant tool to enhance such activities amongst students" (Robin, 2015).

Connecting classrooms to the professional world is another benefit of enriching the students to the modern technologies in order to bridge the gap between academia and industry (Roehl, et al., 2013). Researches have proved that the prospective revision of lesson plans in a way that they incorporate the professional world into the curriculum enhances the student's knowledge about the industries (Kalaian, 2017), develops their abilities to understand the practical concerns,

brainstorm and suggest the recommendations along with witnessing an optimized and experiential learning (Dillenbourg & Jermann, 2010) resulting in creative, imaginative, knowledge persuasion, extraction, implementation and insightful skills and boosting the power of connectivity in the current age of information (Goldin, 2018)

2.5 KHDA Framework – School inspection structural framework:

UAE has been striving hard in order to establish a strong and well-structured curriculum design and school inspection system which has been formulated several years from now. Currently, UAE has been successful in incorporating systematic quality management in the education sector of the country directed towards transitioning of the academia and specifically schools towards quality, efficiency along with maintaining equity (Al-Kaabi & Ali, 2015). Although the term quality assurance is still emerging in Dubai's academic sector, however the concept has certainly gained significant success in implementing the inspection and other evaluation tools (Allais, 2009). Technological advancement taking over the countries worldwide pushed the UAE government to co-op with the modern trends and hence has adapted technology oriented or computer aided environment in the classrooms (EL-SAADI, 2017).

According to a research report of 2017, technological integration has been a success in almost 52% of the UAE schools being focused towards developing the learning environment and hence focusing on instilling such skills and competencies in the students which will prepare them for the emerging global challenges of the professional world (Mariam, 2017). Furthermore, the percentage of such schools which has integrated technology into the curriculum is 28% where 80% of the academicians support the envisioned approach of enhancing the classrooms environments and learning experience through technology inclusion into education (Mariam, 2017).

Being developed in 2007, by the Executive Council of UAE government, KHDA framework and the Dubai inspection Bureau is recognized as the structure comprehending standard of education which private schools have been instructed to follow as a part of the improved learning policy in the education sector (Government of Dubai, 2007). The systematic approach involved diversified approaches which include annual inspection, meeting, focus group session and most importantly feedback surveys in order to ensure the practical implementation of defined standards, identification of gaps and adhere to continuous improvement while maintaining the quality of education in UAE (Government of Dubai, 2007).

KDHA framework validates the contribution of the governmental educational authorities in strengthening the quality and standardization in the education system of Dubai through continuous transformation and focus on improving the performance (EL-SAADI, 2017). Numerous research scholars specializing in the education sector have backed the structurally formulated aspects to improved education system through KDHA validating the fact that such systems which have been designed to empower knowledge development in Dubai as being envisioned by Sheikh Rashid Al-Maktom certainly can be categorized as the contributing factors towards the improved knowledge capital of the country (Faubert, 2009), and hence putting a positive impact on boosting the country's knowledge economy to an inflected point (Gustafsson, et al., 2015). Besides that, Education Director of Microsoft Gulf also stated the main role of the academicians and the educationists in promoting and advocating the dire need of incorporating skills amongst the students related to Scientific, Engineering, Technological and Mathematical skills by ensuring the recognition to include technological perspectives in order to enhance and respectively improve the overall learning experience and engagement level of the students (Mariam, 2017). In short, Dubai, by following the global market trends focused towards improving

the learning environment of the schools and educational reforms as envisioned by the Partnership for 21st century skills has demonstrated an integration of skills and knowledge in the schools to develop competent and skilled young people to form the pillars of the nation is future.

Considering the above researches, journals, articles and handbooks being published by renowned industry scholars, this research aims to study the extent to which technology oriented classroom environments can instill skills in the students and develop them to meet the progressive professional challenged in the real-world through familiarizing them with the modern practices and approaches by following the improved quality standardization conduct as advised by the government.

Chapter 3

3. Methodology

3.1 Introduction

The primary focus of research, regardless of the domain, is exploration investigation or extension of any research topic in order to fill the identified gap in the existing studies. Both the contributory and educational aspects of conducting a particular research are always taken into account (Flick, 2015). Research is usually divided into several inters related but distinct and distinguished components, accumulation of which in an effective and impactful manner eventually results in the successful research. Research is defined as a process of exploring the answers to devised research questions considering the validity and reliability aspects being backed by the literary analysis of the previous studies which have been conducted in a particular domain so far (Glesne, 2015). Methodology of the research is one of such vital constituents which reflects the quality and reliability level of the entire research or study. It further helps the reader to have an idea about the processes and methods which have been utilized in order to answer the highlighted research questions whilst measuring the appropriateness of tools and techniques being used for conducting the study (Flick, 2015). Technology and skills building among the students is an emerging and one of the most important topics to be explored to its maximum capacity (Wentzel, 2015). UAE is considered to have one of the strongest and well-structured educational systems globally and hence the need to assess the impact of technology oriented classroom on the level or skills and competencies development among the students becomes highly important (Awofeso, Hassan, & Hamidi, 2016).

This chapter details the interventions, tools, techniques, and processes which have been adopted in order to explore the impact of technological orientation in the classrooms on skills building among the students. The chapter begins with an explanation of the research design along with detailing the incorporated research steps (Glesne, 2015). It then presents a summary of data collection methods. Likewise an explanation about the research instruments i.e. questionnaires and interviews have been presented in the following section. Furthermore, a description about the research population and sample has been mentioned. Finally, it reflects the pilot testing method being adopted in order to ensure the reliability and validity of the study followed by ethical consideration and the summary of the entire chapter in order to ease the tracking procedure for the reader. In brief, this chapter is the key to the entire research which puts forth the philosophical underpinnings of the research methods being adopted along with detailing the applicability of the selected techniques and tools.

As mentioned above, this research is focused on studying the impact of technological interventions into the classroom on the level of skills building amongst the students in UAE. The research entails a mixed method approach; the respective details have been mentioned in the following sections of this chapter. In brief, this chapter forms the conceptual grounding of the whole research by answering the questions about data collection and analysis methods to enhance the understandability level of the readers.

3.2   Research design

This research is focused on education sector where numerous researches have been conducted so far pertaining the effect of technological advancement from different perspectives in the academic sector of UAE. Most of the researches, as mentioned in the literature studies the

broader aspects where they identified generalized benefits of technological inculcation in the classrooms. However, no studies have been conducted to assess and explore the extent to which technological emergence and its integration with the educational curriculum designed for student on the level of skills building among them. Keeping in view the specified notion, this research intends to bridge this research gap through conducting research in the subjected field. Variety of sources which include journals, published articles, books and content from the government websites have been used in order to formulate the conceptual structure of the study and devise research questions which best explain the research problem and validate the need to dig into this domain, identify the target population to further generalize the results (Vannest & Ninci, 2015). Researcher understands the vitality of a good and well-designed methodology and hence has given extra attention to this section in order to ensure the positive contributory aspects of the study (Flick, 2015) into practical educational field while focusing on classrooms at school level in UAE.

Research paradigms assist in designing the structural framework of the research for both academic and professional researchers and theorists referring to the collection of varied beliefs, aspects and philosophical agreements regarding the research interventions which have been widely accepted by the scientists in order to analyze the research problem in the best possible manner (Antwi & Hamza, 2015). While designing the methodological aspects of the research, paradigms act as a structured guideline where the framework which best fits the research is selected aiming to improve the overall effectiveness of the study. Right selection of research paradigm is the most critical yet important part for the researchers while formulating the research design (Antwi & Hamza, 2015). The three paradigms which include positivism, interpretivism and pragmatism have been considered before selecting the intervention which seems to be aligned with the present research. Positivism follows the objective and abstract approach whereas interpretivism is focused

on the subjective and behavioral aspects (Van-Merriënboer & De Bruin, 2014). The studies which require to include both objective and subjective notions adopt pragmatism paradigm which is referred as mix method approach.

This research is particularly focused on assessing and analyzing what impact technological advancement in the classrooms leave on students' level of skills building and hence prepare them to face and combat the real-world challenges where the viewpoints of the teachers of 24 students form a school in Dubai will be taken into account for further analysis and case study development. Since the school introduced technology in the classroom in the present year, therefore it is important to compare and analyze the skills building level of both the years due to the significant transition from conventional to modern and technology adapted teaching methods in the classrooms. In order to get an insight about the subjected topic, the researcher has intended to collect the data through both questionnaires and interviewing method. The designated integration of objective and subjective considerations clearly validates the use of mixed method approach following the pragmatism paradigm in order to conduct this research study. The selection of mixed method approach combines both quantitative and qualitative aspects considering the objective as well as behavior aspects of the respondents (Van-Merriënboer & De Bruin, 2014). Furthermore, it will broaden the research horizon while reducing the limitations of using either of positivism or interpretive paradigm (Hussein, 2015). Quantitative data adheres to the objective aspects while enriching the collected data with numerical underpinnings whereas qualitative aspects will aid in analyzing the quantitative data in a better manner through considering the subjective behaviors and viewpoints of the targeted respondents in order to ensure the reduction of biased attitudes (Morgan, 2014). Likewise, mixed method approach provides the corroboration of the research results, ensures validity of the findings and assists the researcher in clarifying any potential

contradictions and unexpected findings (Rescher, 2017). Although mix method is a bit complex, challenging and time taking approach, however, generalization of the research findings becomes more easily and hence the explanation of causal processes within the context of research findings is considered to be more reliable and valid as compared to following either of the quantitative or qualitative research approaches in order to answer the structured research questions (Creswell, 2017).

This research has adopted a convergent mixed approach in order to collect the data where quantitative and qualitative data has been collected in a parallel manner. Similarly, both quantitative and qualitative data has been analyzed, compared an integrated to visualize the conformity of disconformity of results (Creswell, 2017). The approach has been recommended by many researchers as it provides a detailed insight about the results and assists the researcher in visualizing multiple aspects in a better way (Awofeso, Hassan, & Hamidi, 2016). Following
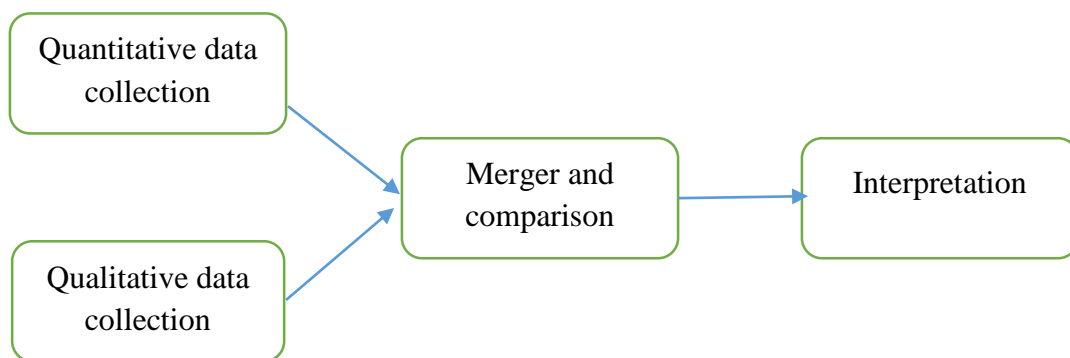
Figure 1

diagram clearly represents the convergent data collection approach adopted to conduct this study.

Research design for this study is presented below in figure 2 which clearly states that the researcher opts for both quantitative and qualitative approach for data collection where the first one utilizes questionnaires and the later refers to the interview along with open ended question

which has been included into the questionnaire. The questionnaire and interview of the teachers of X in Dubai have been conducted in one go by following the convergent method as mentioned above.

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┌──────────┐        ┌────────────────┐        ┌────────────────────┐
│          │        │  Quantitative  │────────│   Questionnaire    │
│          │        └────────────────┘        └────────────────────┘
│  Mixed   │                                  ┌────────────────────┐
│  Method  │                                  │ Questionnaire (Open│
│          │        ┌────────────────┐        │  ended question)   │
│          │        │   Qualitative  │────────├────────────────────┤
│          │        └────────────────┘        │     Interview      │
└──────────┘                                  └────────────────────┘
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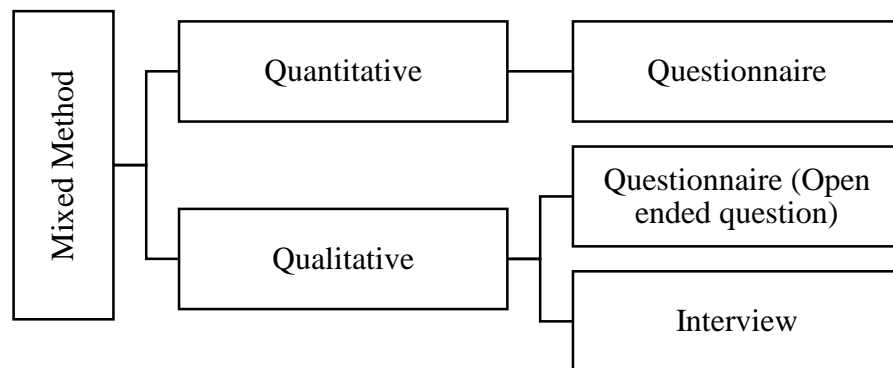
Figure 2 – Research design

3.3   Data collection frame

Data collection frame consists of taking the informed consent from the school management and the participants i.e. teachers in order to ensure their volunteer participation in the research study. The researcher has been working in the selected school as a teacher which made the data collection procedure much easier and aided in reaching to the research participants. The consent form has been designed to follow the informed consent policy (Dawson & Kass, 2005) which has been got signed by the school management and the teachers for taking part into the research work. 50 Questionnaires have been distributed amongst the teachers as the teachers are the participants who can measure the progress in students' skills and the questionnaires were collected back at the same time. Similarly, the interview took about 25 minutes which was recorded using an audio

recorder after taking the approval from the participants and ensuring them to maintain the confidentiality in terms of identification while conducting the study. The interview and data collection through questionnaire happened at the same time which saved a lot of researcher's time and cost and hence enabled the researcher to shift the entire focus on analyzing the data in ample time. The participants were given questionnaires and interview questions before hand in order to let them have a clear and in depth understanding about the research which helped the researcher in getting quick yet composed and well-structured responses and hence the strategy contributed positively into the research.

3.4   Data Collection Instruments

As mentioned in the previous section, mixed method approach has been used while conducting the study by using questionnaire and interviews as data collection tools. The selected instruments helped the researcher in gathering the data quite easily with less pressure and hence the researcher attained comparatively more efficacy in limited time (Antwi & Hamza, 2015). This, in addition, contributes to the reliability and validity level of this research (Hussein, 2015) aiming to understand the impact of tech-integration into the classrooms on skill building level of students and hence preparing them for professional world. The following sections give the description of research instruments which have been used in this study for data collection purposes.

3.4.1   Questionnaire:

Questionnaires are the widely used instrument for conducting surveys about any research topic and obtain an objective view point from the respondents (Buck & Lehto, 2007). Furthermore, they deem to be scalable, cater large number of audience, are easy to do the analysis due to quantified results, adhere to respondent's anonymity and cover all the respective points of the

research topic. Although questionnaires are efficient and cost effective in nature however, the chances of dishonesty, unconscious responses and skipped questions significantly increase (Buck & Lehto, 2007). Moreover, the issue of biasedness might arise due to the objectivity of the response and hence a gap between what has been responded and what has been analyzed or interpreted might increase (Creswell, 2017).

Since the present study has utilized questionnaires as one of the data collection tools. The questions have been adapted from different research papers, journals, articles and a few handbooks which have been consulted for the literary analysis and gap identification following the research perspectives. A few of them include Rogers (1983; 1995), Wood et al (2006), Anderson and Ronnkvist (1998), Becker et al (1999), Al – Menayes (2014) and a few more which have been conducted in the similar domain assessing the issue of technological interventions into education sector and its significant impact on academic achievement, performance and learning etc.

Questionnaire which has been devised for this study begins with am addressing statement which clearly defines the purpose of the study for the respondents. First section caters demographics where the questions related to gender, age, social class and their perception about themselves have been asked to get an understanding about the demographics of the respondents. Section two includes 5-point Likert scale-based questions related to the use of technology and its impact on skills building level among students in the classrooms. The 5-points Likert scale defines the degree of agreeableness of the respondents with the posed questions where 1 represents strongly disagree, 2 stands for disagree, 3 refers to neutral opinion, 4 is termed as agree and 5 depicts the highest degree of agreeableness referring to strongly agree. There are 10 statements which have been included catering the usage of smart tablets in the class addressing the efficiency, assistance and the teacher's degree of likeability about using smart tablets for classroom teaching.

The next subsection contains 5 questions related to the impact of technological integration into the classroom on the academic achievement and skills building level of the students which helps them to be prepared for the challenging professional life. Likewise, 6 statements have been added which cover the varying perspectives related to the integration of technology and education by taking into account relative effectiveness, improved performance levels, professional development, student's learning curve and overall learning and teaching experience. Next section covers technological innovation complexity and tech learning aspect where 3 statements have been added to understand the relationship between technology and complexity of innovation. Finally, an additional comments section has been added to allow the respondents share their feedback, viewpoints, suggestions or any recommendations.

The researcher clearly understands the importance and vitality of the research instrument and has ensured the use of simple yet self-explanatory statements and has avoided industry specific jargons. The questionnaire has been designed using word document making it easy for the researcher to analyze and interpret the data using IBM's SPSS statistical software for the evaluation of collected data.

3.4.2 Interviews:

The qualitative research instrument which has been selected in order to conduct the research and cover the subjective aspects of the study is through interviewing the teachers of the school in Dubai. Since the school has introduced technology-based classrooms for enhancing the students' learning experience in the present year (Creswell, 2017). So, from researcher's point of view, teachers have been identified as the most suitable participant for this research in order to compare the skill building level of students after analyzing the degrees of skills building through

conventional and technology-oriented methods. In contrast to using the survey method through designed questionnaire for the teachers, interviews have provided the researcher a subjective perspective of the technological intervention being adapted into the classrooms and hence have aided in better analysis of the quantitative data in relation to qualitative modes while giving a chance to the teachers to share their views, opinions, ideas, personal and professional experiences in order to assist the researcher in the process of visualizing the study results in a more structured manner (Creswell, 2017). Same journals, articles and handbooks have been used in order to formulate the interview questions for the teachers in order to yield enriched and responsive material. However, since interviewing is a time taking process hence it has been categorized as a challenge for the researcher (Buck & Lehto, 2007).

One of the primary aspect which has been taken into account by the researcher while formulating interviewing questions for the teachers has been the assurance of designing minimum number of questions covering majority of aspects in very limited time of 20 to 25 minutes of interview session, while giving ample chance to the researcher to probe and obtain as much information as possible for a better analysis of the results. The interview draft contained five descriptive questions. First question covers the reflective perspectives of the teachers where they have been asked to explain the importance of technology in their daily life; how technological interventions help them to ease out the tasks or if they consider technological integration as a complex and challenging notion. The next question relates back to the extent to which students are impacted by introducing technology into the classroom where the respondents have been asked to share their views about how technology helps the students to improve their productivity levels or on the other hand whether this amalgamation results as a source of distraction for them. Likewise, the third question covers a broader aspect by asking for the teacher's reviews and experiences

about the usability of technology in order to gain more in-depth insight about the knowledge gained as it has been authenticated by many researchers and theorists who have conducted their researchers in the similar domain previously. In case of having a contradictory point of view teachers have been requested to explain their views along with giving the examples form their teaching career and personal experiences in order for the researcher to look into the both sides of the coin and infer pros and cons of the subjected topic. Furthermore, fourth question posed a statement "Technology is Unhelpful because it makes people dependent" where the respondents have been given a chance to detail their opinions and level of agreeableness or disagreeableness with the statement. Last question has been designed a bit more complex, diversified and broader in nature where the teacher's views have been probed related to the impact of technology-based classrooms and learning environment on the results of desired performance level of students in order to assess the interrelationship between technological inculcation in the education sector and academic achievement. All the questions were designed to cover maximum aspects and subdomains of the topic where probing has helped the researcher to have an in depth and meaningful insight about the opinions, views, and experiences of the residents and hence it has helped the researcher to analyze the results in a more efficient way.

Designing interview questions has been a very complex and challenging process where the researcher followed seven stages which have been presented by Brinkman and Kvale (2015) consisting of formulating a theme, designing the interview questions, conducting interviews, transcribing the recorded vies or opinions, verifying the transcribed version as well as ensuring a well-structured reporting. A pilot study of the interview questions has been conducted as well in order to check the reliability of the questions along with the collaboration of dissertation supervisor. The interviews have been conducted face to face with the respondents where the

underlying concept of the interview and research topic was already being shared with the teachers. The interview consisted of 20 to 25 minutes being recorded using an audio recorder after taking the consent from the participants. The researcher has ensured correct transcription and has verified it to maintain confidentiality and anonymity while analyzing the data. In short, the data analysis has been performed based on the identified themes where reliability and validity of the data have been taken into account in order to ensure rightful finding of the research.

3.5   Research Population

Population refers to the accumulated targeted sector which has been taken into account by the researcher while conducting research study where the targeted individuals possess similar characteristics and hence the research finding can be generalized in order to best describe their opinions, views and contributions about a particular topic based on the extracted sample. This study undertakes the private school teachers as a targeted population for the study.

3.6   Research Sample

Sample refers to such representative unit of the population on the basis of which the research or study finding can be generalized and hence the group which the researcher has selected for participation in the research. While conducting this research, since the case study approach has been adopted, so the researcher has targeted the teachers from one private school(X) School in Dubai for this study where the number of participants selected for the research is 60 teachers.

3.7   Pilot Test

Pilot research is a testing approach being adopted by the researcher in order to evaluate certain aspects of the research instruments before conducting the actual research. It can be categorize as a trial session which aids the researcher in identifying the gaps, potential areas of

improvement and get an idea about the total time it takes to collect data from the tested respondents. In the present study, the researcher conducted pilot testing along with 25 teachers, 25 questionnaires were distributed, and 2 interviews were conducted. The pilot study resulted in the minor changes and modifications in both the questionnaire and interview protocol in terms of restructuring and rephrasing the sentences and statements in more simple words in order to increase the level of understanding of the participants and avoid any ambiguity while conducting the data. In terms of interviews, pilot study proved to be a practice session for the researcher and hence improved the interpersonal and interviewing skills.

3.8   Reliability and Validity

Reliability and validity are the careful attentive measures which help the researcher to conceptualize the study along with considering the data collection modes, analysis and interpretive aspects along with looking into the research findings. Validity of the data is the degree of measuring the same intended interventions and aspects in order to draw credible and authenticated conclusions whilst the extent to which similar results are being produced at similar occasions is termed as reliability of the research study.

While conducting this research, in order to ensure reliability and accuracy of the data, the researcher strived to design highly reliable research instruments following the varied aspects as extracted from the literature review. The researcher has been well aware of the importance of designing the reliable instrument in order to present valid research findings. Furthermore, as mentioned previously, pilot testing was another technique which helped the researcher in refining the data collection tools and enhance the level of reliability of the entire research.

In terms of validity of the data, the researches implemented mixed methods approach in order to take into account both the objective and subjective perspectives (Merriam & Tisell, 206). Since the mixed method involved comparison of the quantitative and qualitative aspects, the researcher has compared and contrasted the results of survey and interview in order to draw valid conclusions. Furthermore, reliability test has been conducted using IBM SPSS software which is used for statistical analysis of the research. Furthermore, the consistency of quantitative and qualitative questions has also been assessed in the research.

3.9   Ethical considerations

Ethical considerations have been incorporated at all the stages of conducting this research as a necessary and vital constituent. The researcher ensured to obtain consent or approval from the management of the targeted school as well as the teachers after presenting a detailed description of the research proposal, intentions, aims and objectives in order for them to have a clear understanding of the research. Besides that, volunteer participation of the respondents has been made sure. Furthermore, anonymity and confidentiality policies have been thoroughly followed in the entire data research process generally and specifically during data collection and analysis process. Similarly, the researcher has ensured to cite and give references to all the literature and other relevant researches which have been used to form the conceptual grounding of the present study.

3.10   Summary:

This section presents a detailed description of the methodology and research design which has been adopted while conducting this research in order to explore and understand the impact of technological interventions in the classroom onto the skills building level of the students. Case

study method has been followed by adopting a mixed method approach where the teachers from one school in Dubai have been given a survey questionnaire along with conducting their interviews. The researcher has opted for pragmatism paradigm in order to combine the objective and subjective approaches and gain an in depth and meaningful insight about the subjected research topic.

Chapter 4

Findings and Results

Overview

      The respective study and chapter focus on the analysis of the collected data with the use of SPSS software for identifying the Technology involvement in Education and which factors to consider when talking about the technology and skills in student lives. The corresponding research, the author targets some of the students who are currently studying. This chapter discusses the impact of the individual variable on the Technology involvement in education and its different perspective of using this and how it effects the student's life and how technology improves student education.

4.1 Descriptive Analysis

4.1.1. Demographics

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 21 – 30 years	9	18.0	18.0	18.0
31 – 40 years	19	38.0	38.0	38.0
Above 40 years	22	44.0	44.0	100.0
Total	50	100.0	100.0	

Interpretation:

Out of 50 Participants, the main part of them i.e. 44% are above 40 years old. 18% are between 21 to 30 years old and other 38% are between 31 to 40 years, the age measurements demonstrate that a large portion of the information is gathered from the above 40 years old participants, they have impact over this research.
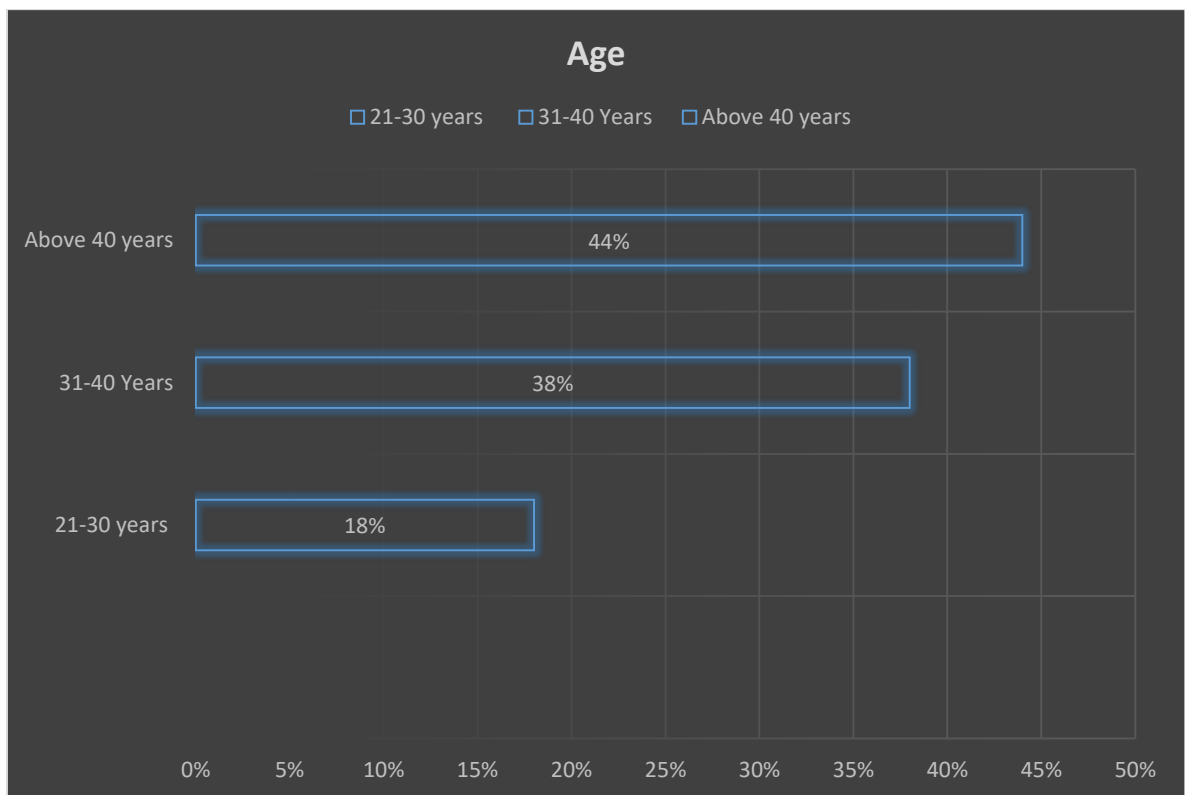
Figure 3

4.1.2 Gender

GENDER

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	39	78.0	78.0	78.0
	Male	11	22.0	22.0	100.0
	Total	50	100.0	100.0	

Interpretation

The information of Gender reveal that dominant part of the members i.e. 22% are Males and whatever is left of 78% are females. It is, consequently, translated that females likewise partook much in these investigates and assumed an essential job in Education area that is the reason they have an effect over the results.
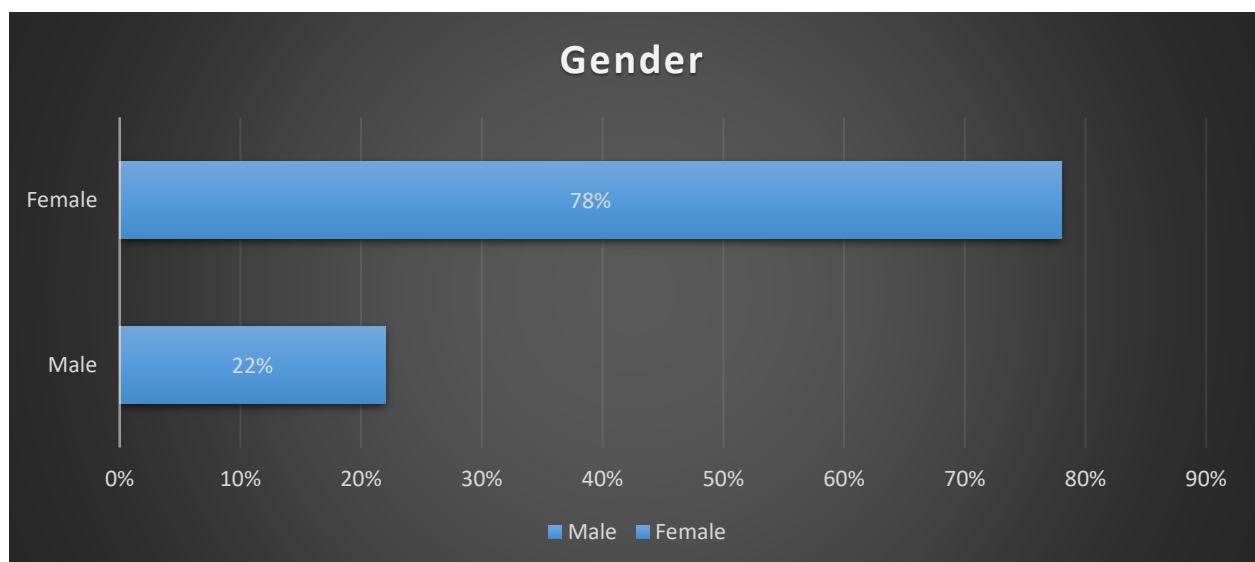
Figure 4

4.1.3 Social Class

What Social Class Do You Belong to

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Upper Class	9	18.0	18.0	18.0
	Not Upper Class	41	82.0	82.0	100.0
	Total	50	100.0	100.0	

Interpretation

The social class is a primary measure for communicating the Technology Involvement in the general public. The information of social class demonstrates that the greater part of that our participants i.e. 82% has not put themselves into high society and the rest 18% put to privileged. The information exhibit that the results are not established on one kind of members just; rather they are accumulated from people having a place with different social classes.

Figure 5

36
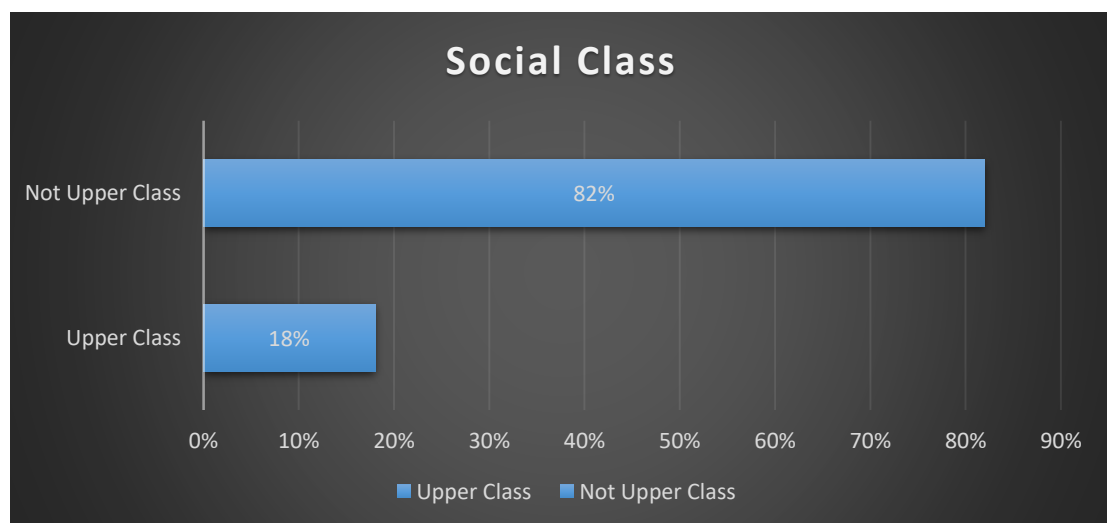
4.1.4 Usage of Smart Tablets I could complete a Task/Assignment/Project using the Smart-Tablet If there was no one around to tell me what to do as I go.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	12	24.0	24.0	24.0
	Disagree	12	24.0	24.0	48.0
	Neutral	11	22.0	22.0	70.0
	Strongly Agree	6	12.0	12.0	82.0
	Strongly Disagree	9	18.0	18.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the chart demonstrate people in general's reaction with respect to that they could finish a homework or assignments by using Smart-Tablet if there was no one around to instruct them as it goes. The information appears out of the 50 members. Most of the general population which is 24% have Disagree and furthermore 24% of the members have differ and agree, while the slightest 12% have Strongly Agree. Another 18% have strongly disagree and rest of the 22% have unbiased/neutral assessments.
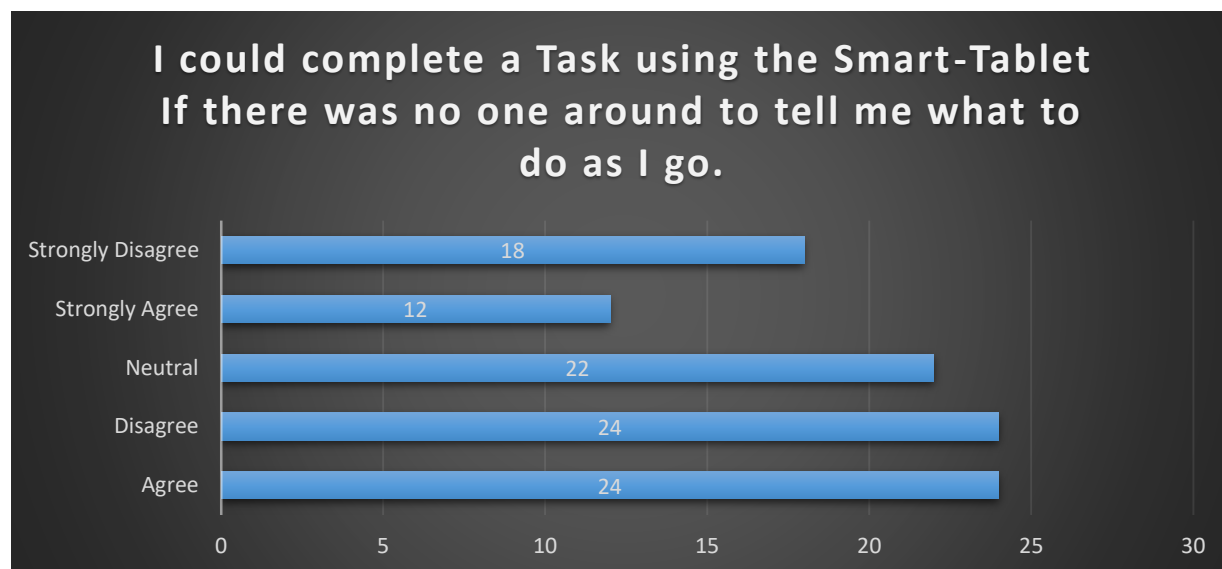
Figure 6

I could complete a Task/Assignment/Project using the Smart-Tablet If I had never used a Smart-Tablet like it before.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	11	22.0	22.0	22.0
	Disagree	9	18.0	18.0	40.0
	Neutral	15	30.0	30.0	70.0
	Strongly Agree	8	16.0	16.0	86.0
	Strongly Disagree	7	14.0	14.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the diagram demonstrate the general population's reaction in regard to that they could finish a Homework/Assignments even that they had never use a tablet like it previously. The information appears out of the 50 members. Most of the members which is 30% have neutral feelings while the minimum 18% have firmly oppose this idea. Another 22% have Agree to this, while the other 18% disagree and denies it. In any case, rest of the 16% have Strongly Agree opinion.
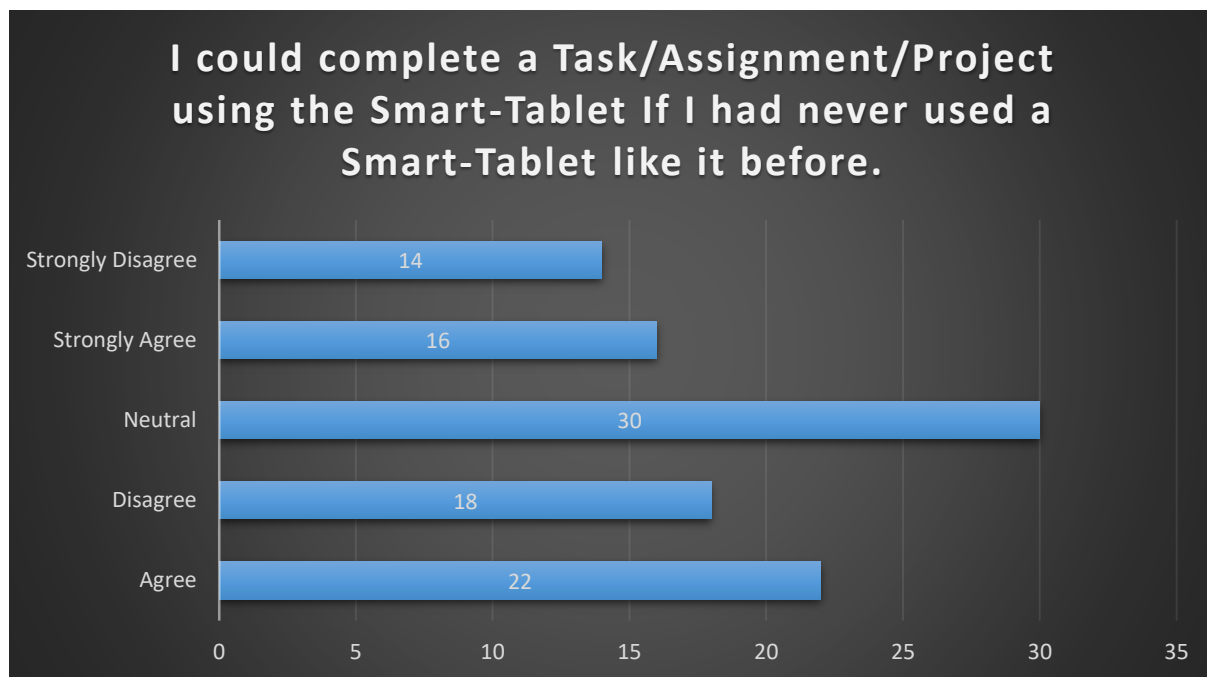
Figure 7

I could complete a Task/Assignment/Project using the Smart-Tablet If I had only the

Smart-Tablet manuals for reference.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	11	22.0	22.0	22.0
	Disagree	15	30.0	30.0	52.0
	Neutral	12	24.0	24.0	76.0
	Strongly Agree	5	10.0	10.0	86.0
	Strongly Disagree	7	14.0	14.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the chart demonstrate general society's reaction with respect to that they could finish a Homework/Assignment if that they had just the manuals for reference. The information appears out of the 50 members. Most of the members which is 30% have disagree while the slightest which is 10% have strongly agree. Another 22% have Agree while the other 14% emphatically disagree to it. In any case, rest of the 24% have neutral response.

I could complete a Task/Assignment/Project using the Smart-Tablet If I had only the Smart-Tablet manuals for reference.

Response	Value
Strongly Disagree	14
Strongly Agree	10
Neutral	24
Disagree	30
Agree	22
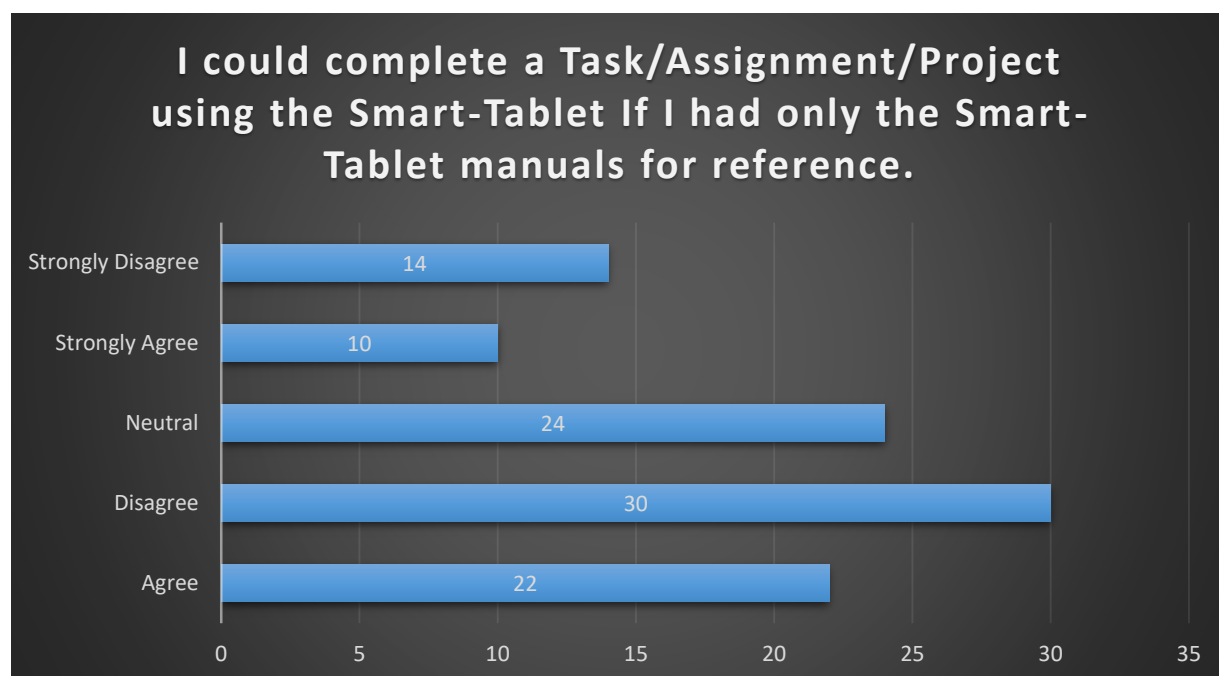
Figure 8

I could complete a Task/Assignment/Project using the Smart-Tablet If I had seen someone else before trying it myself.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	13	26.0	26.0	26.0
	Disagree	4	8.0	8.0	34.0
	Neutral	14	28.0	28.0	62.0
	Strongly Agree	13	26.0	26.0	88.0
	Strongly Disagree	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the diagram demonstrates people in general's reaction with respect to that they could finish a Task/Homework and assignment if that they had seen another person utilizing the tablet before attempting it without anyone else's input. The information appears out of the 50 members. Most of the members which is 28% have unbiased and neutral while the minimum 8% Disagree. Another 26% have agree to the inquiry while the other 26% strongly agree to the inquiry. Notwithstanding, rest of the 12% Strongly Disagree with it.
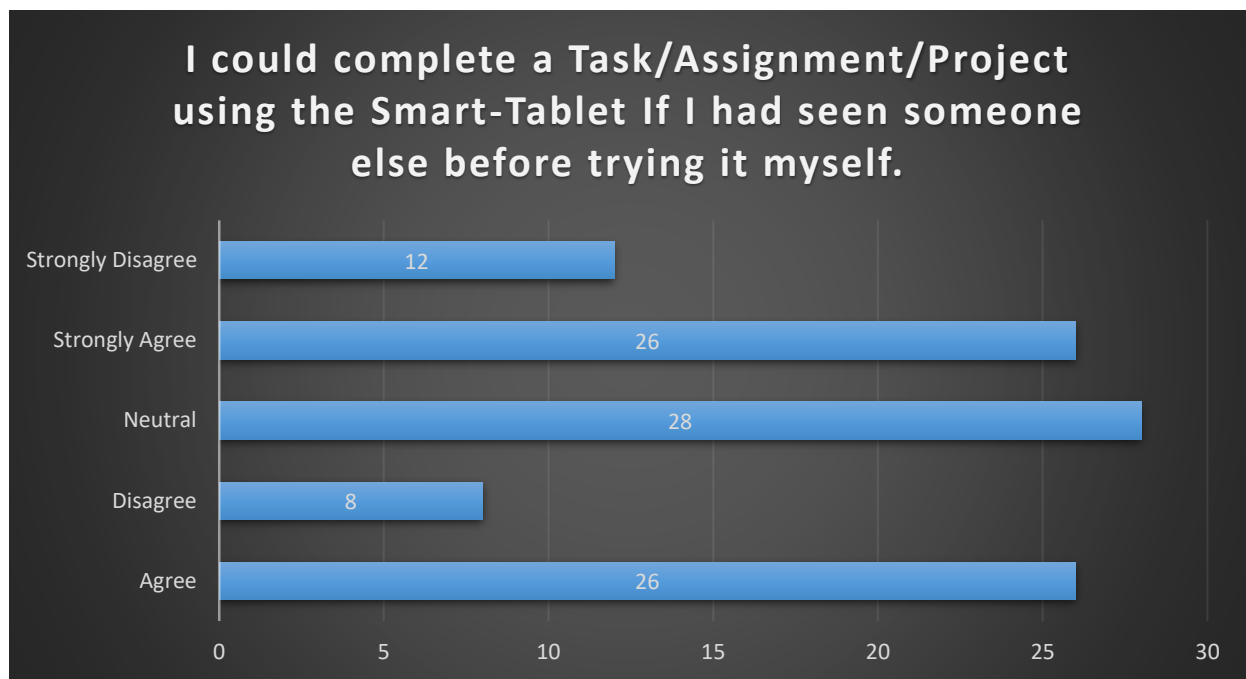
Figure 9

I could complete a Task/Assignment/Project using the Smart-Tablet If I could ask someone for help If I get stuck.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	14	28.0	28.0	28.0
	Disagree	11	22.0	22.0	50.0
	Neutral	13	26.0	26.0	76.0
	Strongly Agree	3	6.0	6.0	82.0
	Strongly Disagree	9	18.0	18.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the diagram demonstrates general society's reaction in regards to that they could finish or complete assignment if that they could approach somebody for help while utilizing the tablet if they get stuck. The information appears out of the 50 members. Most of the general population which is 28% have agree while the minimum 6% have strongly agree to the inquiry. Another 22% have Disagree to the inquiry while the other 18% have likewise firmly Strongly Disagree to it. In any case, rest of the 26% have unbiased reaction.
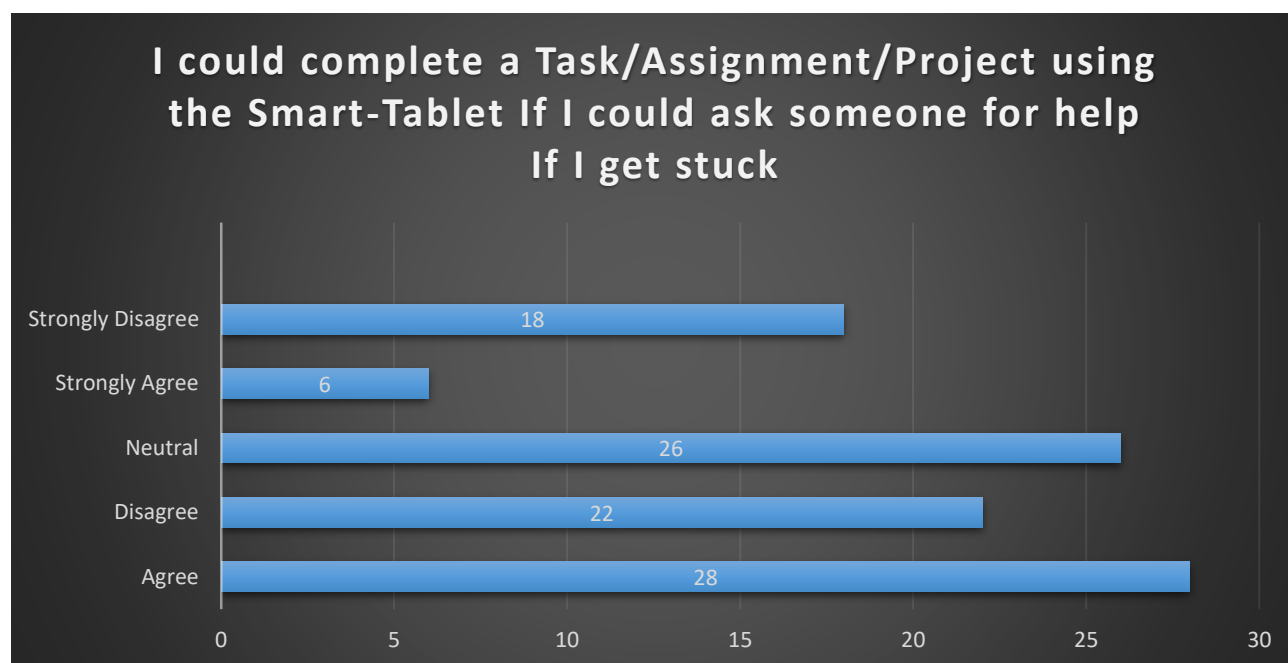
I could complete a Task/Assignment/Project using the Smart-Tablet If someone else had

helped me get started.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	28	56.0	56.0	56.0
	Disagree	6	12.0	12.0	68.0
	Neutral	5	10.0	10.0	78.0
	Strongly Agree	9	18.0	18.0	96.0
	Strongly Disagree	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the chart demonstrate the general population's reaction in regards to that they could finish a Homework/Assignment if that another person had helped them begin with the Smart tablet. The information appears out of the 50 members. Most of the general population which is 56% have Agree while the slightest 4% have firmly Strongly Disagree to the inquiry. Another 12% have disagree to the inquiry while the other 18% have strongly agree to it. Notwithstanding, rest of the 10% have neutral reaction.

Figure 11

I could complete a Task/Assignment/Project using the Smart-Tablet If I had a lot of time to complete the Task/Assignment/Project for which the Smart-Tablet was designed.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	16	32.0	32.0	32.0
	Disagree	8	16.0	16.0	48.0
	Neutral	19	38.0	38.0	86.0
	Strongly Agree	5	10.0	10.0	96.0
	Strongly Disagree	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the chart demonstrate people in general's reaction with respect to that they could finish an assignment if they had a considerable measure of time to finish the assignment for which the smart tablet was intended for. The information appears out of the 50 members. Most of the general population which is 38% have neutral assessment while the slightest 4% have strongly disagree to the inquiry. Another 32% have agree to the inquiry while the other 16% have likewise disagree to it. Nonetheless, rest of the 10% have strongly disagree to the inquiry.
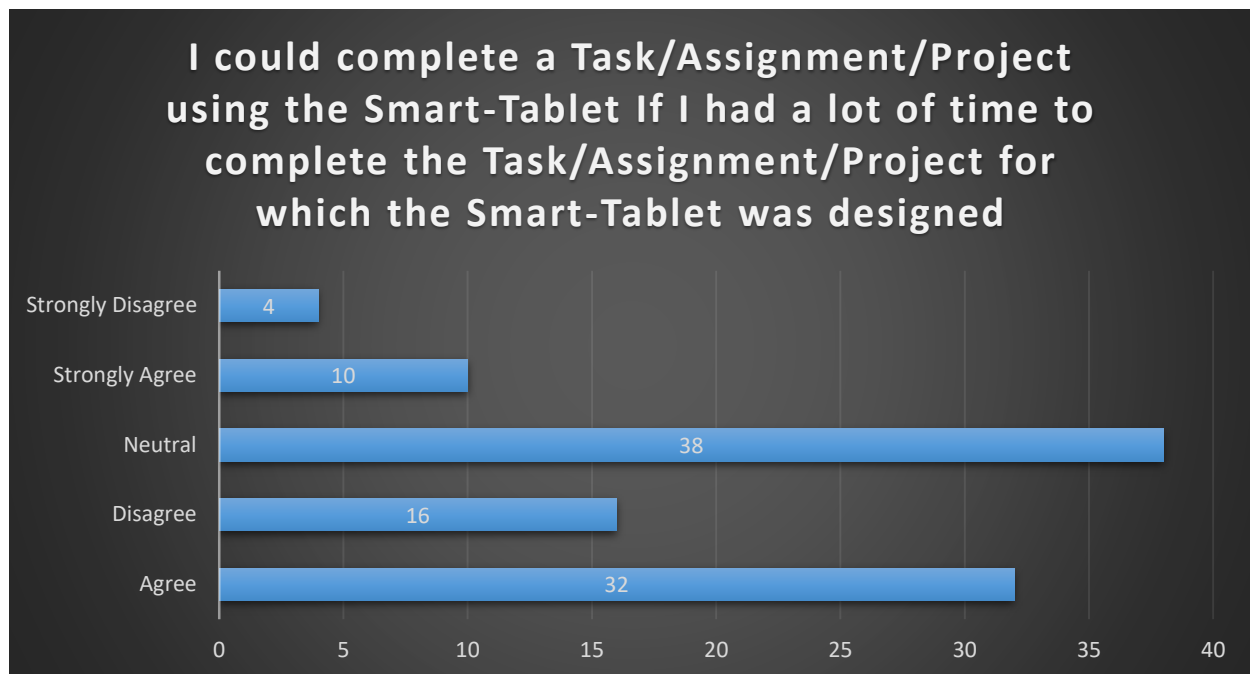
Figure 1

I could complete a Task/Assignment/Project using the Smart-Tablet If I had just the built-

in help facility for assistance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	18	36.0	36.0	36.0
	Disagree	6	12.0	12.0	48.0
	Neutral	15	30.0	30.0	78.0
	Strongly Agree	10	20.0	20.0	98.0
	Strongly Disagree	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

Interpretation:

     The above table and the diagram demonstrate general society's reaction with respect to that they could finish an assignment if they had quite recently the worked in help office for help. The information appears out of the 50 members. Most of the general population which is 36% have Agree while the minimum 2% have Strongly Disagree to the inquiry. Another 12% have disagree to the inquiry while the other 20% have firmly strongly agree to it. In any case, rest of the 30% have Neutral.
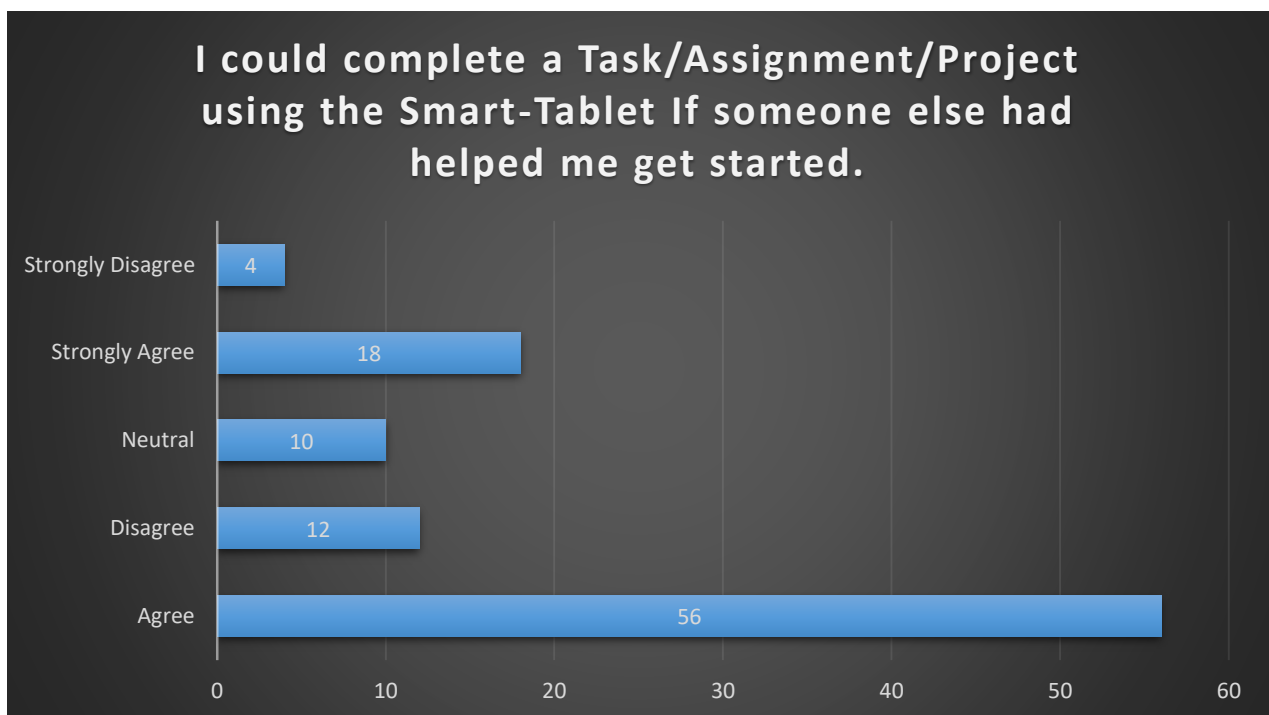

I could complete a Task/Assignment/Project using the Smart-Tablet If I had just the built-in help facility for assistance.
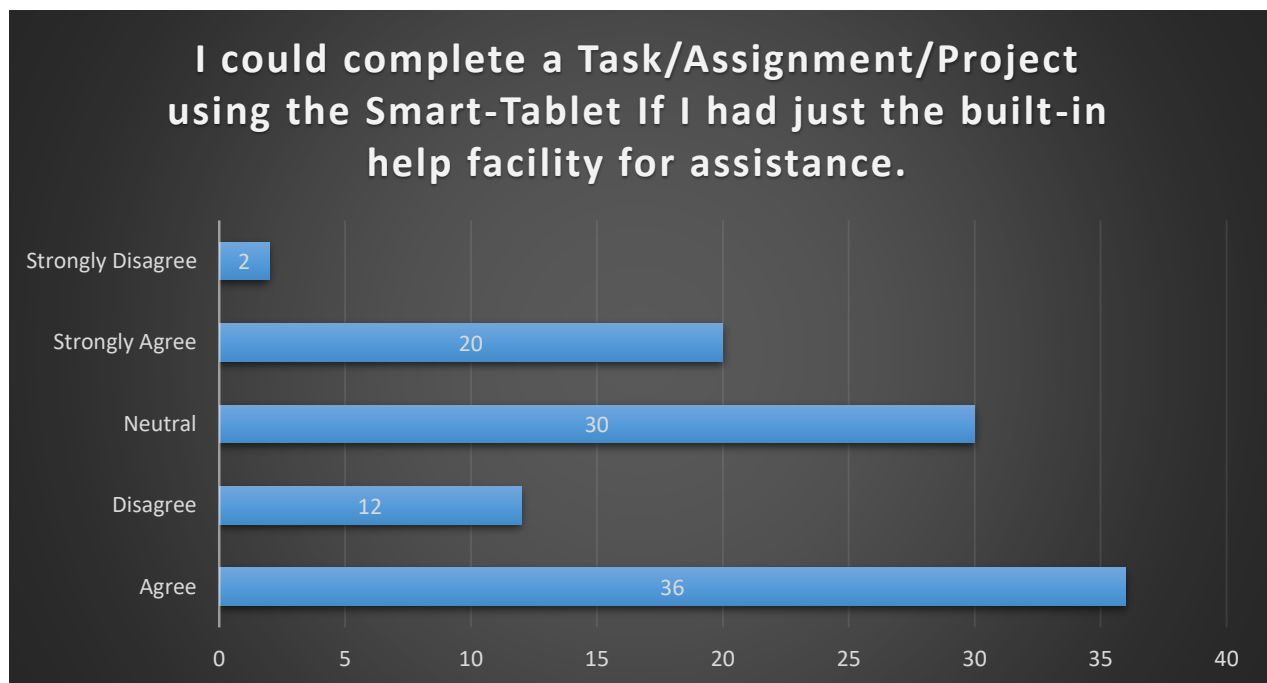
Figure 2

I could complete a Task/Assignment/Project using the Smart-Tablet If someone showed me how to do it first

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	22	44.0	44.0	44.0
	Disagree	8	16.0	16.0	60.0
	Neutral	12	24.0	24.0	84.0
	Strongly Agree	8	16.0	16.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the diagram demonstrate people in general's reaction with respect to that they could finish an assignments/Homework using the smart tablet if that somebody demonstrated to me proper methodologies to do it first. The information appears out of the 50 members. Most of the general population which is 44% have agree while the slightest 16% have strongly agree to the inquiry and furthermore 16% have disagree to it. Notwithstanding, rest of the 24% have neutral responses.
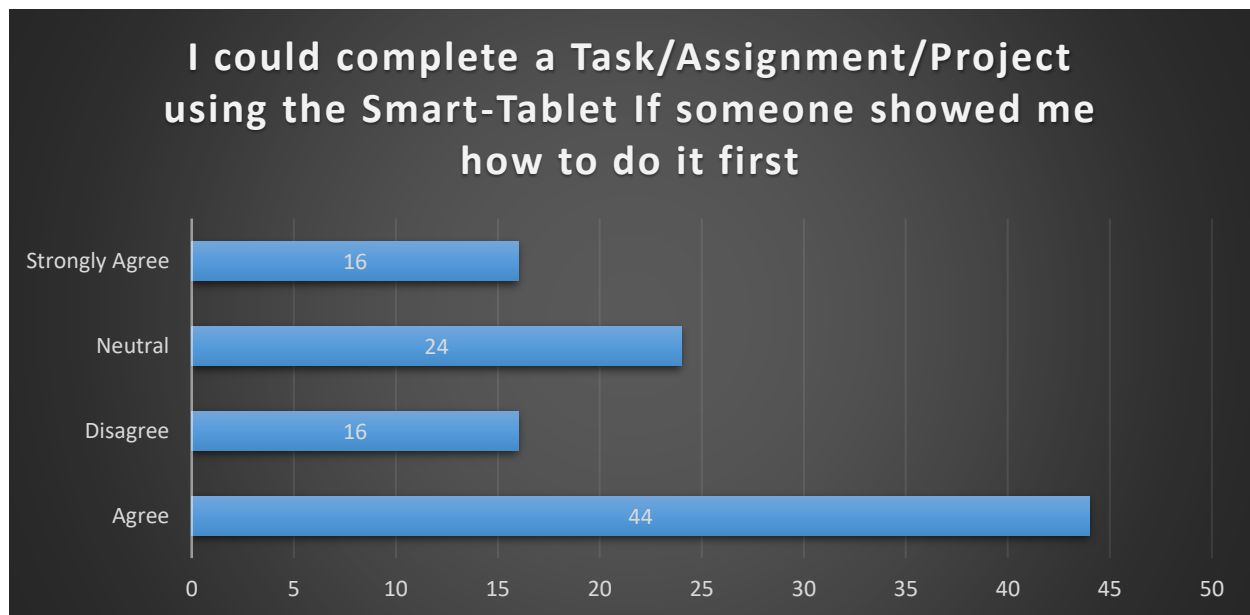
Figure 3

I could complete a Task/Assignment/Project using the Smart-Tablet If I had used similar Smart-Tablets before this one to do the same Task/Assignment/Project.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	18	36.0	36.0	36.0
	Disagree	5	10.0	10.0	46.0
	Neutral	19	38.0	38.0	84.0
	Strongly Agree	7	14.0	14.0	98.0
	Strongly Disagree	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

50

Interpretation:

The table and the chart appear the public's reaction with respect to that they seem total home task assignment in case they had utilized comparable smart tablets sometime they had use similar smart tablets before this one to do the same task. The information appears out of the 50 members. The lion's share of the individuals which is 38% have impartial reaction whereas the slightest 2% have strongly disagree this idea to the address. Another 36% have agree to the address whereas the other 10% have disagree to it. Be that as it may, rest of the 14% have strongly agree to the address.

I could complete a Task/Assignment/Project using the Smart-Tablet If I had used similar Smart-Tablets before this one to do the same Task/Assignment/Project.

Category	Value
Strongly Disagree	2
Strongly Agree	14
Neutral	38
Disagree	10
Agree	36
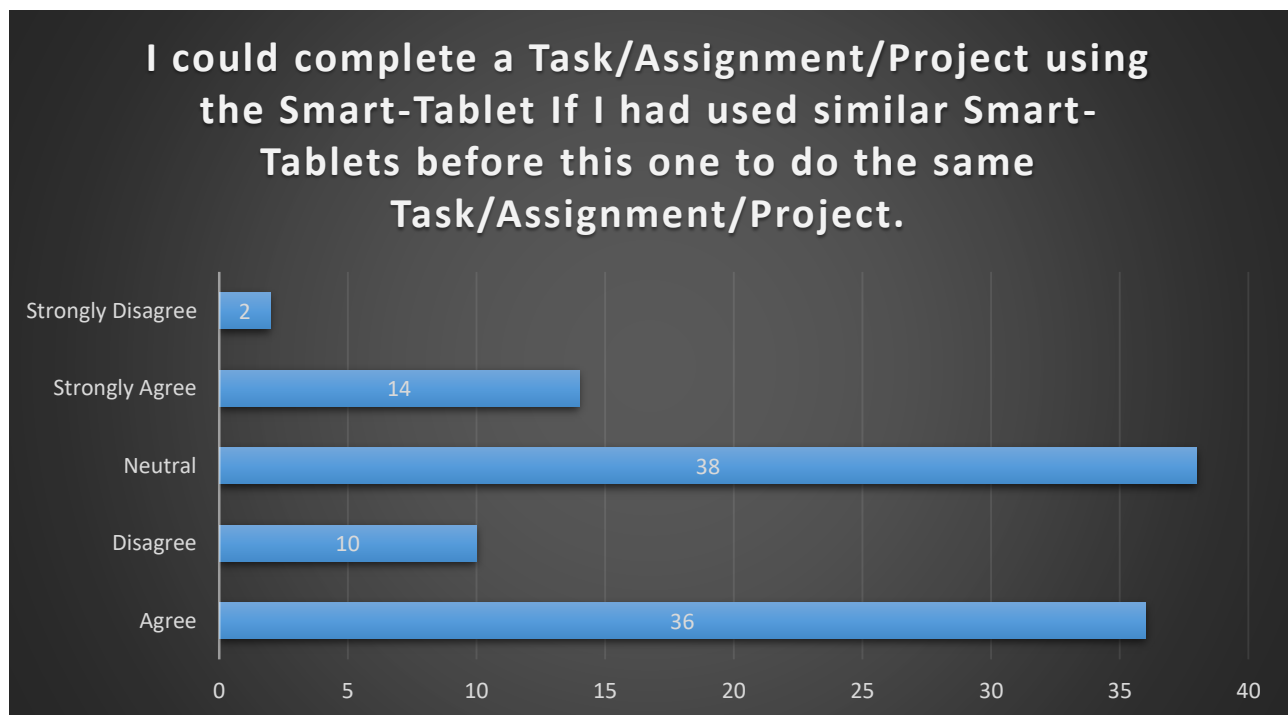
Figure 4

4.1.5 Academic Performance

Teachers academic background effect the student academic performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	20	40.0	40.0	40.0
	Disagree	5	10.0	10.0	50.0
	Neutral	10	20.0	20.0	70.0
	Strongly Agree	13	26.0	26.0	96.0
	Strongly Disagree	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appear the public's reaction with respect to that instructor academic foundation impact the students' scholastic performance. The information appears out of the 50 members. The lion's share of the individuals which is 40% have agree whereas the slightest 4% have strongly disagree to the address. Another 10% have disagree to the question whereas the other 26% have too strongly agree to it. In any case, rest of the 20% have impartial reaction.

Teachers academic background effect the student academic performance
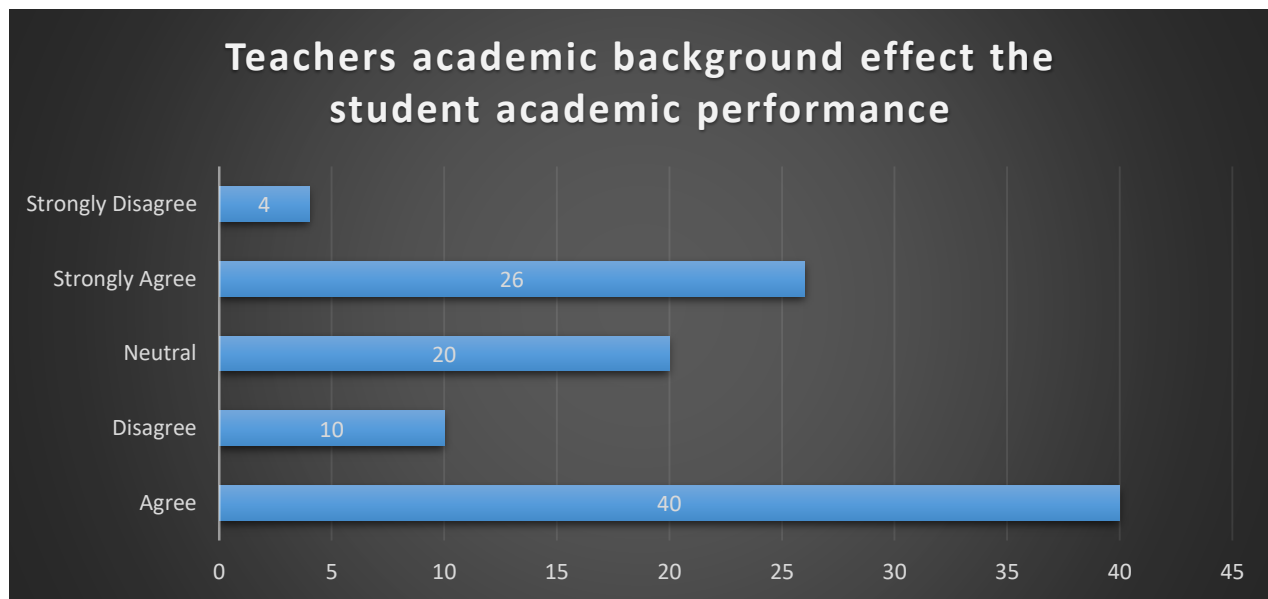
Figure 5

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Smart device allows students to improve their productivity in their academic performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	25	50.0	50.0	50.0
	Disagree	3	6.0	6.0	56.0
	Neutral	9	18.0	18.0	74.0
	Strongly Agree	10	20.0	20.0	94.0
	Strongly Disagree	3	6.0	6.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appear the open reaction with respect to that smart device permits students to move forward their efficiency in their academic performance. The information appears out of the 50 members. The lion's share of the individuals which is 50% have agree whereas the slightest 6% have strongly disagree this idea additionally other 6% have Disagree this idea to the address. Another 20% have strongly agree to the address. In any case, rest of the 18% have unbiased reaction.
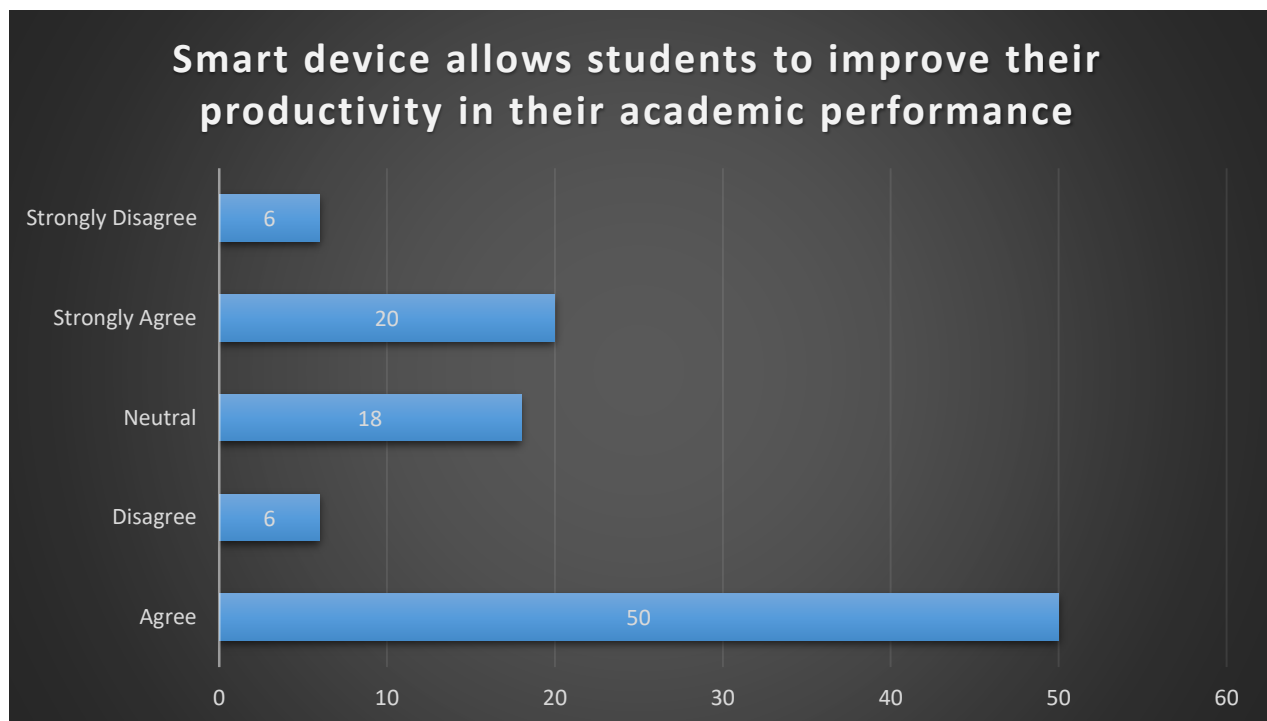
Figure 6

Teacher way of teaching played an important role on Student Performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	21	42.0	42.0	42.0
	Disagree	4	8.0	8.0	50.0
	Neutral	12	24.0	24.0	74.0
	Strongly Agree	12	24.0	24.0	98.0
	Strongly Disagree	1	2.0	2.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appear the public's reaction with respect to that the part played by the teacher within the educating prepare has profoundly impact on student's performance. The information appears out of the 50 members. The larger part of the individuals which is 42% have agree whereas the slightest 2% have strongly disagree to the address. Another 8% have Disagree to the address whereas the other 24% have moreover strongly agree to it. Be that as it may, rest of the 24% have impartial response.

The role played by the teacher in the teaching process has highly effect on student performance

Figure 7

Student teacher relationship has an impact on student academic performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	12	24.0	24.0	24.0
	Disagree	11	22.0	22.0	46.0
	Neutral	18	36.0	36.0	82.0
	Strongly Agree	3	6.0	6.0	88.0
	Strongly Disagree	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

Interpretation:

  The table and the chart appear the public's reaction with respect to that the student teacher relationship has an effect on student scholastic performance. The information appears out of the 50 members. The larger part of the individuals which is 36% have impartial reaction whereas the slightest 6% have strongly agree to the address. Another 24% have agree to the address whereas the other 12% have strongly disagree idea to it. In any case, rest of the 22% have disagree this idea to the question.
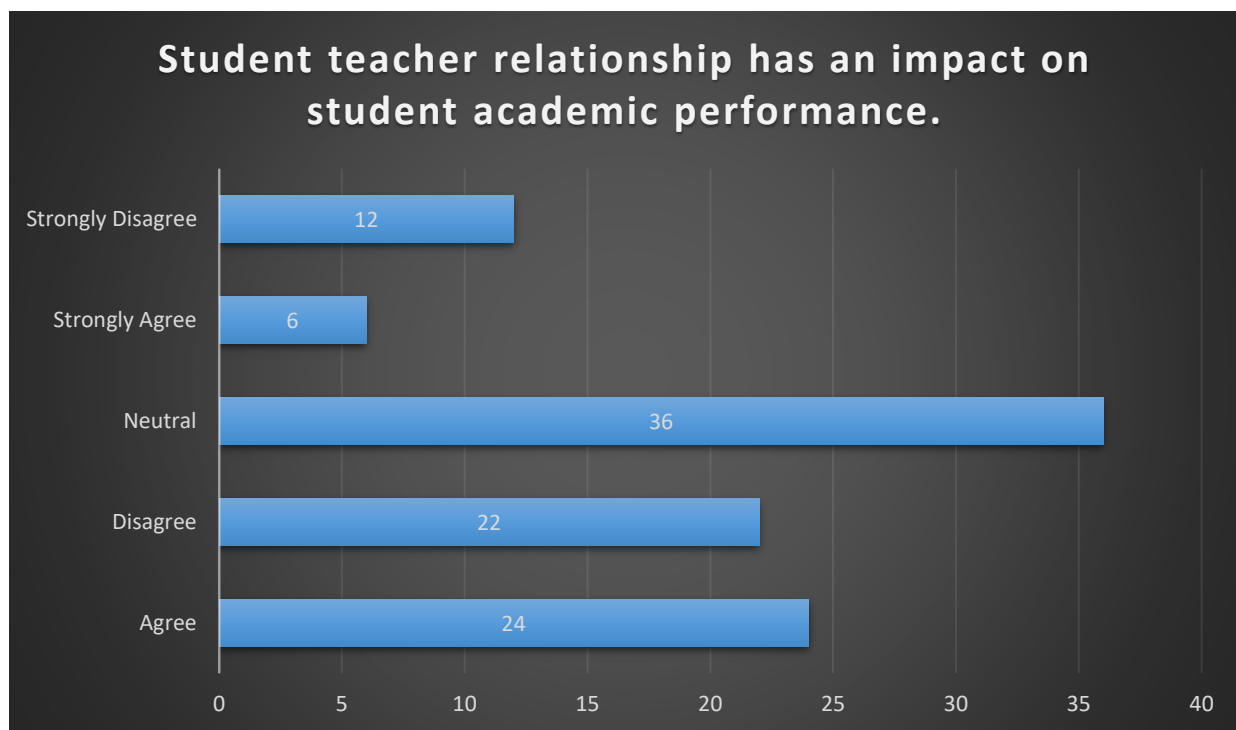
Figure 8

Alignment between Student involvement in technology and the academic standard has affect the student academic performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	17	34.0	34.0	34.0
	Disagree	11	22.0	22.0	56.0
	Neutral	11	22.0	22.0	78.0
	Strongly Agree	7	14.0	14.0	92.0
	Strongly Disagree	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appear the public's reaction with respect to that the arrangement between student involvement in innovation and technology and the scholastic standard has influence the student scholastic performance. The information appears out of the 50 members. The larger part of the individuals which is 34% have agree whereas the slightest 8% have strongly disagree to the address. Another 22% have disagree this idea to the address whereas the other 14% have strongly agree to it. Be that as it may, rest of the 22% have impartial response.
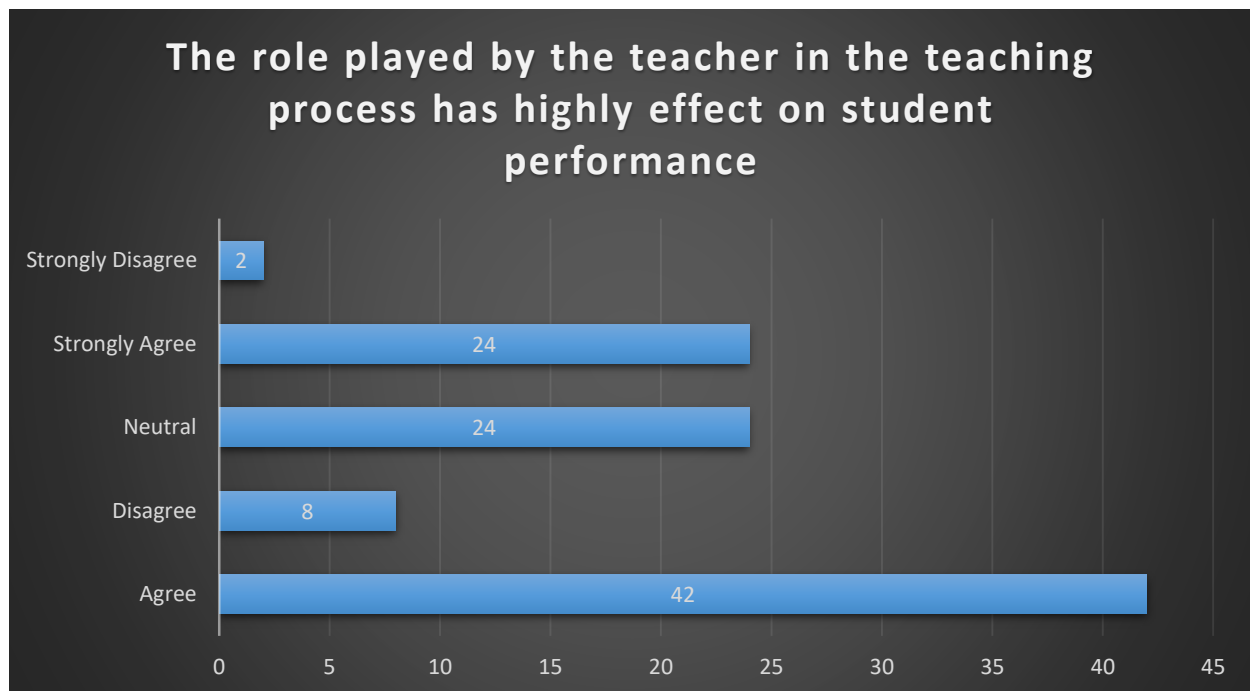
Figure 20

4.1.6 Technological Learning/Complexity of Innovation

It's difficult to learn technology and get to know how to be used.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	23	46.0	46.0	46.0
	Disagree	9	18.0	18.0	64.0
	Neutral	12	24.0	24.0	88.0
	Strongly Agree	4	8.0	8.0	96.0
	Strongly Disagree	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the graph shows the public's response regarding that it's difficult to learn technology and get to know how to be used. The data shows out of the 50 participants. The majority of the people which is 46% have agree while the least 4% have strongly Disagree to the question. Another 18% have disagree to the question while the other 8% have also strongly agree to it. However, rest of the 24% have neutral response.

Figure 21

It takes a long time to learn and use the technology.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	5	10.0	10.0	10.0
	Disagree	16	32.0	32.0	42.0
	Neutral	11	22.0	22.0	64.0
	Strongly Agree	2	4.0	4.0	68.0
	Strongly Disagree	16	32.0	32.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the graph show the public's response regarding that It takes a long time to learn and use the technology. The data shows out of the 50 participants. The majority of the people which is 32% have Disagree and the other 32% have also strongly disagree to the question while the least 4% have strongly agree to it. Another 10% have agree. However, rest of the 22% have neutral response to the question.
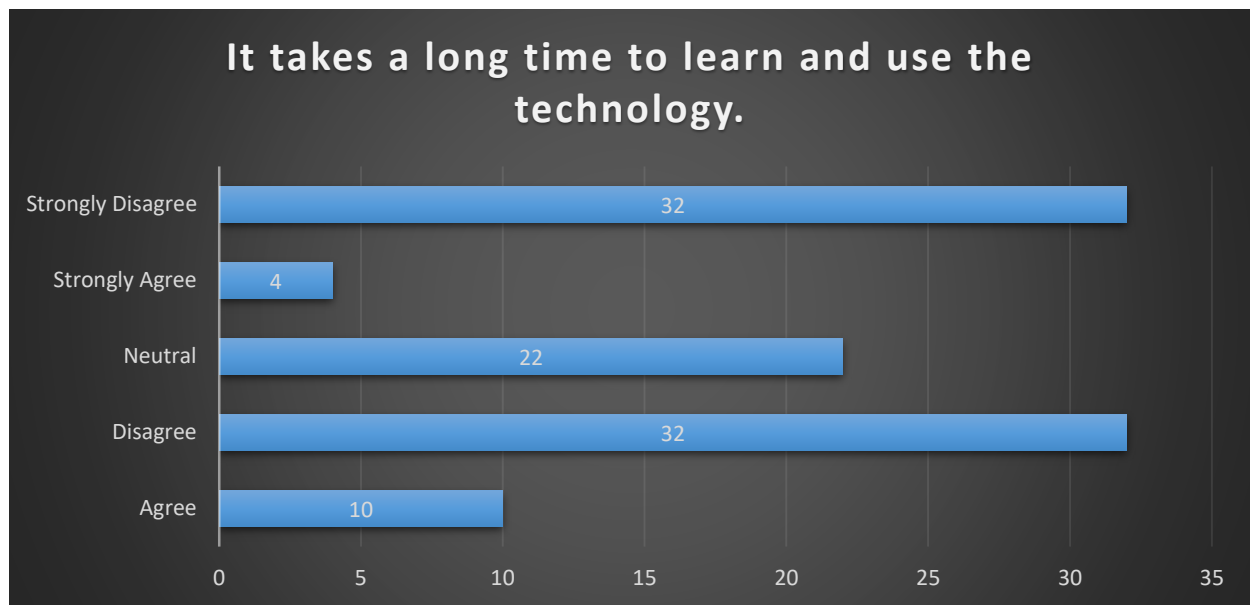
It takes a long time to learn and use the technology.

There is a challenge in using the new technology and understanding the complexity of innovation.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	11	22.0	22.0	22.0
	Disagree	9	18.0	18.0	40.0
	Neutral	17	34.0	34.0	74.0
	Strongly Agree	5	10.0	10.0	84.0
	Strongly Disagree	8	16.0	16.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The above table and the graph show the public response regarding that there is a challenge in using the new technology and understanding the complexity of innovation. The data shows out of the 50 participants. The majority of the people which is 34% have neutral response while the least 10% have strongly agree to the question. Another 22% have agree to the question while the other 18% have also disagree to it. However, rest of the 16% have strongly disagree to the question.
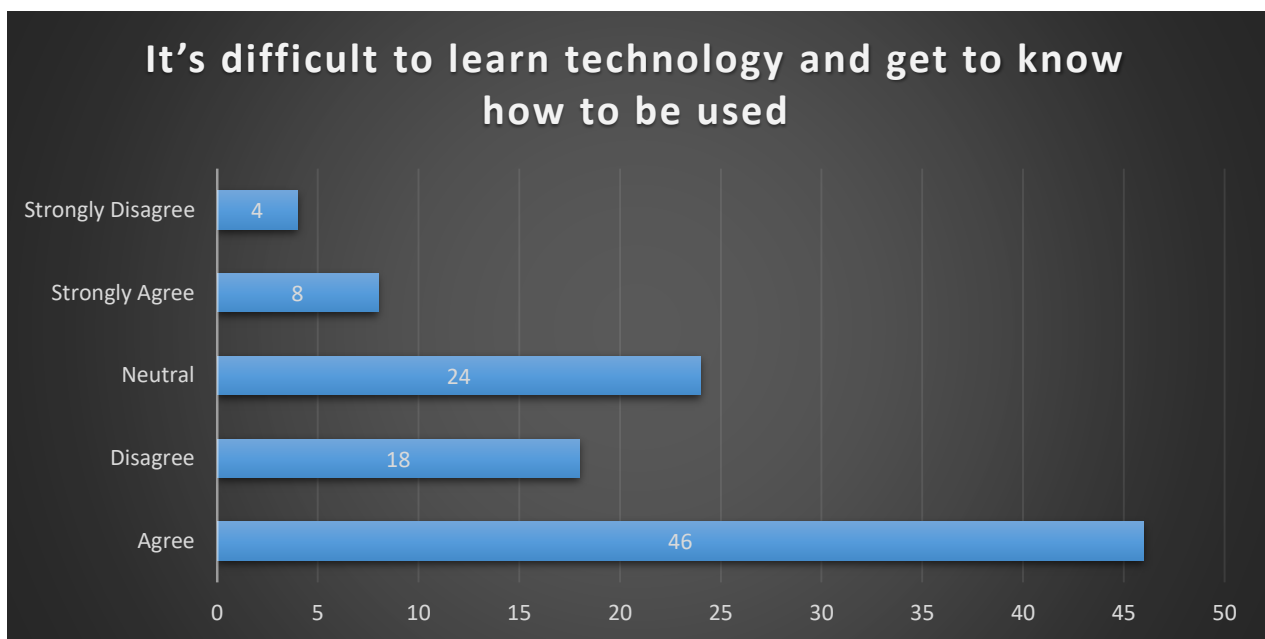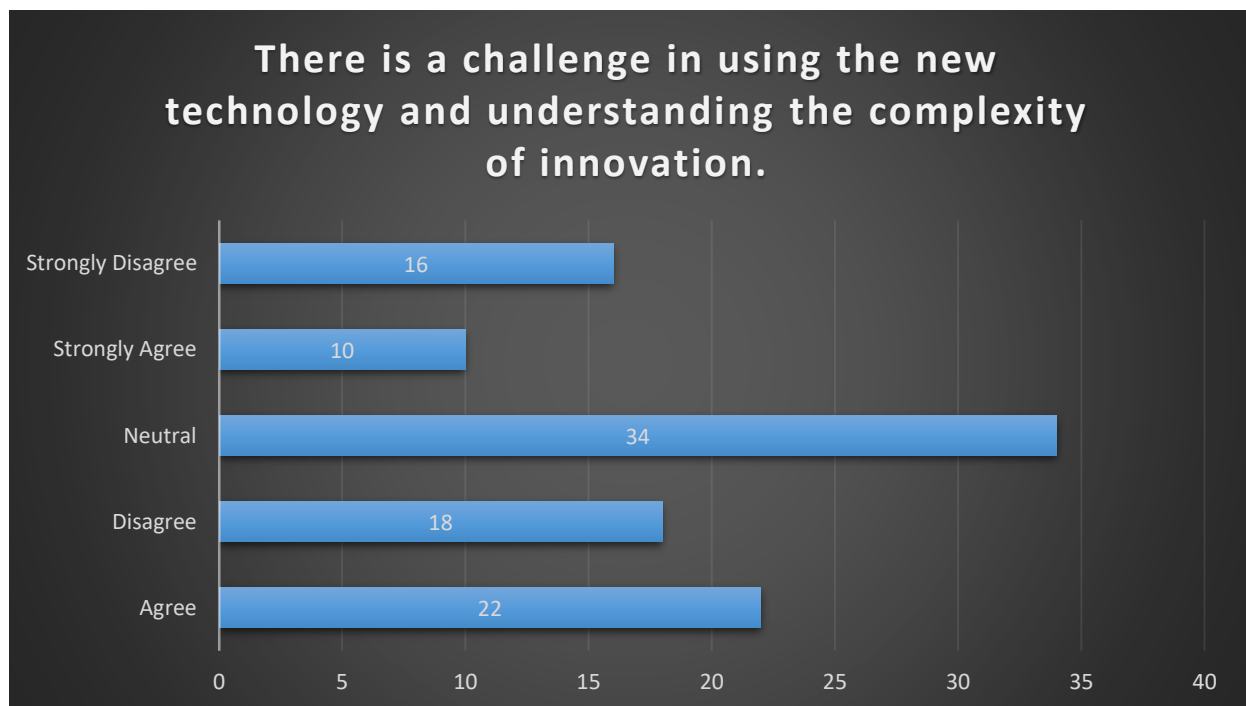

Figure 23

4.1.7 Technology Involvement in Education

The use of technology in the classroom Increases Academic Performance.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	14	28.0	28.0	28.0
	Disagree	8	16.0	16.0	44.0
	Neutral	20	40.0	40.0	84.0
	Strongly Agree	3	6.0	6.0	90.0
	Strongly Disagree	5	10.0	10.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The over table and the chart appears the public's reaction with respect to that the use of innovation and technology within the classroom increments academic performance. The information appears out of the 50 members. The lion's share of the individuals which is 40% have Neutral reaction whereas the slightest 6% have strongly agree to the address. Another 28% have agree to the address whereas the other 16% have moreover disagree to this idea. In any case, rest of the 10% have strongly disagree to the address.

Figure 10

The use of technology in the classroom Results in students neglecting important traditional learning resources (e.g., library books).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	17	34.0	34.0	34.0
	Disagree	7	14.0	14.0	48.0
	Neutral	15	30.0	30.0	78.0
	Strongly Agree	8	16.0	16.0	94.0
	Strongly Disagree	3	6.0	6.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appear the public's reaction with respect to that the use of innovation and technology within the classroom comes about in students neglecting the imperative traditional learning assets. The information appears out of the 50 members. The larger part of the individuals which is 34% have agree whereas the slightest 6% have strongly disagree to the address. Another 14% have disagree this idea whereas the other 16% have strongly agree to it. Be that as it may, rest of the 30% have impartial / neutral reaction to the question.

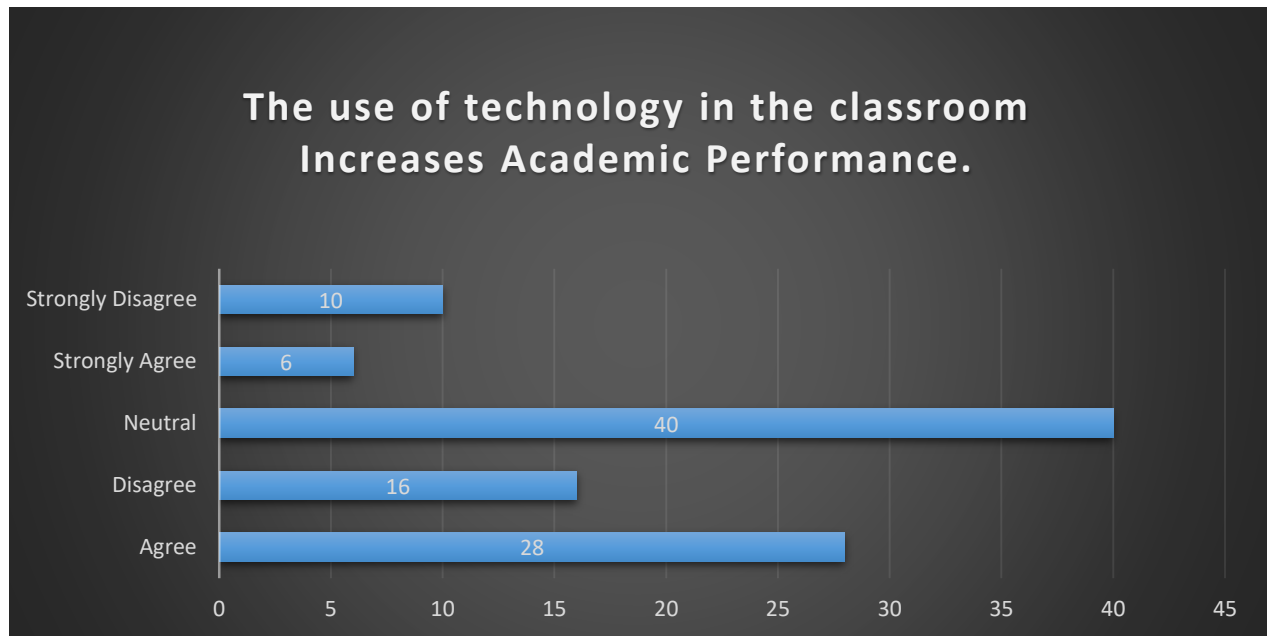The use of technology in the classroom Results in students neglecting important traditional learning resources (e.g., library books).
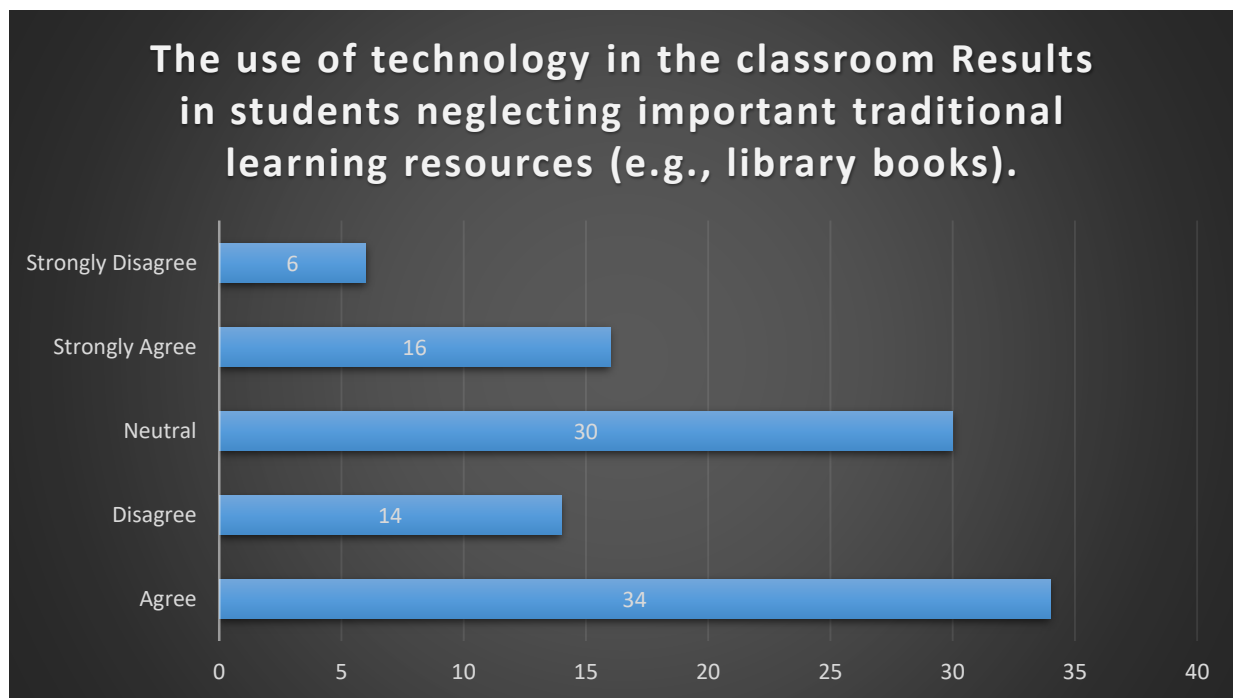
Figure 11

The use of technology in the classroom is effective because I believe I can implement it successfully.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	13	26.0	26.0	26.0
	Disagree	11	22.0	22.0	48.0
	Neutral	15	30.0	30.0	78.0
	Strongly Agree	5	10.0	10.0	88.0
	Strongly Disagree	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart show the public's response that the use of technology in the classroom is fruitful since they acknowledge they can execute it successfully. The data shows out of the 50 individuals. The bigger portion of the people which is 30% have fair-minded response though the smallest 10% have strongly agree to the address. Another 22% have disagree to the address while the other 26% have agree to the question. By that because it may, rest of the 12% have strongly disagree to the address.

The use of technology in the classroom is effective because I believe I can implement it successfully.

Strongly Disagree — 12
Strongly Agree — 10
Neutral — 30
Disagree — 22
Agree — 26

Figure 12

The use of technology in the classroom Promotes the development of communication skills (e.g., writing and presentation skills).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	16	32.0	32.0	32.0
	Disagree	3	6.0	6.0	38.0
	Neutral	21	42.0	42.0	80.0
	Strongly Agree	8	16.0	16.0	96.0
	Strongly Disagree	2	4.0	4.0	100.0
	Total	50	100.0	100.0	

68

Interpretation:

The table and the chart appear the public's reaction with respect to that the use of innovation and technology within the classroom advances the development of communication skills. The information appears out of the 50 members. The larger part of the individuals which is 42% have impartial reaction whereas the slightest 4% have strongly disagree to the address. Another 6% have disagree to the question whereas the other 32% have agree to it. Be that as it may, rest of the 16% have strongly agree concur to the address.

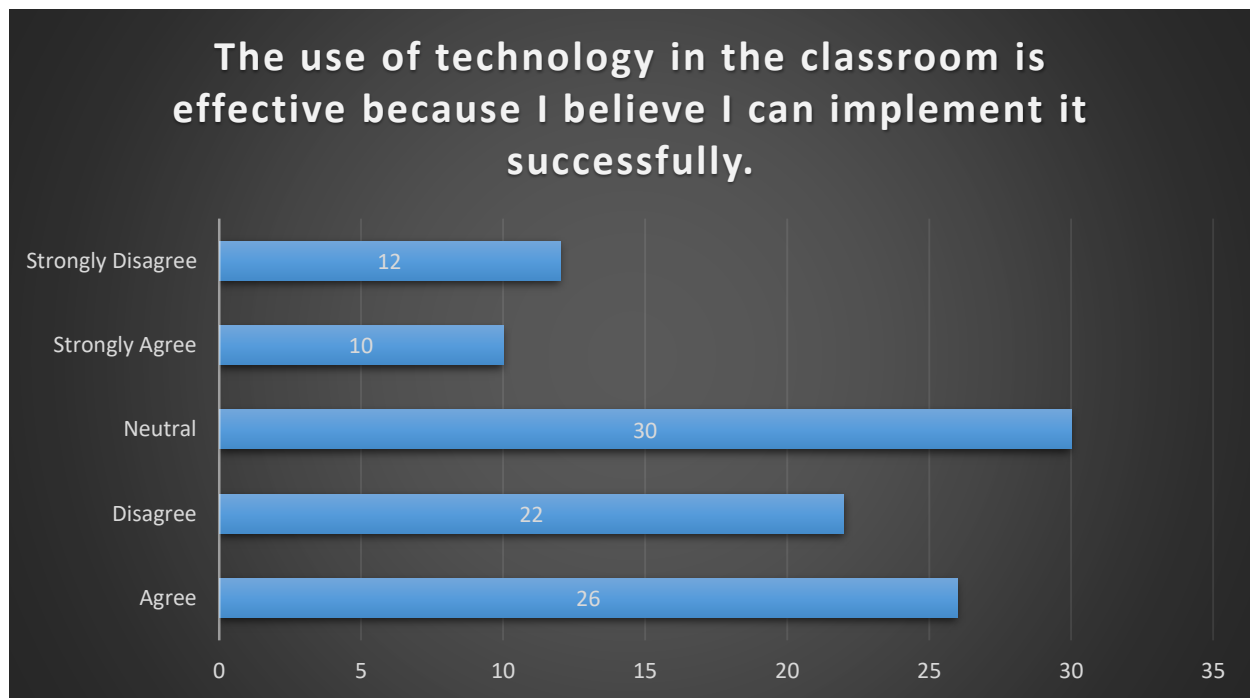**The use of technology in the classroom Promotes the development of communication skills (e.g., writing and presentation skills).**

Figure 13

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69
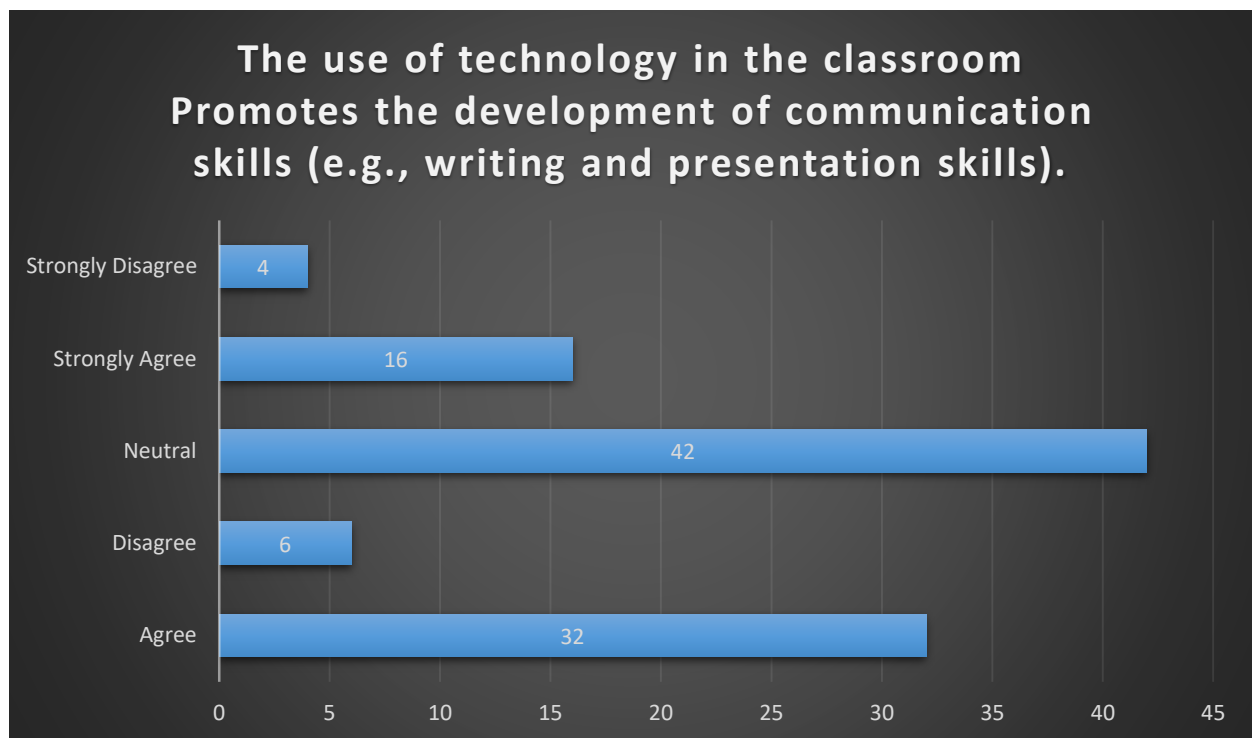
The use of technology in the classroom Enhances my professional development.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	24	48.0	48.0	48.0
	Disagree	3	6.0	6.0	54.0
	Neutral	15	30.0	30.0	84.0
	Strongly Agree	4	8.0	8.0	92.0
	Strongly Disagree	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appear the public's reaction with respect to that the use of innovation and technology within the classroom improves their professional improvement. The information appears out of the 50 members. The larger part of the individuals which is 48% have agree whereas the slightest 6% have disagree to the address. Another 8% have strongly agree the address whereas the other 8% have moreover strongly disagree this idea to it. Be that as it may, rest of the 30% have impartial reaction to the address.

The use of technology in the classroom
Enhances my professional development.
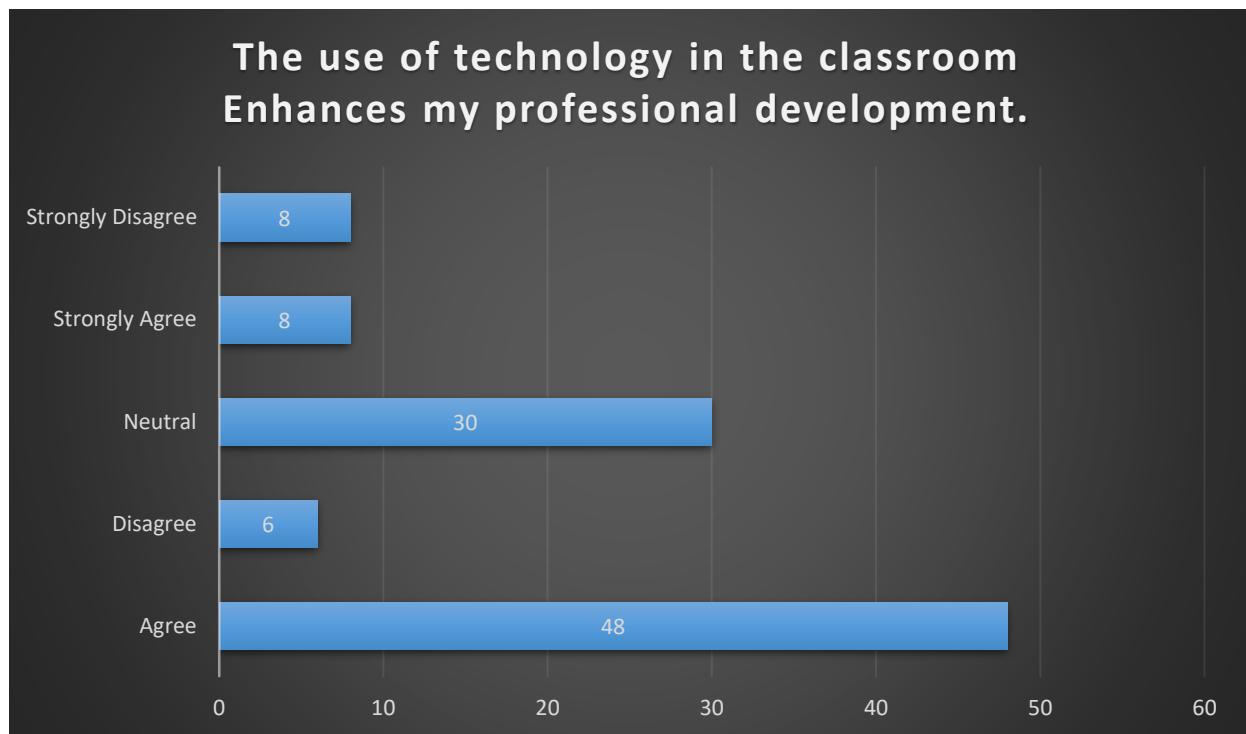
Figure 14

The use of technology in the classroom Improves student learning of critical concepts and ideas.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	22	44.0	44.0	44.0
	Disagree	6	12.0	12.0	56.0
	Neutral	14	28.0	28.0	84.0
	Strongly Agree	4	8.0	8.0	92.0
	Strongly Disagree	4	8.0	8.0	100.0
	Total	50	100.0	100.0	

Interpretation:

The table and the chart appears the public's reaction with respect to that the use of innovation and technology within the classroom progresses students learning of basic concepts and ideas. The information appears out of the 50 members. The lion's share of the individuals which is 44% have agree whereas the least 8% have strongly agree to the address conjointly the other 8% of the members have strongly disagree to it. Another 12% have disagree to the address. In any case, rest of the 28% have neutral reaction.
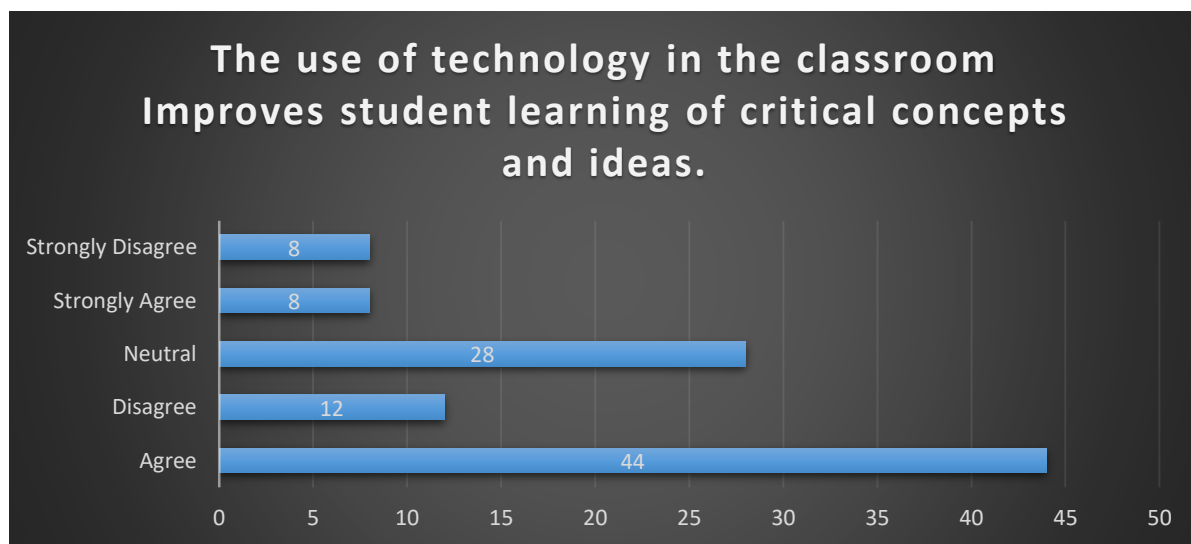
Figure 29

4.2 Reliability Analysis

4.2.1 Usage of Smart-Tablets

Reliability Statistics

Cronbach's Alpha	N of Items
.656	10

72

Interpretation

The Cronbach's alpha demonstrates the reliability of these questions selected for assessing Usage of Smart-Tablets in Education. As per the outcomes of the test of Cronbach is 0.656 which tells us that the questions for Usage of Smart-Tablets are 65.6% reliable. Therefore, none of the questions from the framework removed because of high consistency and reliability.

4.2.2 Academic Performance

Reliability Statistics

Cronbach's Alpha	N of Items
.771	5

Interpretation

The Cronbach's alpha demonstrates the reliability of these questions selected for assessing Academic Performance when there is involvement of technology in Education. As per the outcomes of the test, the value of Cronbach is 0.771 which tells that the questions for Student Academic Performance are 77.1% reliable. Therefore, none of the questions from the framework removed because of high consistency and reliability.

4.2.3 Technological Learning/Complexity of Innovation

Reliability Statistics

Cronbach's Alpha	N of Items
.717	3

Interpretation

The Cronbach's alpha demonstrates the reliability of these questions selected for assessing Technology Learning in Education. As per the outcomes of the test, the value of Cronbach is 0.717 which tells that the questions for Technology Learning/Complexity of Innovation are 71.7% reliable. Therefore, none of the questions from the framework removed because of high consistency and reliability.

4.2.4 Technology Involvement in Education

Reliability Statistics

Cronbach's Alpha	N of Items
.689	6

Interpretation

The Cronbach's alpha demonstrates the reliability of these questions selected for assessing Technology Involvement in Education. As per the outcomes of the test, the value of Cronbach is 0.689 which tells that the questions for Technology Involvement in Education are 68.9% reliable.

Therefore, none of the questions from the framework removed because of high consistency and reliability.

4.3 Regression Run for Data:

The data collect, gather and then interpret from the intercept of Technology and what are their benefits to education whether is it beneficial of involve technology in education. The survey examines with the use of SPSS software for evaluating the appropriate results. The Multiple Regression Analysis is used as the statistical techniques for investigating the best outcomes from the derived variables. Furthermore, the significant value has high importance in accepting and rejecting the hypotheses because it shows the confidential margin about the studied objectives. There is rejection for those values that lie above 0.05 and accepted if it lies below 0.05.

4.3.1 TABLE: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.790a	.625	.600	.42127

a. Predictors: (Constant), TL_MEAN, SP_MEAN, AP_MEAN

R-squared is a statistical measure of how close the information and data which is collected in the form of questionnaire are to the fitted regression line. It is also known as the coefficient of determination, or the coefficient of Multiple Determinations for Multiple Regressions. The model summary of the multiple Linear regression model elaborates that the R-sq is 0.625, Therefore,

62.5% of change in Technology Involvement in Education (Dependent Variable) is because of Usage of Smart-Tablets, Academic Performance and Technological Learning/Complexity of Learning.

4.3.2 TABLE: ANOVA TABLE

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.583	3	4.528	25.513	.000[a]
	Residual	8.164	46	.177		
	Total	21.747	49			

a. Predictors: (Constant), TL_MEAN, SP_MEAN, AP_MEAN

b. Dependent Variable: TE_MEAN

Anova Table elaborates the fitness and non-fitness of the model. Anova Table's sig value shows that the model used in this research is fit.

When the data model is correct, the findings will hit the indiscriminate mistakes that constitute the relationship among the responsive and explanatory variables connections.

4.3.3 TABLE: COFFEICIENT

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.238	.422		2.933	.005
	SP_MEAN	-.155	.110	-.130	1.409	.000
	AP_MEAN	.551	.091	.646	6.061	.000
	TL_MEAN	.224	.092	.255	2.433	.019

a. Dependent Variable: TE_MEAN

In coefficients table, the Usage of Smart-Tablet (Independent variable) is accepted, because the significant value is below 0.05. It means the Usage of Smart-Tablet has impact on Technology involvement in Education (dependent variable). The significant value of Usage of Smart-Tablet is 0.000. So, the result shows that Usage of Smart-Tablet has impact on Technology involvement in Education.

H1: Usage of Smart-Tablets has a significant impact on Technology Involvement in Education.

Second variable is Academic Performance (independent variable) is accepted because the significant value is below 0.05 which is 0.000 so there is a significant impact of Academic Performance on Technology Involvement in Education.

77

H2: Academic Performance has a significant impact on Technology Involvement in Education.

Third variable is Technological Learning/Complexity of Innovation (independent variable) is accepted because the significant value is below 0.05 which is 0.019 so, Technological Learning/Complexity of Innovation has an impact on Technology Involvement in Education.

H3: Technological Learning/Complexity of Innovation has a significant impact on Technological Involvement in Education.

4.4 Hypotheses Assessment Summary

The following table summarizes the results of the implication of multiple regression analysis for the identification of the acceptance and rejection of the hypothesis.

Hypotheses Assessment Summary

Sr. No	Hypothesis	Sig value	T-Value	Empirical
1	**Usage of Smart-Tablets has a significant impact on Technology Involvement in Education.**	.000	1.409	Accepted

2	**Academic Performance has a significant impact on Technology Involvement in Education.**	.000	6.061	Accepted
3	**Technological Learning/Complexity of Innovation has a significant impact on Technological Involvement in Education.**	.019	2.433	Accepted

4.5 Qualitative Research:

4.5.1 Overview:

This research is based on self-explanatory platform, it helps us to get insight of every problem related to our topic. One of the unique parts of this research is flexibility of using inductive or deductive approaches to conduct this research. As in this research there are several techniques to conduct the qualitative research. The method which has been used to conduct qualitative research is that taking interviews of different teachers and they give us their opinion and on basis of this and conduct qualitative research. This research topic is based on technology and its involvement in Education and how its affect us in our student lives.

4.5.2. Teachers' Responses to the Qualitative Question in the Interview:

This part of the Interview includes five qualitative question to explore teachers' perceptions regarding the Usage of Smart-Tablets, Student Academic Performance and Achievement, Technological learning/Complexity of innovation and Technology involvement in Education the researcher wrote up the analysis of the answers as a quantitative analysis in addition to writing some qualitative statements that support each category.

1. **Do you think technology affects your daily life? Does it make things easier for you or more challenging? Expand your answers.**

Almost all of the teachers (85%) say that technology makes our life easier than ever before, it will help Students to get good learning, Teachers summarized responses as follows:

"My point of view about this is that technology helps us in many ways and make things such easy for us. In the perspective of education, it would be helpful for students to learn things efficiently like learning by videos."

2. **Do you think that the use of technology in classrooms helps students to improve their productivity or does it distract them during the lessons?**

Almost all of the teachers (98%) pointed out that If student use the technology to get benefit and for their learning is the only way that they increase their productivity otherwise it will be the biggest distraction for student. The following the summarization of some teachers' responses:

"Everything has his benefits when using in limit and by a proper way, if students misuse this technology it will be destructive for them and if teachers can control the technology and use it in proper way so they will efficiently teach new things to students."

3. **Researchers say that Technology makes us think further in terms of understanding any information. What are your views over this?**

Most of the teachers (85%) Agree with the statement and believe that technology will make us think deeper insight of any knowledge, and because of this our knowledge increased and allowed us to see a same thing from a different perspective. Some of the summarized responses are:

"Yes, it's right technology gives us many ways to see things in a lot of different ways. We have many ways to find multiple answer of a same questions."

4. **"Technology is Unhelpful because it makes people dependent" Do you agree with this statement and why?**

The majority of respondents (95%) stated that Technology is not leading to destruction it depends on the usage of a person. everything has its merits and demerits. Some of responses examples are:

"Technology is not leading to destruction it's the way of using it… if the technology is using by a positive mind and for good reasons it will be helpful and making things more diverse, creative, usable and compatible but if the mind is negative in usage of technology then it's not the fault of technology."

5. **Do you think that the use of technology helps both students and teachers to reach their desired results? Does it help students increase their academic achievement?**

Most of the teachers (90%) said that Use of technology is beneficial for both student and Teacher as teacher earn some new knowledge and student learn some new knowledge it will help student to get good academic grades and a good creative mind. The following are some examples are:

Yes, the use of technology is beneficial for both students and teachers as well… Teachers gain knowledge then delivered the new things to students. As well after listening those new things students search them also and get more idea about it. It will lead students towards a great achievement in their academics, career and life as well.

Chapter 5

Conclusion, Discussion, Implications, Limitations and Recommendations

The last chapter discusses the findings of the data analysis that how these results found. Moreover, this chapter concluded overall research in complete to give the summary about the research study. The other focus of the chapter is on emphasizing the policy implications and the limitations of the research because these factors are significant in performing the valid and satisfactory research. A Quantitative and Qualitative study were done to collect the necessary information to determine and also take some interviews to get the best result about the use of technology in education and the factor related to technology involvement and their complexity. The usage of Smart-Tablets by students to get help over their assignments and the distraction in their students all these factors have been addressed in this research. The information was subjected to quantitative research and qualitative both it's a use of mixed methodology in this research, and my study conveys the ethical significance of the discoveries and conceptualized an efficient design for Technology Involvement in Education determine that, maybe because of the Technological Influence, Many people has support that technology should be involve and become a part of Education as it becomes necessary in today's era to combat and compete with the changes of today's world, but state that, with relatively less technology availability and the expenses associated with this educational institute are being impede themselves to restrict to certain boundaries, cultural benchmarks, an alternate design of Technology that is being used in Today's Education.

5.1 Conclusion

The primary data collected from the multiple stages like interviews and distribute questionnaire to intercept sampling technique with the help of five and seven-point Likert scale questionnaires in this quantitative research and in qualitative research we take interviews of 5 of grade 4 teachers. The data collected from the 50 respondents from students and Teachers. Technological learning is the hurdle between the students and teacher's as some of them didn't understand about the complexity of innovation and this flaw is related with some of the main factors which need to be considered while doing this research, Technological Involvement in education is a dependent factor on usage of smart-tablets, Academic performance of a student and complexity while using and learning this. As discussed in chap 4 there are relationship between these variables. Also the research has been divided on two main stream variables One is Students and Teachers.

5.2 Research questions:

5.2.1 What are the results of using technology in classroom? (Connection between academic achievements and life skills).

While using technology as an assisting tool of communication, students play an essential part instead of being mere recipients of input delivered by the educator or other technological resources like technological. Growing up in the technological era, learners demonstrate an intuitive ability to use digital tools; nevertheless, leaners seek entertainment and excitement in in their

learning process by using these means especially laptops and tablets. Virtual lessons and videos can decrease boredom in subjects that students find boring and demotivating. The advanced skills of the 21st century are now inevitable in order to achieve a positive and prosperous environment in classrooms. Moreover, using technology will enable the students to be prepared for the professional phases of their learning. Critical thinking, not abstract facts and memorization, is not the trend in education along with having the ability to interact and cooperate with the workforce. This ability will sets the students up to embrace the challenges they will face in their future careers.

Technology allows students to be responsible towards their educational attainment an progress by giving them the chance to personalize their learning styles, abilities, and needs. Not only learners, but also educators can benefit from this advancement since it provides them with additional time to tackle students and assist them individually and concentrate on the areas which they need to improve in. According to the data analysis in the study, pupils using technological instruments have better quality of information inquiry. As per another research, a group of 18 grade 2 students were asked to prepare a PowerPoint Presentation about an animal. The majority (16 students who completed the presentation) recalled more details about that animal. The findings indicate that technology usage in fact helps students to learn and remember more than others using conventional means.

5.2.2 What are the benefits of using technology on students' skills?

The controlling aspects of today's educational practices are critical thinking, collaboration, and problem solving. Learners gain the needed skills for more prospects both academically and professionally. Students' engagement with technology is obvious and clear. This paves the way

for teachers and educational institutions to integrate automated educational tools and maximize the advantages of employing these tools on teaching and learning process.

The outcomes of integrating technology in everyday practice in schools are invaluable. These outcomes include,

Improve Engagement:

Students show more probability of progress in the subjects in which technology is integrated due to their engagement with the tools being used. By providing more enjoyable and fun practices in in learning, technology facilitates the process of delivering the information in variable ways like gamification, virtual field trips, and other resources. In addition to that, the use of technology motivates and increases students' participation in the learning journey in the most revolutionized ways, not the traditional ones.

1. **Improves knowledge retention**

    Knowledge retention will be extended when students are engaged in and excited for their learning which can be achieved when students use technological tools. As it was aforementioned by the research, the level of participation and engagement leveled up using digital means. The thing that leads to tangible evidences in the knowledge retention improvement.

2. **Encourages individual learning**

    The individuality in learning is indisputable; education is going towards personalization and specialization. Technology will support these notions and practices in education. For example, students will be able to manage the pace of their learning and revise or skip ahead hard concepts if they are willing to. Special education needs students as well are part of the beneficial from

technology. It grants them access to the web to widen their resources used in their learning and to conduct researches.

5.2.3 What are the pros of using technology on students' skills?

Technology is becoming a culture itself, a life style, and most importantly, an educational tool. In all of its forms (mobiles, tablets) it turns to be a must in all aspects and industries. Being an essential part in our lives, schools also are implementing the usage of technology in learning process through digital tools like laptops and Wi-Fi technology that also leads to prepare students for their future professions

1. **Encourages collaboration**

   Using technology in classrooms improve collaboration skills of the students. When students have work with projects and discuss their ideas with the other students that will for sure lead to implement collaboration between students. Students also can share their ideas across the whole schools and even share with other schools. This kind of learning will increase the collaboration between students and schools.

2. **Students can learn useful life skills through technology**

21st learning skills can be devolved by using technology in classrooms. Both students and teachers can develop their skills. Today's learning journey is all about working as a team, working with others and taking cares of complex and critical issues and efficiency. Moreover, innovation in technology can help create numerous pragmatic aptitudes. Using technology allow students to write emails, doing presentations and using different resources and to differentiate between unreliable and reliable sources on the internet. Theses practical skills will help the students in their future life as well.

3. Benefits for teachers

When students use technological tools, they are engaged in their learning. Teachers can use different online resources to keep students engaged and excited about their learning. Teachers can use some apps to do assessment for students and grade it online, that will save the time of the teachers. Moreover teachers can focus on students who are facing difficulties in understanding some concept by assign online tasks for them. Teachers also can share their lesson plans with other teachers. What is more, using virtual learning environment in schools improve the knowledge sharing between the teachers and their collaboration.

5.2 Discussion

Our research is based on four variables that is Technology Involvement in Education which include (Usage of Smart-Tablets, Academic Performance and Technological Learning/Complexity of Learning) and other variables are demographic characteristics which include (Gender, Social class and Age).

5.2.1 Usage of Smart-Tablets

Usage of Smart-tablets is an independent variable and has a great impact on our research. Usage of smart-tablet is increasing in schools to make student engagement and motivation increased. Introducing technology into the classrooms has been studied by numerous researchers and each of the studies sheds light on the significant role of technology in shaping the student's learning and behavior development patterns. which include improved economic competitiveness of students (Dillenbourg & Jermann, 2010), equal access to technological opportunities (Warschauer & Matuchniak, 2010), increased level of student's achievement in academics (Nora

& Snyder, 2008), high level of student's engagement in the class (Roehl, et al., 2013), improvement in the learning and skills development competencies which enhance the student's abilities to follow the instructions in a more efficient and effective manner (Sadik, 2008).

Technology enriched environment in the classrooms are vital for fostering the students' developmental aptitude and equip them with high level thinking and analyzing skills (Dillenbourg & Jermann, 2010). The provision of such technology oriented classrooms aid the academicians and teachers to shape the student's lives, in still such varying skills which improve the competency level to an inflected point and hence prepare them to embrace the challenges and hindrances of the practical and professional world (Jackson, 2009). The need to develop the students for practical world through the inculcation of technology is considered to be a recurring approach by implementing the assumed theme for practicing educational reforms (Nora & Snyder, 2008). Another research demonstrated that the prevailing technological advancement and revolutionary age centered on information has a very significant yet critical relationship with fostering the problem solving skills and critical evaluation techniques in order to promote high level thinking skills and enrich the intellectual capability of the students (Scalese, et al., 2008). Cuban et al (2001) explained that it is the need of the hour to utilize technology-based tools, techniques and instructional patterns to teach the students about ways to create coherence with the information age and learn the methods to search, manage, utilize, critique, review and translate the information into useful knowledge to improve the learning curve.

5.2.2 Academic Performance of Students in Presence of Technology

Academic Performance is an independent variable in this research, Technology has a significant impact on Student Academic Performance and plays an important role on student skills and on their academics. Students also have a character to do well in their academics and learn technology and understanding the complexity of it and also understand the pros and cons of technology. If students use it for their fun and watching movies and games it will be destructive for them and also affect their academics performance very badly.

According to the research being conducted by West et al (2016), one of the main purposes of academic performance is to prepare the students for the real professional world by instilling cognitive abilities and high order thinking skills in them which is considered as a continuous notion. Saido (2018) has currently studied high order thinking skills and hence identified that, in the current swift emergence trend of technological and information age, high order thinking and cognitive abilities are considered as one of the most crucial yet important factor in order to gain future success through promoting tech based learning environment. Hence the exposure of students to such environments which will engage them into the inflected level of thinking taxonomy is quite important (Nora & Snyder, 2008). Previous researches which have been conducted in the late 90's (Harris, 1996; Kelman, 1989, Solomon, 1990) have also backed the concept and validated that the students should have the knowledge about the use of technological resources, be familiar with the process of extracting, filtering and analyzing information in order to develop an insightful visualization which aids in effective decision making. Technological exposure in the classrooms enables the student to access, manage, evaluate, criticize, refer and most importantly transform the

gained knowledge into useable practical contexts (Kalaian, 2017). Keeping in view the above notion, high level thinking abilities are developed as one of the most vital instructional area through the use of technology in classrooms.

Computer is one of the most effective tools which optimizes the classroom environment and develops an orchestrated environment which fosters learning ad skills building. According to the recent studies, the extent to which students are engaged in the activities pertaining problem solving and critical thinking skills is raised to the highest level due to the computer aided environments (Nora & Snyder, 2008). The current studies and researches being conducted by academicians have widely validated the need to extend the integrated approach between technology and education while being focused towards striving to establish such a learning environment which evolves into the critical thinking dispositions amongst the students (Dillenbourg & Jermann, 2010) ensuring the provision of active learning modules, complex, practical and challenging assignments, reasoned problem solving scenarios, and the restructured teaching material enriched with real time situations in order to increase the pace of high order thinking skills development (Saido, 2018).

5.2.3 Technological Learning and Complexity of Innovation

Technological learning is studied as an independent variable in our research and it has an impact on our research because learning is the main part to understanding everything, Technological learning means technological learning as "the ways students build and supplement their knowledge-bases about technologies, products and processes, and develop and improve the use of the broad skills of their learning". Technical knowledge, and the ability to apply it in increasingly complex settings is fundamental to technological learning.

Technology enriched environment in the classrooms are vital for fostering the students' developmental aptitude and equip them with high level thinking and analyzing skills (Dillenbourg & Jermann, 2010). The provision of such technology-oriented classrooms aid the academicians and teachers to shape the student's lives, in still such varying skills which improve the competency level to an inflected point and hence prepare them to embrace the challenges and hindrances of the practical and professional world (Jackson, 2009). The need to develop the students for practical world through the inculcation of technology is considered to be a recurring approach by implementing the assumed theme for practicing educational reforms (Nora & Snyder, 2008). Another research demonstrated that the prevailing technological advancement and revolutionary age centered on information has a very significant yet critical relationship with fostering the problem-solving skills and critical evaluation techniques in order to promote high level thinking skills and enrich the intellectual capability of the students (Scalese, et al., 2008). Cuban et al (2001) explained that it is the need of the hour to utilize technology-based tools, techniques and instructional patterns to teach the students about ways to create coherence with the information age and learn the methods to search, manage, utilize, critique, review and translate the information into useful knowledge to improve the learning curve.

5.2.4 Technology Involvement in Education

Technology Involvement in Education is studied as dependent variable in our research and this is the variable our whole research is based upon. Education is an important part of society. In order to retain the progress in society, education must also progress as being an important part of it. As a part of this progress is to integrate technology in the modern education. First it should be seen how we got this far. In a little more than twenty years, innovation has entered each part of society, and everything began with the development of the TV. It was TV that offered route to the

PC. Presently information stockpiling and composing could be joined with pictures and designs, and is promptly accessible for school. Innovation can upgrade connections among instructors and students at the point when educators viably coordinate innovation into branches of knowledge, teachers develop into jobs of consultant, content master, and mentor. Innovation helps make teaching and learning more important and fun. Technology inculcation in the classrooms helps in building the knowledge based classrooms. Researchers claim the influential impact of computers on the learning and skills building process (Van der Kleij, et al., 2015). Computer aided classrooms are more focused towards the students' individualized learning. Tech oriented environment in the classrooms encourages brain storming and fostering alternative methods of solving the problems (Belland, 2017).

Learning turns into skills when effectively utilized. Considering the industry requirement, globalization and the emerging technological trend worldwide necessitate the establishment of technological classroom environment for the students to improve the level of engagement, mutual understanding, collaboration and learning patterns (Nora & Snyder, 2008). Van der Kleij (2015) made a significant contribution by suggesting the use of computer aided systems and classroom structures to educate the students and in still critical thinking and analyzing skills in them. Similarly the researcher identified the independent nature of both technology and the subjects' nature where computer aided tools can help in establishing and integration between them at all the levels by adopting a practical approach to equip the students with the skill of their interest (Van der Kleij, et al., 2015).

Technological advancement has emerged as one of the latest trends prevailing in all the industries. Technological inculcation has certainly transformed all the aspects of daily lives (Quintana-García & Benavides-Velasco, 2008). According to a research being conducted in order

to understand the role of ICT advances within the education sector, it has been concluded that technology proliferation has played an integral role in reshaping the education sector. It has contributed as a vital factor in optimizing the classroom environment undergoing a transition from conventional methods to technology-based learning and teaching environments in order to instill competencies, develop skills and prepare the students for real professional world (Angeli & Valanides, 2009). Technology oriented classroom environment develops a coherence between academia and the real-world practices while enabling the students to co-op with the changing industry requirements and trends. Given the fact that educational technology is not bound by a single means and that is using computer (Scalese, et al., 2008). It includes a broader range of interactive modes encompassing video conferencing, electronic whiteboards and many more matching the learning and teaching patterns or goals of the educational institutions along with considering the technological appropriateness for the students about technology utilizing in the classroom (Dillenbourg & Jermann, 2010).

Introducing technology into the classrooms has been studied by numerous researchers and each of the studies sheds light on the significant role of technology in shaping the student's learning and behavior development patterns. which include improved economic competitiveness of students (Dillenbourg & Jermann, 2010), equal access to technological opportunities (Warschauer & Matuchniak, 2010), increased level of student's achievement in academics (Nora & Snyder, 2008), high level of student's engagement in the class (Roehl, et al., 2013), improvement in the learning and skills development competencies which enhance the student's abilities to follow the instructions in a more efficient and effective manner (Sadik, 2008). Technology inculcation in the classrooms help in building the knowledge-based classrooms. Researchers claim the influential impact of computers on the learning and skills building process.

5.3 Implications

With respect to the nature of the research, the study focused on the Technology Involvement in Education therefore; it needs to consider the factor of student academic performance usage of Smart-tablets and Technological learning and the complexity related to it, we have to consider all the factors relating to Involvement of technology in education and also make the confidential information secure which is collected from the Students and Teachers

Our study trends to focus on the how the information related to the Technology Involvement in education and factors affecting it gathered by the people and they develop the valuable, competing and enhance experience through that information. As we all know that usage of smart-tablets by today's generation is main factor when we talk about technology involvement in education. The study contributed much on Technology involvement and learning to do the further research in the domain which is highly growing and it is also important for the research and development department to identify the factors that impact Technology involvement in education and how it effects student learning.

There is also a great practical implication of this study because it is so important to know which factors has an impact on student learning and student academic performance and how they affect us, so this research will help out all the teachers to understand the Technology now becomes very essential to learn and gets deeper insight of every knowledge.

5.4 Limitations

This research has some limitations which open ways for future research. Although this research has reached its aims, there were some limitations which cannot be overlooked. First, the

overloaded work as I work as a teacher and that affects data collection, to some extent, might have affected the findings of this research as I am a teacher and I have other duties. Secondly the teachers were also asked to mention the information related to their identity, might have affected the feedback of our respondents. The respondents of this research were limited. In future researches the respondents can be extended in order to get more reliable results.

Thirdly, lack of reliable and prior data related to the information because some people are not interested in filling questionnaire so they didn't read the questions properly and marked the answer this will reduced the reliability of the data collection.

5.5 Recommendations

The limitation of the research provides further ways for future research. The study presents major findings that the technology involvement in education is become necessary to increase student academic performance and get the more attention of students towards technology the data varies among the students and teachers. This finding helps all Educational related institutions to understand all the factors that change the academic performance of student even better and free from technology. Other than Technology and student skills the study is also helpful for newbies of field to identify best information source preferences based on their skills and time management. It is recommended that for further specific result researcher could increase sample size and can target national and international population for diversify result as majority of the population is related to certain population sample. In future research this could be a longitudinal study as the time was constraint. To better understand Technology involvement and student skills researchers can also add up dependent variable of situational factors.

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Appendices

Questionnaire

The idea behind devising this questionnaire is to find about the Technology involvement in education and how it affected the student skills in a manner, and how academic achievement and usage of smart Tablet affect student skills. We highly appreciate your participation and want to remind you that all answers will be handled with absolute confidentiality. This questionnaire will take around 5 to 10 minutes to fill in. Please, mark your answers by encircling the desired number. 5 is representing the strongly agree and 1 is for strongly disagree. Your answers help us to know technology effect on student skills.

About you (optional)

Name

Email

Kindly Mark the Correct Choice.

1. Gender

Male ☐

Female ☐

2. Age

20-30 Years ☐

25-30 years ☐

31-40 Years ☐

Above 40 Years ☐

Section 2

Kindly fill this section and fill all the questions in your own perspective. Kindly, mark your answers by encircling the desired number. 1 is representing the strongly agree and 5 is for disagree.

(Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5)

	Usage of Smart Tablet.					
1.	I could complete a Task/Assignment/Project using the Smart Tablet If there was no one around to tell me what to do as I go.	1	2	3	4	5
2.	I could complete a Task/Assignment/Project using the Smart Tablet If I had never used a smart Tablet like it before.	1	2	3	4	5
3.	I could complete a Task/Assignment/Project using the Smart Tablet If I had only the smart Tablet manuals for reference.	1	2	3	4	5
4..	I could complete a Task/Assignment/Project using the Smart Tablet If I had seen someone else before trying it myself.	1	2	3	4	5
5.	I could complete a Task/Assignment/Project using the Smart Tablet If I could ask someone for help If I get stuck.	1	2	3	4	5
6.	I could complete a Task/Assignment/Project using the Smart Tablet If someone else had helped me get started.	1	2	3	4	5
7.	I could complete a Task/Assignment/Project using the Smart Tablet If I had a lot of time to complete the Task/Assignment/Project for which the smart Tablet was designed.	1	2	3	4	5
8.	I could complete a Task/Assignment/Project using the Smart Tablet If I had just the built-in help facility for assistance.	1	2	3	4	5
9.	I could complete a Task/Assignment/Project using the Smart Tablet If someone showed me how to do it first	1	2	3	4	5
10.	I could complete a Task/Assignment/Project using the Smart Tablet If I had used similar smart Tablets before this one to do the same Task/Assignment/Project.	1	2	3	4	5

	Academic Performance					
1.	Teachers academic background effect the student academic performance	1	2	3	4	5
2.	Smart Tablet allows students to improve their productivity in their academic performance.	1	2	3	4	5
3	The role played by the teacher in the teaching process has highly effect on student performance	1	2	3	4	5
4.	Student teacher relationship has an impact on student academic performance.	1	2	3	4	5
5.	Alignment between Student involvement in technology and the academic standard has affected the student academic performance.	1	2	3	4	5

	Technology Involvement in Education.					
1.	The use of technology in the classroom Increases Academic Performance.	1	2	3	4	5
2.	The use of technology in the classroom Results in students neglecting important traditional learning resources (e.g., library books).	1	2	3	4	5
3.	The use of technology in the classroom is effective because I believe I can implement it successfully.	1	2	3	4	5
4.	The use of technology in the classroom promotes the development of communication skills (e.g., writing and presentation skills).	1	2	3	4	5
5.	The use of technology in the classroom enhances my professional development.	1	2	3	4	5

6.	The use of technology in the classroom Improves student learning of critical concepts and ideas.	1	2	3	4	5

Technological Learning/Complexity of Innovation.					
1. It's difficult to learn technology and get to know how to be used.	1	2	3	4	5
2. It takes a long time to learn and use the technology.	1	2	3	4	5
3. There is a challenge in using the new technology and understanding the complexity of innovation.	1	2	3	4	5

Additional Comments

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_____

_____

Thank you for participation!

Interview Protocols

Date:

Place:

Interviewer:

Interviewee:

<u>The interview procedure</u>:

- Introducing myself
- Introducing the interview topic and purpose
- Taking the interviewee's permission for audio-taping the interview
- Informing the interviewee that the transcripts will be undertaken by myself to maintain confidentiality.
- Informing the interviewee that they will have the right of reviewing, editing or erasing any statement from the transcript.
- Asking the interviewee if they would like their actual names or replaced names to be mentioned in the study
- Asking the interviewee not to name the school in which he/she works or third parties on recordings to maintain confidentiality.
- Taking the interviewee's permission to publish the research data
- Giving the interviewee an opportunity to ask any question before starting the interview
- Participants have the right to refuse to answer any question.
- Asking the interview questions
- Taking notes if needed
- Thanking the participant

Interview (1)

1- Do you think technology affects your daily life? Does it make things easier for you or more challenging?

My point of view about this is that technology helps us in many ways and make things such easy for us. In the perspective of education, it would be helpful for students to learn things efficiently like learning by videos. Technology will help us in many ways like Improved our communication, increase our living of standard, and convenience in education.

2- Do you think that the use of technology in classrooms helps students to improve their productivity or does it distract them during the lessons?

Smartphone is almost always a distraction. Even the visible presence of a phone pulls students—and many adults—away from their focus. Some students can "switch" attention between the phone as an entertainment device and as a learning tool; for others, the phone's academic potential is routinely ignored.

3- Researchers say that Technology makes us think further in terms of understanding any information. What are your views over this?

Yes, it's right technology gives us many ways to see things in a lot of different ways. We have   many ways to find multiple answer of a same questions. The capacity to reflect, reason, and draw conclusions based on our experiences, knowledge, and insights. It's what makes us human and has enabled us to communicate, create, build, advance, and become civilized.

4- Technology is Unhelpful because it makes people dependent" Do you agree with this statement and why?

I think yes in some factors as technology involvement increases, the person ability to do a job is decrease. Excessive use of technology will harm us in the future and there is not subsequent cure for this as we are being slave of this technology. Technology is not the problem. It is the way that we use it. If we just used it as a tool instead of as a way to escape reality then all is fine. It is the people who sit on their asses playing video games all day that make it seem that way.

5- Do you think that the use of technology helps both students and teachers to reach their desired results? Does it help students increase their academic achievement?

Of course, if I talk in the context of education it helps teacher and student both and it help both to increase academic achievement of student and getting the best learning outcome. it would be helpful for students to learn things efficiently like learning by videos.

Interview (2)

1. Do you think technology affects your daily life? Does it make things easier for you or more challenging?

Technology affecting me in my daily life and in every aspect and it makes my life easier than before but, it's from both side positive or negative. There is always pros and cons of everything. As technology has it owns, but what I believe is technology makes us dependent, you can take example of electricity, without electricity we can't do anything.

2. Do you think that the use of technology in classrooms helps students to improve their productivity or does it distract them during the lessons?

If I talk about usage of technology like cell phones, laptops, tablets or any other electronic device in classrooms makes thinking more creative and active when its open to use, but it will be going to give you loss when you are using it at wrong time like during lectures.

3. Researchers say that Technology makes us think further understanding of any information. What are your views over this?

Yes, my statement is also with researchers because when you use technology for that topic which is going in to your mind the results shows more related things to that topic and your knowledge increased. Technology can be both beneficial and harmful to different ways in which children think. Moreover, this influence isn't just affecting children on the surface of their thinking.

4. **"Technology is Unhelpful because it makes people dependent" are you agree with this statement and why?**

Technology is not leading to destruction it's the way of using it… if the technology is using by a positive mind and for good reasons it will be helpful and making things more diverse, creative, usable and compatible but if the mind is negative in usage of technology then it's not the fault of technology.

5. **Do you think that use of technology helps both student and teachers to get their desired results and also help student to increase their academic achievement?**

Yes, the use of technology is beneficial for both students and teachers as well… Teachers gain knowledge then delivered the new things to students. As well after listening those new things students search them also and get more idea about it. It will lead students towards a great achievement in their academics, career and life as well.

Interview (3)

1. **Do you think technology affects your daily life? Does it make things easier for you or more challenging?**

Technology makes me lazy and yes it would affect our life in a good way. Another part of technology in my life would be the mobile technology as it helps me the most in my daily day to day tasks. But this technology affected us in family as we spending more time in doors than we are outside. With all the technology we have nowadays we don't need to get out of the house anymore, you can do everything from the comfort of your home.

2. **Do you think that the use of technology in classrooms helps students to improve their productivity or does it distract them during the lessons?**

If the teachers use the technology to give learning advantage to students then it will be productive for both students and teachers and if students using this in classroom it will be only distraction for student, but using in a proper way can increase educational productivity by accelerating the rate of learning.

3. **Researchers say that Technology makes us think further in terms of understanding any information. What are your views over this?**

Yes, because technology gave us many doors to get information as much as we want it will be a very good source of information for me, and make me think deeper insight of everything I want to learn. The effects of technology on student are complicated, with both benefits and costs. Whether technology helps or hurts in the development of student's thinking depends on what specific technology is used and how and what frequency it is used.

4. **"Technology is Unhelpful because it makes people dependent" Do you agree with this statement and why?**

Yes, I have to agree that many people are becoming too dependent on technology. From simple things, like adding numbers in their mind vs. on a calculator, to more complicated tasks like planting a garden, humans rely on gadgets. In America, hardly anyone walks or rides a bike, people want to drive everywhere, even for a short distance. I don't know how many people would survive if technology suddenly disappeared.

5. **Do you think that the use of technology helps both students and teachers to reach their desired results? Does it help students increase their academic achievement?**

yes, but again it depends on the usage of a person if a student uses technology to watch movies and playing games it will never be favorable for the student and he/she didn't get their desired results and yes technology helps teachers to get their student to get desired academic achievement but both will have to give their best.