



THE IMPACT OF DIGITAL DEVICES ON THE STUDY HABITS AND ACADEMIC PERFORMANCE OF STUDENTS



Hina khatoon

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BY

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Series Title: SCOPUA Books

Scientific Collaborative Online Publishing Universal Academy

Book Title

**The Impact of Digital Devices on the Study Habits and
Academic Performance of Students**

Series Name

SCOPUA Books

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Published On

April 27, 2025 (Edition 1)

Publisher

**Scientific Collaborative Online Publishing Universal Academy,
Pakistan**

ISBN: 978-627-7898-03-8

DOI: [10.64060/978-627-7898-03-8](https://doi.org/10.64060/978-627-7898-03-8)



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Dedication

I dedicate my Research work and efforts to ***THE HOLY PROPHET (PBUH)*** Who is forever the torch of guidance and knowledge for the whole of humanity. ***My Father*** (May his soul get the highest place in heaven, Amin) ***Mother, Siblings*** and ***Teachers*** who Supported me all the way and have been a great source of Motivation, Inspiration and endless efforts never let me down in any walk of life.

Acknowledgements

The work reported in this book has been carried out by me under the supervision of Dr. Shafqat Hussain, Ex-Associate Professor, Department of Education, and Government College University Faisalabad Pakistan, during my master's degree.

This work did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. My sincere appreciation goes to my teacher Dr. Shafqat Hussain and fellows, whose guidance and expertise were instrumental in shaping the research direction of this book.

Abstract

Digital devices have been used by the learners to gain more knowledge for positive and desired outcomes. Hence, these devices can enhance the quality of teaching as well as learning strategies. To complete this study, four objectives and five research questions were developed. The present investigative research study was limited to only the secondary school students in urban and rural areas. Due to financial and time considerations, the study was delimited to only two Tehsils (D. G. Khan and Taunsa) and selected from the three Tehsils of Dera Ghazi Khan District. The population consisted of students from 75066 secondary schools. The convenience sample size was consisted of 384 students from rural and urban secondary schools of two Tehsils of Dera Ghazi Khan District. The data was collected from participants through questionnaires. A research Questionnaire was developed with the help of an extensive review of related literature, suggestions from the supervisor, and precious viewpoints of experts. The reliability of the instrument was analysed and the value of Cronbach's Alpha coefficient was found 0.81. Quantitative data was analyzed with the help of SPSS (statistical package for social sciences) V 20 and MS Excel software. Mean, Standard deviation, percentage, Pearson Correlation, and simple t-test were applied for data analysis. It was concluded that the secondary school student's study habits and academic performance were also average regarding their knowledge about digital devices and their use respectively. It was concluded that the students from urban areas were more efficient than the rural students and the need for digital devices enhanced their academic performances at

the secondary school level. It was concluded that academic performance and study habits had positive relationships among all the participants' responses. The majority of the students agreed to change their study habits with the use of digital devices. It is recommended that Digital devices and their technical usage should be an entitled standard for secondary schools. Administrators and staff should be present at regular professional training for improvement sessions and motivate the learning approach for the classroom practices as student-centred. In this manner, our society will change positively and students may learn and modify their study habits with digital devices.

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CHAPTER 1

An Overview of Investigation



1.1. Introduction

The expansion of innovative Digital Devices has aroused a lot of novel questions. The abilities and learning skills of the students are increasing day by day with the use of Digital devices. This advanced learning has developed and collaborated the learners in new ways. In the field of educational field, the performances of the students have a positive effect due to the contribution of this technology (Valk et al. 2010). Digital devices have been utilized by the learner to gain more knowledge for positive and desired outcomes (Kukulska-Hulme & Traxler, 2007). Hence, they increase the types and quality of teaching as well as learning strategies. In the teaching and learning process, the teachers also benefit from the use of these digital devices and enhance their teaching skills to become effective teachers (Motlik 2008).

The research study of Subrahmanyam et al. (2000) and Tsikalas et al. (2007) have highlighted that students may increase their opportunities for success due to the use of computers. They also describe that the positive use of digital devices develops the visual and cognitive development of the students. The use of digital devices regarding technology may be very constructive to transmit immediate vital messages, as well as to construct and develop the learners. They can share information at national and international levels. In advanced countries, numerous research studies show a huge and positive relationship between students' work placed by their teachers at the schools and also as homework. At the school level, the technology-based resources are known as digital devices; computers, tablets, portable media players, personal digital assistants and also handheld games. The learning experiences would be developed worldwide through the help of portable



tools and digital devices at the secondary school level. These digital devices have become now an effective and efficient mode of education. Teachers and students use their rational capabilities to achieve their goals. As a result, they dispose of themselves more logically and skilful with the use of the internet (Subrahmanyam et al., 2000; Tsikalas et al., 2007). In the teaching and learning process, the teachers perform effectively with the help of new approaches and techniques of technologies. According to Battro& Fischer (2012), education can be imparted in a unique way with the help of these emerging global technologies. For example, in the higher level of education, technology-based learning programs like virtual learning activities can motivate the students.

In other words, digital devices have modified, moulded the performance and attitude of the students towards learning more efficiently than previous environment. Today, learners feel more enthusiastic and energetic about obtaining knowledge regarding their aptitude for the use of digital devices (Jorosi& Isaac, 2008). In the developed countries, the students are known as digital natives as they have better use of these technologies in a positive way. However, the misuse of the technologies still exists there but the positive effects in education sectors are considered due to digital devices efficiency. The cognitive abilities are directly influenced by these digital instruments. In the age of technology, young people have developed themselves to move on to their next stage of academic span with the use of new technological devices (Bicen&Cavus, 2011).

Digital devices have been used in different fields like medicine, trade and business. Nowadays, the use of digital devices in education has improved the performance and



achievement levels of students, especially at the school level. In the education sector, teachers can also enhance the achievement of the students as well as their pedagogical strategies (Gabriel, Campbell, Wiebe, Macdonald & McAuley, 2012). The term digital native has become famous because the newcomers in schools, colleges, and universities are more conceptual and rational. Due to their significance of rationality level, they can be called the generation of the net, the generation of Google or the digital net (Jorosi & Isaac, 2008). After the year of 1980, the new generation became more attracted to and paid more attention towards digital technologies. They were different in cognitive development as compared to their ancestors (Bicen & Cavus, 2011).

In education mobile technology, such as smartphones, mobile devices, tablet devices and another source of communication are being used exceptionally by the students in classrooms. The learners and especially the teachers develop their teaching and learning styles day by day. Due to the use of creativity in digital devices at the secondary school level, learners become fast and consistent in their academic performances. The teachers have become more effective, and efficient and have a positive influence on the modified behaviour of the learners regarding their learning process. In the current educational area, the relationship between the teacher, teacher, teacher community and teacher profession has been increased with the help of these novel technology tools. The process of transformation of knowledge is now easy and accessible all around the world. The developed countries have changed education into the game changer element as the term of economic point of view (Al-Fahad, 2009). The web-based information in the general public is based on the advancement



of technology. Increasing of the tools of digital devices in the field of education together with laptops and other tools, on the other hand, the Program for International Student Assessment (PISA) performed in seventy countries presents that learners from different countries have greatly devoted to an education environment with technologies that have high achievers in academic performance than those students of different countries who were not part of this program (Pedr , 2006).

In the field of educational economics, the present phenomenon of the development of student's performance has been raised day by day respectively, the increasing of novelist digital devices such as computers, laptops, cellular phones and tablets, regarding the internet field helps a lot in teaching and learning procedure. These new digital devices created a new question regarding to performance of the students. However, digital devices has raised the quality of education at the level of all education span i.e. secondary, higher secondary, and university. Generally, this question arouses a new soul for the researchers who have a keen interest in the development of students' performance theories which are caused by increased learning abilities and skills. The educational outcomes are influenced by the use of technological devices as well as pedagogical practices in schools, colleges, and universities (Bicen&Cavus, 2011). Number of researchers have explained the reality of a novel age group of young people who were born after the year 1980 and had been deeply manipulated by digital devices, explaining dissimilar features when evaluated to past age fellows. This new term is being called to emphasize the consequence and significance of digital devices in the academic performance of people. The most well-known term digital natives has been famous in today's global world



because the students of universities, colleges, schools and other educational institutes have been using different types of digital devices to make their academic achievement and study habits positive and effective (Pedró, 2006). Today's learner depends on digital devices more than his teachers and the attitude of students becomes different towards the teacher-student relationship. An increasing research study regarding the academic body reflects that digital learners become more dependent on their busy lives. The importance of the teachers remained constant due to the excessive use of digital devices in classrooms. Teachers are the source of practical learning, experience learning as well as habitual learning for motivated learners (Smith, 2012).

1.2. Objectives of this study

Learning from digital devices is a complex process which improves some particular capabilities to increase knowledge, meanwhile; teachers and students are using digital devices in the teaching and learning process to make it more effective. So researcher is going to investigate “the use of digital devices on the study habits and academic performance of secondary school students”. To complete this study following objectives were formulated:

- 1) To investigate the usage of digital devices at the secondary school level.
- 2) To investigate the needs of digital devices in the academic performance of urban and rural secondary school students.
- 3) To analyze the relationship between digital devices and the study habits of secondary school students.



- 4) To evaluate the relationship between digital devices and the academic performance of secondary school students.

1.3. Significance and Limitations of Study

In replying to these research objectives, this investigative research should supply information in different ways. First, the research study will add to the rational knowledge concerning the new age group of learners in the secondary level of education, mutually in terms of definitions, characteristics and concepts. It would be also supportive for the beginner researcher to study and search out the more complex factors affecting academic performance variables at this level. Furthermore, all the way through this research study teachers will be capable of tackling and reformulating the study habits of the students as well as the positive use of digital devices in the classrooms. This research study will be fruitful for the educationists to recognize the feeble areas which may cause poor habits in the academic performance of the students. They would be able to choose digital devices which may be implemented in the classrooms with full expertise. This research study may be helpful to the higher educational authorities and administrators to acquire a few instant concrete steps to supply ethical and professional support to the teachers to enhance their skills of teaching at the level of secondary education.

The present investigative research study was limited to only the secondary school teachers working in urban areas. It was limited the students of other streams of education were not included in this study. Consequently, one district of Dera Ghazi Khan Division was included in this present research.



Due to financial and time considerations the study was delimited to;

- a) Only two Tehsils (D. G. Khan and Taunsa) were taken from the three Tehsils (Dera Ghazi Khan, Taunsa, and KotChutta) of Dera Ghazi Khan District.
- b) Urban and rural secondary schools of D. G. Khan Division
- c) Only public secondary school students of the D. G. Khan Division

1.4. Operational Definitions

1.4.1. Relationship

It means the relationship amid two changeable factors. In the present study, the study habits and performance are two changeable variables which are being observed by the researcher (Woody, Daniel, & Baker, 2010).

1.4.2. Study Habits

Study habits are explained as “the computation of all the habits, firm purposes and compulsory observes that the personage uses in order to gain knowledge” (Motlik, 2008).

1.4.3. Academic Achievement

Academic achievement denotes the achievement marks scored by individuals in the monthly examination taken by the school administration (Dadzie, 2008).

1.4.4. Secondary Students

By secondary students, the researcher denotes the learners who are studying in the secondary course, i.e., IX and X grade/standard (Agbezree, 2001).

1.4.5. Electronic Portfolio

A portfolio is a compilation of work expanded crosswise varied backgrounds over time. The portfolio can move on the process of learning by supplying the learners or the other



faculty members of an organization, with documentation and fulfilled pieces of work by individual/teacher (Deavers, 2000).

1.4.6. Social Media

Web and applications with high-definition technology which are used within digital devices are called social media, through social media, interactive communication becomes very easy and effective (Deavers, 2000).



CHAPTER 2

Prior Investigation



2.1. Introduction

Technology plays an important role in teaching and learning environments. The improvement of new innovations, for example, phones, the web and computers, have brought up another modification in learning habits. The learners are using these new advancements for collaboration and interaction with other fellows. New advents can also solve their financial matters. The analysts who are working on portable learning accept that versatile learning adds to the learners' knowledge in a novel way (Valk et al. 2010). In the initial place, digital digital devices impact the results. Subsequently, they have developed the worth and sorts of instructional strategies. There is some proof that these digital devices are additionally a source of transformation and various outcomes rely upon the family type. For instance, the pay goes higher and the social degree of the families becomes required to take information from these digital devices. Hence, they have found that each kind of PC use expands user achievement (Motlik, 2008). Chen, (2002) found that the utilization of the web adds to the student's advancement of psychological and visual aptitudes. They also accepted that it was hard to state that there was a causal connection between web use and learner achievement. The relationship between digital devices and learning activities had a positive influence on the learners' lives.

Huang, (2013) expresses his views about E-learning and its impact on learners' output in classroom activities that the learners are utilizing digital devices for E-learning and m-learning. These devices are the essential root cause of contention. This paper tries to add to a superior comprehension of the impacts of diversion. There is utilizing information from secondary school students. Learners can associate with the web



to speak with their companions or to mess around. These exercises help the learners in the event while they are utilizing during class. If they become dependent on these exercises, these digital devices may divert their intentions. In other words, there is considerable separation of learning materials and web-based mentoring for secondary school learners. "Online administrations" or "the web" may be utilized for informational purposes. They may likewise be utilized for different points that may divert from learners' learning. Along these lines, more research from various nations and periods is required. In the light of this study, each culture and nation is influenced in an unexpected way. The principal reason for this examination is to explore the impact of digital devices on learner's scholarly achievement. The impacts of innovative vehicles could not be isolated because of information limitations. Consequently, the general impact of digital devices can be estimated.

As highlighted by Palani (2012), examining tendency is an essential and significant perspective for making an instructed society in this global world. It shapes the character of citizens and encourages them to generate energetic, motivating strategies and present new thoughts. Meanwhile, the advancements in globalization through technologies have kept on influencing passion for engagement in digital devices i.e., digital books, interesting magazines, and innovative diaries, among others. In the words of Issa et al. (2012) suggest that regular investigating exercise influences the tendency of examining abilities and resulting scholarly execution. There is a general sense where one admits the connection between great tendencies for perusing and the scholarly discoveries in other parts. Another research study by Singh (2011) analyzed



that educated achievements and study tendencies were optional for upper levels. The results revealed that immature young separated altogether in their examination tendencies and scholarly performance. In the research study by Bhan and Gupta (2010) directed, an exploration of academic achievement and study tendencies among the observations students having a position with remarkable position and non-planned rankings. The research study has exposed that gender has no remarkable consequence on academic completion and study tendencies for students. Ogbodo (2010) denotes that guardians move their learners to class for learning. These students show different kinds of academic performances with the use of digital devices in their classrooms. Subsequently, learning is an adjustment in study habits. Meanwhile, a change has been observed in their process of thinking, development of physical enhancement, controlling aptitudes and improvement of interests and other qualities. The overall performance of the learners in schools might be changed with different teaching methodologies of smart boards, laptops, e-books, and e-libraries. Digital devices inspect the amusement or logical and basic tendencies among the scholarly class of learners. It shows that reading with these digital devices improves the capabilities of learners. The learners spend with these devices a restrained life in school.

2.2. Digital Devices & Study Habits

Dadzie (2008) argues that digital devices have the capacity to comprehend words save them in records or documents and utilize the information for self-improvement and advancement in knowledge. In other words, youngsters can conclude from recorded data whether printed or non-imprinted about the life of a person. Individuals read for various rationales and



reasons, some of which include for pleasure, amusement, logical reasoning and other useful phenomenon. The students also make the level of confidence at the higher level in their academic careers. Academic achievements are also influenced by the specific practices. It is done by the learners in their academic life and the regular students pay special heeds to the learning devices which he or she can make well progress all the time (Gallo, 2007). Guthrie et al. (2007) accepted that "scrutinizing" is the presentation of getting consequences from published or composed written words which is the cause for learning in the classroom and one of the most important capacities is the regular existence of learning devices and their use.

Vandamme et al. (2007) discuss in their research, those affecting variables which have an important and positive impact on the study and remain under observation, execution and investigation estimate skills. The most important point of this research study is to order the study which is under observation into three levels: "low", "medium risk", and "high risk". The more different and studyable variable is the high-risk level of observation in students' lives. Deavers (2000) accepted that implementing a process of reasoning, assessment, critiquing, imaging and critical thinking. Examining is a fundamental device for positive moves and the tendencies for acting an academic relation that builds ability in different instructional technologies. The information about the world and its condition is related to the new generation. They connect and interact with themselves through reading books, interesting papers and different helping electronic materials. When the new generation has been well knowledgeable enough to participate and has an active mind



to build up the affection for books. They can examine themselves for the large amount of human encounters. Learners, who stay away from the probability of connecting with books in their beginning periods of life, face complications in gaining immense studying tendencies in their years respectively.

The interest of the students in digital technologies at the school level is analyzed by a researcher that learners always make a lot of remarkable achievements as compared to non-technical educational institutions. This assessment indicates differences in eagerness from sexual point of view. These differences appear frequently in common public communications and sweeping statements. The females reveal more interest in creative stories, sharing experiences, emotions and fiction. While the guys reveal more interest in natural tendencies, classifications of games and knowledge. Likewise, the male respondents have more natural tendencies true to life as compared to the female respondents (Agbezree, 2001). Richards et al. (1999) assessed to forecast the achievement in a first-year deceiving in the course. In this research, professionals investigated the different variables that influence the achievement of designing under observation in their first-year studies and consideration the job of study tendency on their performances. The achievements of students were anticipated by the higher authorities.

Druin (2009) states that the offspring of the present age, whom we suggest as I-kids, can without much of a stretch adjust and control all sorts of innovations and screen-based structures. In any case, the instructive needs aptitudes and interests of these "I-kids", who have a high ability to adjust to new advances. In this way, it is basic to guarantee that these



requirements are achieved and instructional situations are managed like a manner, the social and mental impacts of the innovations should be examined. Among these advancements, cell phones are those that are most helpful to use in the study hall and in close-to-home life. Truly, cell phones appear to be equipped for comprehending the difficulty between the study hall and the PC research centre by empowering learners to take an interest in both physical and virtual learning exercises. With a similar point of view, Rossing, Miller, Cecil and Stamper (2012) characterize portable learning as the proficient and compelling utilization of remote and computerized digital devices and advancements to improve students' results during investment in learning exercises. There have been numerous examinations on the possible impacts of cell phones in educational institutions and on learning, their jobs and impacts inside the instructing learning process (Sung & Mayer, 2012). A few examinations have additionally revealed that versatile adapting decidedly adds to learners' achievement. It is viewed that likewise the utilization of cell phones outside the study hall is useful for learning. Through cell phones, learners make their learning system and do informing and interpersonal organizational exercises with their companions and instructors. Furthermore, it has been seen that educators decidedly use cell phones concerning the composition abilities of students with unique instructive needs (Swan, Hooft&Kratcoski, 2005). The utilization of cell phones, which are considered to add learning and coordination in the study hall, relies upon instructors' opinions on this issue. In this way, knowing educators' opinions and looking at the factors that influence these judgments would affect the utilization of these advances



in the study hall for learning purposes. These assessments are the providers of certain perceptions and may likewise be utilized as a source of perspective to decide the degree to which learners are influenced by these digital devices.

2.3. Digital Learning Materials

Computerized reading materials are progressively normal for the instructing of English, different dialects and crosswise over instructional settings just as in substance-arranged courses. They have been generally gotten through versatile computerized digital devices (e.g., tablets, cell phones). Despite, it has been expanded reasonably, potential advantages and integration of different styles and moods (Vaarala&Jalkanen, 2010), an increasingly pleasant learning process, expanded inspiration (Huang, 2013), and, whenever actualized effectively (DeStefano&LeFevre, 2007). Learners need adequate time, in figuring out how to exploit these highlights (Chou, 2016), worries about the improvement and utilization of advanced materials exist. Studies have demonstrated that students prepare towards printed course books over their computerized partners (Daniel, & Woody, 2013).

Purposes behind disappointment include examining long messages on screens, resulting eye strain, restricted note-taking highlights, innovative troubles, absence of adequate student preparation (Baek& Monaghan, 2013), lacking educator support (Gu et al., 2015), and challenges grasping on the web writings (Lam, Lam, Lam, &McNaught, 2009) or learning through advanced writings (Daniel & Woody, 2013). The new aptitudes required for learning with innovation have produced expanded exchanges on advanced proficiency as a manner (Gillen, 2014), especially since numerous students are



not adequately prepared on learning in these media-rich conditions.

Computerized reading material (additionally called e-course readings or electronic course readings) can be made through numerous instruments, created by enormous distributors or individual instructors and contained on digital devices or in the cloud or web. In this manner, teachers and authors of materials are progressively ready to make computerized course books that are both unconsciously and pulled to their instructional setting. These reading materials can be explicitly intended to focus on the course destinations. They convey course material and content models to the student's needs. In an extensive social setting, they are appealing English for explicit purposes (ESP) courses. An intelligent computerized course reading which is launched for college level, Business English will be investigated in this examination. Most of the researches on computerized course books investigate electronic adaptations of printed materials. A little research considers those writing materials that are composed by digital devices or settings. No exploration was found on the utilization of modified advanced reading material with non-local English speaking (NNES) learners. Overview investigations on learners have uncovered that most of the learners encounter negative changes in reading materials. They want to actively participate in the learning environment. They face hurdles reading from computerised-based devices (Chou, 2012).

Some may convert these discoveries into print-based course books. However, it might be those students who prepare for such kind of learning. It has given procedures and techniques for advanced writing to a great extent formed outside the



classroom and their learning experiences are generally print-based inside a classroom. They change to utilizing their digital devices for scholastic despite close to home purposes, the learners need to advance extra "exertion and association in beneficial learning exercises," these two key parts of commitment that recognize. Commitment can give the inspiration for students. They have needed to explore this new learning condition and the structure of the advanced reading material should be considered. It can't be expected that clients will naturally end up fruitful students. In that capacity, the significance of changeable turns out to be clear and the students are preparing for critical situations.

This exploratory examination in this way reacts to the call for further research of computerized course books as they support learning and how the shows of readings move when the students connect with advanced writings, explicitly with NNES students (Huang, 2013). They are creating disciplinary composition abilities. It looks to move past the assessment of the student's judgements and investigate students' learning forms, methodologies (i.e., cognizant work of a learning procedure), and commitment as they utilize intuitive advanced reading material. It depends on an expansive use of the way of life of-utilization reasonable system of action hypothesis, which "gives a focal point through which to investigate, and possibly to academically address, device socialization and its inconstancies and textures". The system recommends that the students be forced to do work with advanced content mediums and restricted utilization of portable computerized digital devices in instructional settings may influence how they draw in with such learning materials (Thorne, 2016).



2.4. Digital Textbooks in the Classroom

Research on advanced reading material has concentrated on classes for local English-speaking (NES) students. Advancement in web-based devices gives significant examinations to NNES learners. Most examinations are based on tendencies and draw findings that the students move towards print to advanced reading material. Baek and Monaghan (2013) found that solitary 34% of the more than 600 NES learners had shown their feelings of happiness with their programmers who had developed computerized course reading. The students were bound to report positive conclusion because new generations utilize PCs for scholastic purposes. The writers advocated the utilization of programmers who designed computerized reading material. Working with 12 NNES students, Lam et al. (2009) found that members who utilized distributor-made computerized course books for expanded periods communicated more negative assessments than the individuals who utilized them for shorter occasions. Estimating students' discernments at first and after some time would thus be able to give more top-to-bottom data.

Other research moves past studies and spotlights on students' learning and encounters. Daniel and Woody (2013) found no distinctions in NES (non-English speaking) students' learning (estimated through test scores) when utilizing printed versus advanced course books. The students are utilizing the computerized course books. They appear to require more opportunities for chasing and sharing more energy in a scope of non-scholarly exercises. They are interested in print-based material of similar content. The web developers were logically arguing on the question that the learners learn with similar



digital devices they use for individuals without giving appropriate preparation or training. Daniel and Woody present that the digital base learning program can have on students' consideration, others have noticed students face challenges in connecting with these advancements. Evans and Po (2007) find that their 12 NES schools students are "not able to connect with advanced writings" to a great extent because of "their past communications with innovation". Similarly, McFall (2005) finds that numerous highlights of the advanced reading materials are testing, new and consequently not used by the undergraduate NES members. The writer emphasizes the significance of structure and customization in learning with advanced course readings and taking note of that preparation must estimate basic inspecting the aptitudes. This is especially striking given that new internet-based knowledge convincingly requires an alternate arrangement of abilities and methodologies (Leu et al., 2011).

Customization is basic with disciplinary composition and learning in ESP, which is a logical, needs-based way to deal with language instructing and learning inside instructional settings (Belcher, 2009, for example, Business English). This customization is progressively happening utilizing innovation (e.g., genuine recordings and writings, correspondence with experts). New advancement in web devices offers learners numerous affordances, which means 'coordinate' between something on the earth and the students (van Lier, 2004). With these new conditions, it becomes with the requirements for new learning and methodologies. NNEST students can't depend on natural methodologies as they read and learn with computerized course books (Chou, 2012). They are studying new difficulties (e.g., unmistakable explanation techniques,



eye strain) that are present on the screen to discover an effective on a large number of assignments. No examinations have presented the procedures and systems. The students use and participate in this new informational setting. The procedures of the informational setting are examined and study the students' utilization of knowledge in other learning settings. It also included psychological-based techniques, for example, verbal process conventions (TAPs), which are valuable for understanding critical thinking and intellectual capacities while utilizing web-based learning (e.g., Okuyama & Igarashi, 2007; Sun, 2003; Vinther, 2005) and during second language inspecting (Brown & Rodgers, 2002).

2.5. Use of Smart Boards Tablets

Amongst the latest innovation advancements and most prevalent utilize in the study hall or computer lab. These are remarkable intelligent white sheets with a projector for showing different courses of study. These sheets are flexible and programming can be utilized as a basic audio-visual type of whiteboard, a video projector, or a sensitive PC screen. On these sheets, learners can work intelligently jointly with exercise plans, for example, those containing phonetic articulations, rhyming plans, examining appreciation levels and different exercises for the day. Moreover, SMART sheets enable instructors to show and assemble ideas, use web searches, or show worksheets for the class to take a shot at together (Maher, Phelps, Urane, & Lee, 2012). The above - mentioned digital device is an intelligent whiteboard that carefully changes computer programming and educational plan content into a successful asset for instructing, illustrating, and displaying. This innovation board furnishes learners with brilliant images and data that may make an experience



impression. With the PC picture anticipated on the board, learners can turn out to be immediately included and connected by utilizing the tips of their fluent fingers to push on the huge, delicate and sensitive screen to control the PC programming. Learners can likewise utilize the digital boards as an essential board for all purposes. The board is pre-stacked with programming applications that can be utilized in arithmetic, social investigations, expressions of verbal communication, perusing, science and non-scholarly courses. The pre-introduced projects and headings enable all kinds of digital devices especially smart boards for learning (Kumari&Denisia, 2013). Individuals can utilize the different pens on the SMART boards and educators can carefully compose on the smart board. An electronic program presented on the board with the assistance of a PC that brings about illustrative pictures, lively outlines, and notes on the screen, identified with the exercises. This research article also highlights the technology enhancement rooms, learners can add these notes on the PC or send those to the study hall or classroom printer to be given out as examination help (State University of New York, 2013). For the utilization of new programs in digital areas the notes just as the clarified pictures can likewise be reordered into other programming, messaged to different students and educators, presented on a system, or spared as an HTML record. These are instances of the large amount of utilization for these technological instruments (Martin, 2008). A device like SMART Board, which is included with each SMART Board, improves and helps the educational program. It likewise helps in throughout the educational life with study assignments and introductions by giving an introduction on board (SmartTech, 2013).



Instructors and learners pick the SMART Board or whiteboard (and the pre-modified programming). It helps in keeping the learners support for learners (Martin, 2008). This vitality and ability to learn might be an operator for advanced scholastic execution (Dunham & Eisenmann, 2010).

Desktop computers and tablets are among the most prevalent innovative assistants being bought in educational systems to date. With workstations and tablets, there are boundless downloadable projects and scholastic substance applications to which students and educators have simple access. These projects (introduced with safety brainwashing to forestall hurt) guide in examining techniques and are intended to help progress proficiency which helps accomplish superior standard of test scores. The tablets are slim, level PCs. They have many key highlights of a full-size PC yet in addition the lightweight abilities of reduced or smaller than usual PCs. A tablet is a little workstation (normally contact screen) PC without a console, outfitted with remote choices. These instruments are currently across the board in this innovation age and time of instructional and informational change (Myers, Sandler, & Badgett, 2011). The majority of educators are more than likely happy with having innovation in their study halls. This fulfilment can impact educators to pick innovative guidance over conventional practices (Pierce and Ball, 2009). Educators can ace their abilities with tablets and workstations, and become anxious to show their gifts and recently discovered learning (maybe from an expert advancement) to learners with expectations of positive criticism. According to Sneller (2007), a few educators may need the innovation, or all the more explicitly the workstations, for comfort and effortlessness. Others, however,



might need to make a digital device learning study in the classroom to keep students locked in. Such strengthening can prompt upgraded learning abilities and progress in relational correspondence between the instructor and the students.

2.6. Use of Online Resources

Intelligent facilitating with the help of Wikipedia locales enables the students to relate with the instructors and classmates. This creativity of current innovation likewise enables learners to make and finish classroom educational activities, tasks and assignments through a web association. "One digital innovation empowering the innovation development is the Wiki, a one-of-a-kind interface where data is not fixed, as in a print model, moreover liquid and adaptable to address the issues of the network as in the pre-proficient age". This Wiki program is loaded with bright delineations and basic bearings for the learners on the smart board. It is a system made and observed by a focal organization. Wiki spaces additionally have a "mutual client database and site-wide consents and settings that are in charge of whom and what is permitted into the clients' populace." The learners can arrange their assignments, connect or join different assignments, web journals and ventures through sharing sessions, through short communication contented and visual aids. The learners become habitual and substances are observed by the site to guarantee that no wrong materials are submitted, transferred as well as seen. The use is boundless if the learners and educators get to the open Wiki Spaces shared by their school region or can be restricted and private whenever given by smaller learning networks, for example, instructors or determined students (Wiki Spaces, 2012). The outcome is that students and instructors turned out to be



effectively occupied with incorporating innovation into their course educational plan every day. They are likewise inspired to see the result of their creations, which improves the students' accomplishment. As indicated in the research study better approaches emphasise innovativeness, coordinated effort, correspondence and basic deduction aptitudes in the learners. They previously approached PCs in each class and school. But they truly needed a superior method to create the innovation part of the showing procedure, not an additional or an extra. The locale built up the Ignite program of Wiki. They utilised basic devices for sound chronicles, video recording, still pictures, and mind-mapping related to web apparatuses like wikis, online journals, and courses the executive's projects to address one another in that sweet spot where centre substance meets instructing practices meets innovation. They found that Wiki spaces were a perfect apparatus: speedy and simple to begin, however, something that could develop with them as the program got greater and included an ever-increasing number of educators with fluctuating degrees of specialisation (Jakes, 2006).

Intuitive sites are critical for the progress of the young scholars of school. These locals may include games, introduction instruments, web-based instructional materials, educational program content, treatment materials, reward credit assignments, and educator communication. Intuitive sites are controlled by a client or a content-based interface. This part of virtual learning is a modernized segment of digital devices. Its uses upgrade education day by day. It enables learners to speak with it and tells scholastic difficulties. The scholarly systems identify with the course content. Most of the students' entrance to scholastic



programming is fundamental to the educational plan in study halls or educational institutes. They are presently intending for innovation-rich instructional strategies (Mitchell & Normal, 2010). Innovation can be a possible instrument for instructor training. It is frequently helpful for making progressively flexible educating and learning situations. Socially educated and comprehensively focused on students' need to extend their language aptitudes. It enables them to seek after life's objectives. In an assessment directed by a research study learners are utilizing web-based sites intelligently "earned a larger number of focuses in the class than understudies utilizing essential web instructional exercises". The learner can take information and benefits from educational sites under the instructor's guidance (Lankshear&Knobel, 2011).

Instructive programming is likewise an essential apparatus in helping learners innovatively. There are different download choices for educators and learners that can upgrade the scholastic culture. In particular, homeroom educators "urge understudies to effectively connect with themselves", with instructional exercises that successfully give learning ways to deal with science and proficiency. Instructive programming can be utilized in a learning domain at home or in an educational institution. There are varieties for all evaluation levels. Coursework, reading material, evaluation programs, PC games, virtual learning educational plans, and scholarly instructional exercises are comprehensive advanced methods of learning. An instructional program depends on self-learning. In a centre school, science study uncovers that most projects are influenced by routine instructing. The programs that influence routine day-by-day encouraging practices and learners associations have even more noteworthy positive



bigger effects than those stressing course books or innovation alone (Cruz & Martinez, 2012). Instructional programming is normally a game-situated combination with a course educational plan that gives instructional exercise-like help. The learners pull the striking shading plans, audio consequences, a position scoring structure and clock-checked occasion to advance time in the executives, course commitment, restraint, and centre procedures. According to the study of Ghirardini (2012) projects of this scenery are generally pre-introduced and a piece of the course educational plan. A variety of PC organizations have made instructive programming for the centre school part. Moreover, numerous associations and foundations are utilizing e-learning and instructive programming programs since they may be very well as powerful as conventional preparation at a lower cost. Centre school learners utilize the web for passing instructive programming and logical reasoning. It arouses comprehensive level among them. These transactions can occupy the learners' considerations and can cause breaches in fulfilment tasks. To hold the students into consideration and their scholarly limit, there is additional instructive programming. It is accessible to the students with online requests for arranging, searching, examining and combin the data that is collected from different web base sites (Zhang and Quintana, 2012).

2.7. Digital Divide

The main component of the paper is the idea of the advanced separation. A basic definition is a hypothetical hole between the individuals who can get it and the individuals who can't. It is one approach to portray "those who are well off" and "the poor" regarding PCs and the web get to. Even though 70% of Americans have a broadband web association in their homes,



this leaves a critical population of individuals who don't (Cohron, 2015). Indeed, even inside that rate with access, how and to what degree the web association is utilized? It has drawn a line between advanced devices have and haven't. They have recognized different sorts of web gets and how advanced partitions made inside to get it. Every web has related to make an imbalance for the learners. It shows how much information deficiency they have. These web-based instructions are making heterogeneous advanced partitions, creating mysterious issues for the learners who are relied upon to utilize instructional innovation in assignments, activities, appraisals, and benchmarks-based learning.

Deursen and van Dijk's (2015) study is the following move to material. This isn't just the physical access to the web utilizing the utilization of digital devices, for example, PCs, tablets, and advanced mobile phones, but in addition how the web is gotten to utilizing said digital devices. Material web access depicts the capacity to get to the web. These computer-based gaps in this class are most effectively required to expense. In the event, a client can't bear to pay for web and they can't get to it. This advanced partition additionally incorporates speed and dependability. In some geographic regions, a reliable association isn't yet accessible and they have made an advanced separation between the individuals who can get to the great web and the individuals who can't. Furthermore, material access influences how web association is gotten. The abilities of PCs are more prominent than those of cell phones. Napoli and Obar (2014) look at the advancements and how the distinction makes a digital learning program base gap. There are classifications of digital devices. These classifications give a gateway to the internet. A client or user



can search on the Internet by the instruments. These instruments are various. These stages have helped open doors for clients' social, political and improvement the Internet gives.

Along these lines, even with the ability to utilize digital devices, a web association and a computerized gap may at present exist because of a basic requirement to get to a similar material. The individuals who are getting to the web only through cell phones are bound to be from a lower financial status (Pearce and Rice, 2013). This computerized partition influences the students to get to the web for their instruction and develop an effectively sizable accomplishment hole dependent on pay. Van Deursen and van Dijk (2015) likewise talk about how web aptitudes get and relate to advanced partition. This is the capacity to utilize and apply the web viably. It isn't sufficient for the students to have the ability to interface with web applications. They should likewise have the option to explore to finish exercises and assignments. To accomplish the learning targets, the students need aptitudes past basic operational capacities. They should most likely have the option to control the innovation to accomplish scholarly objectives. Research led by Kontos, Bennett, and Viswanath (2007) further explains the possibility that "as the whole limits after some time and more individuals utilize the Internet, a move in research needs to jump out at investigate how one may improve Internet utilize especially significant on account of fledgling clients who might not have the specialized aptitudes, experience, or social associations".

2.8. Impact of Educational Technology

Innovation enables students to experience substance and exercises in an active way that is engaging and offers quick



input. It likewise gives chances to the students to participate in exercises on the unwritten educational plan, an inexplicit arrangement of abilities learned while at school, for example, dynamic ideas or social aptitudes. Research by Gee (2008) and Wong et. al. (2015) further talks about the effect of instructive innovation on the lives of students. John Dewey (1938), a prominent instructive logician, comprehended the significance of powerful experience and practice in training, and composing, Experience and instruction cannot be straightforwardly compared to one another and for certain encounters are miseducative. While Dewey esteemed situational learning, he contended the encounters must be added to the development of the student. Instructive innovation correspondingly can be utilized just for being utilized. Instructors must utilize the innovation as an open door for development, as opposed to a technique for relaxing; when utilized accurately, the advantages are limitless.

Hmm, (2008) talks about the benefit of fusing a gaming background into learning. His composition diagrams what is the fundamental of the experience to make it significant and stay away from the snare of what Dewey called "miseducative."According to Gee, educators who adequately utilize instructive advancements must integrate four particular components in the exercise: 1) They should introduce a particular objective; 2) They should give a chance to translate the experience; and 3) They should give the learners input and 4) They should enable understudies to join social connections into the instructive experience.

To start with, Gee (2008) clarified instructive advancements must present a particular objective. The learners associate the involvement with a target identified with learning. For



instance, a user can without much of a stretch adventure on the virtual Oregon Trail and the instructor does not lay out the motivation behind the reproduction as methods for sympathy and the hardships experienced by the pioneers. Next, Gee talks about the clarification of learning encounters and expressing. That is to say, these exercises learn and foresee when and where those exercises may be valuable. Interpreting expects the learners to consider the estimation of the exercise and how the exercise is a development opportunity. For example, the learners are searching on a Google doc. They must see the estimation of the social collaboration and the composition task as a way to build their composed articulation abilities. Third, Gee (2008) contends the requirements for input from the learning background. Genuine even in customary learning positions, the learners must know whether their training is right.

Innovation-based learning offers simple and quick input, enabling the learners to gain from mix-ups and think about how to continue to escape from the errors later. Next, he portrays the requirements for the use of these learning faces in new comparative circumstances and for reprocessing the procedure until the exercise is a piece of the summed-up information of the learners. At long last, Gee clarifies the significance of consolidating social communications into the instructive experience. The learners must share their insights and gain from what others have achieved. Virtual learning gives the learners the chance to work together inside their school network as well as possibly with the learners on a worldwide scale. At the point, when the five conditions Gee laid out are met, instructive innovation openings offer the genuine learning knowledge Dewey talked about almost a



century prior. The prerequisites for quality game learning set out by Gee (2008) can be connected to conventional adapting, yet are upgraded by computerized learning openings. The learners can control and take part in once uneven substance. As indicated by Hague and Payton (2010), advanced education encourages procedures of cooperation and support and enables understudies to end up dynamic as opposed to aloof in relational settings. Computer-based education enhances this procedure for youngsters to be dynamic significance producers. It is as significant as an instructional digital transfer program that opens doors for learning development in the study hall or educational institutions. It offers more than a possibility for the students to think about what is written in the educational plan and guidelines.

As Gee (2008) argues, digital learning permits the students' development openings in a society or a community and basic reasoning. Digital-based learning programs enable theoretical plans to be polished. While concentrating on the advantages of computer games, for example, World of War on learning, Gee expressed, "players focus on the epitome of encounters of play, critical thinking, and socialization" (p. 29). It is assumed a pleasant game, the students must figure out how to interact with different players inside the game. They have to utilize the right maps, weapons, and different apparatuses to finish a mission and take care of issues that emerge all the while. The students can apply the abilities obtained from these experiences to genuine circumstances. A student who builds self-support after playing Half-Life can apply the attitude towards classroom settings where they help from an instructor. Well (2008) suggests this as displaying and portraying the advantage "Demonstrating enables explicit



parts of understanding to be examined and utilized for critical thinking in manners that lead from solidness to deliberation". Accordingly, instructional new digital tools, offer students that expand learning that are not found in their subject-related course books. These are as fundamental as the set scholarly educational program to post-auxiliary achievement and self-awareness.

To further show the significance of providing the students with chances to utilise the instructional digital learning program, Wong, Ho, Chen, Gu, and Zeng (2015) consider how the deficiency of digital learning programs influenced kids, including an absence of reliable access to websites. The examination found the gap between low-salary and non-low-pay families is getting smaller. In the wake of talking to kids from both low-salary and non-low-pay homes, they are creators and find a pattern among those without web. It is accounted for that 18.3% of youngsters in low-salary homes don't have web association in their homes versus 4.9% in non-low-pay homes. Their examination exposes important issues for learners without access to the web in their homes. Wong et. al. (2015) announced that low-salary youngsters without Internet at-home access demonstrated essentially lower confidence scores than the kids with the Internet at home. Low-pay and non-low-pay families have huge contrasts. It can be seen between the last two decays. Comparable examples are additionally revealed from the research that there have been big differences between these two classes of income. Low-pay kids without Internet at home have achieved altogether lower scores in generally speaking family relationships or these different classes of income.



Hatlevik et al., (2009) highlight in their studies that creative ideas come from technological learning, the learners' must have enough knowledge regarding the technologies and their needs or uses. The observation says that most of the students improve their skills through the innovative and different ideas created by e-learning. On the other hand, the teachers also have professional training regarding the use of the technologies which are used in the classrooms. The performances of the students are directly affected by the teaching styles of the teachers. So, the teachers need to improve their skills in all subjects, especially promotion of the digital learning. The developed way of working, including all technological learning devices, is a polite, organized and computerized learning condition in classrooms. Digital learning programs used in professional training, open doors for teachers in new dimensions and all aspects of the subjects. Most importantly, it provides a chance for deep observation and enlarges the data. The addition is available in writing, just as test-taking for the learners' and conclusion on quality. Moreover, the students gain the right of entry to programs that can promote their learning performance. For example by utilizing useful programming that is the cause of remedies for language construction or programming. This assists to the learners taking care, and comprehending scientific issues, comparable to the utilization of educational procedures. In general, the formulation of classroom work in training can utilize the performances to deliberate on gradually more complicated issues to enlarge the activities of learning (Norwegian Ministry of Education and Research, 2017).



2.9. Digital Technology at Schools

The schools that have digital labs are worked by district experts (Knudsen, 2008). These schools are run under the guidance and expert opinions provided by technical experts. The educational institution respects the choices made on the arrangement and use of the digital learning program. The usage of the program is done exclusively at the school level and a few schools have in this manner practised the PC program according to the opinion of the experts. The explanation behind this point view is that there are a couple of schools which worked as samples at the province or national level. In the beginning, digital technology has been introduced in model schools. There is a program to introduce in different schools, regions and provinces. In 1999, Nesodden upper-level schools in the area of Akershus presented the digital learning program as a piece of national pilot progress (Frølich and Vestby, 2003). The progress was assessed as fruitful and accordingly, provinces began furnishing the learners with PCs.

The time of practising of pilot schools was basically from 2005 to 2010. As referenced, some upper-level schools utilised the digital learning program according to the suggestions of the specialist and in addition a couple of schools executed it later. There is a mixture of purposes behind the differences between the areas in the planning of the digital learning program usage. Some digital learning programs organize to build up the foundation, including force supply and remote system before these digital learning programs execute. Others organize to build educators' innovative skills of computer usage. This expands educators' abilities to use PCs to provide traditional guidance and



improve instructional results. Despite the differences, discussions with province specialists all through Norway give no sign of an example between the early individuals and the late users of the PC program.

Likewise, a school has decided on different plans when practising the digital learning program. One choice is for PCs to be bought and circulated either by the school or the technical expert. The students solve a specific type of problem every day. Another solution is to give the students scholarships and make them buy PCs themselves. The two plans enable the students to bring the digital devices home after school.

Digital natives have been renowned in today's global world. The learners of different types of educational institutes have been using digital devices to make their positive and efficient academic achievement and also modify their study habits. For the teaching of English and other subjects, digital devices are used all over the world. Therefore, the demand for digital devices has been increasing at the school level. The use of digital devices in classrooms gives an extra pleasurable learning procedure and is especially the cause of motivation for learners (Gu, Wu, & Xu, 2015). The learners require suitable time for getting improvement in study habits and academic performance. The learning process is concerned with the progress and use of material of digital data. Most of the learners formulate their system of learning and perform the best in the learning process. On the other hand, the teachers themselves have tried their best to deliver knowledge and fulfil the requirements of the teaching profession. This type of positive relationship between teachers has become a



necessary part of an organization (Woody, Daniel, & Baker, 2010).

At the school level, the digital device modifies the behaviour of the teachers towards the teaching profession. The new teachers search out novel lesson plans for the students to make their classroom environment peaceful and enjoyable. The globalization of novel teachers become a powerful act due to the use of different types of digital or innovative devices in educational streams, through these technological tools the teachers may change the ratio of achievements in educational terms of the students and find the most zeal and zest in their profession of teaching (Knudsen, 2008). For the betterment of educational institutions, the head of the institutes and other stakeholders may resolve their issues and problems with the help of educational tools. In many developing countries, digital devices are used as a management and gradation of the whole procedure of education in terms of student achievement, teacher empowerment, and effectiveness of the process of education. The majority of the teachers must use digital devices in their educational study classrooms. The usage of digital devices can affect on the teachers to select educational direction over traditional performances. Teachers can act their capabilities with the different types of teaching methodologies in classrooms and schools. It converts their fear into confidence. They can show their performances during the teaching process, with the help of different digital devices in teaching procedures. They can make positive modifications in methodologies and strategies (Pierce & Ball, 2009). Parents want to progress their children to a natural class for authentic learning which is only done due to the responsible teachers. The learners can show various varieties



of performances in their academic lives with the use of digital devices. Consequently, this type of innovative learning of the students becomes a positive habit in their educational life span. A positive and constructive change has been found in their thinking process, physical development, modification of attitude and other qualities. The student's performance at the school level has been transformed through the various methodologies of digital devices (Ogbodo, 2010).

In schools and universities, a question arises of how the new digital devices can modify the study habits and also the educational achievement or performances at their specific level. So for the answer to this question, an innovative type of research has been conducted by Bicen and Cavus (2011). They highlight that digital devices raised the quality of education at the level of all education spans i.e. secondary, higher secondary, and university. Generally, this question gives a new soul for the researchers who have a keen interest in the development of students' performance theories which are caused to increase the learning abilities and skills. The educational outcomes are influenced by the use of digital devices as well as pedagogical practices in schools, colleges, and universities.



CHAPTER 3

Methods and Research Design



In this chapter, the research methodology is described in detail. The methodology makes the necessary procedure of data collection, practice and treatment. Research design is outlined with the process of observation exploration which is directed by the research questions of the study. It also plans about the population, sample size and sampling technique. Research tools ensure the reliability and validity of the data collection process and data analysis.

3.1. Research Design

The research study was descriptive in nature and a survey method was adopted for seeking information regarding “Use of Digital Devices on the Study Habits and Academic Performance of Secondary School Students” from the participants of the current study. This investigation involved three variables:

1) Independent Variable; Digital Devices

2) Dependent Variables; Study Habits and Academic Performance

In this study, it also tried to examine the relationship among these variables. Digital Devices were modern tools of learning and essential to collect comprehensive information. These digital devices can be used the alteration of the behaviour of the learners in their academic lives. The survey method supported gathering well consideration of the use of digital devices for purposes of learning and in progressing academic performances. This method also permitted collecting data from a large group of large samples. It gave helpful and in-depth information on the research question as well as formulated the objectives of the study.



The quantitative (survey) method was applied for data collection. This leads the investigation and interpretation towards the conclusion of the study. The data was collected from participants (students). The questionnaire was utilized for data collection and analyzed through quantitative methods. This was measured, presented wider information and organized the “use of digital devices on the study habits and academic performance of secondary school students” in Dera Ghazi Khan District. In the Quantitative method, is concerned with generating a large amount which helps in further research studies. This kind of research is achieved to determine behaviour by using research questionnaires, rating scales or tests. Quantitative methodology was used because it provided explanations and predictions about the use of digital devices to support learning. Numerical data was gathered from a sample in an organized way. It relied on a deductive analysis approach with rational endings and offered some findings in the shape of statistics and aggregated data.



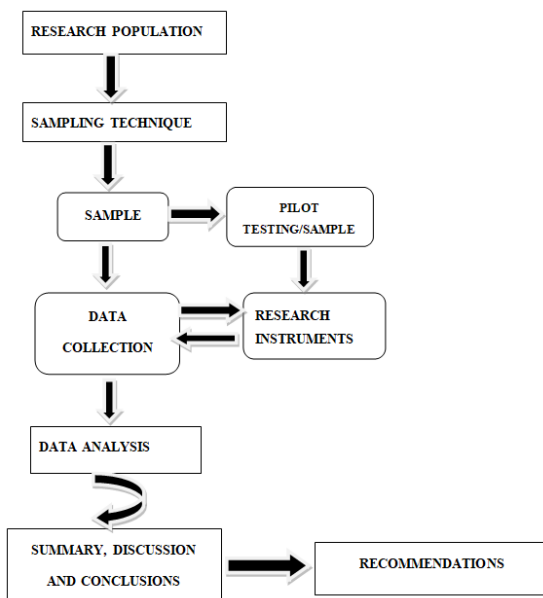


Figure 3.1: *Research Design and Process of the study*

3.2. Population and Sampling

The current research study was conducted in the district of Dera Ghazi Khan. All urban and rural secondary schools were the population of the current study. The population has consisted of 123(78 males and 45 females) secondary schools and 75066 (42350 males and 32716 females) secondary students (School Education Department, 2018).

Table 3.1: *Overall population of Dera Ghazi Khan District*

Sr No.	Description	Secondary Schools		Total
		M	F	
1	Secondary Schools	78	45	123
2	Students	42350	32716	75066

In this research, the sample was selected through the convenience sampling technique. Gay and colleagues (2009) explain that for a research of descriptive; 10% - 30% of the accessible population was adequate as much as necessary to be used as a sample. Therefore, this sample was deemed envoy to distinguish the target population. Gay (2003) has recommended in his book “Educational Research” the subsequent directives for sample size selection from a small population ($N < 100$). If the population size is approximately 500, 50% of the population should be sampled. If the population size is 1,500, 20% should be sampled.

3.2.1. Sample Size

The sample size was consisted of 384 students (192 male and 192 female) of rural and urban secondary schools from two Tehsils of Dera Ghazi Khan District; Dera Ghazi Khan Tehsil and Taunsa Sharif Tehsil. The detail is given below in Table 3.2.

Table. 3.2: *Selected sample size from two Tehsils of Dera Ghazi Khan District*

SR.#	Name of Tehsil	Urban M	Rural F
1.	Dera Ghazi Khan	96	96
2.	Taunsa Sharif	96	96
3.	Sub Total	192	192
4.	Total		384

3.2.2. Research Instruments

A research Questionnaire was developed with the help of an extensive review of related literature review, suggestions from supervisors and precious viewpoints of experts. The research instrument was wanted to maintain the rationality of the

objectives of the research study. It was distributed among a sample size (respondents) and enough time was provided for them to give their responses. The research tool collected quantitative (from students via questionnaire) data. It was formulated in the Likert scale and mentioned in the below table.

Table 3.3: *Responses and Scores*

SR.#	Responses	Marks
1.	Strongly Agree (SA)	5
2.	Agree (A)	4
3.	Undecided (UD)	3
4.	Disagree (DA)	2
5.	Strongly Disagree (SDA)	1

3.2.3. Pilot Study

A pilot study was conducted for the justification of the research tools and to ensure their reliability. Fifty students were taken from the population through the connivance sampling technique. For the pilot study, these students were not included in the actual sample size. The questionnaire was developed and improved based on the feedback of the respondents.

3.2.4. Reliability and Validity of Questionnaire

It is essential to preserve the quality of the questionnaire which is constant to its validity and reliability. When researchers organize or choose a research tool to use in his or her research, validity refers to the mainly significant idea that is considered and utilized (Fraenkel&Wallen, 2000). There are two basic purposes while we design the questionnaire: the first purpose is to gain concerned information for a survey and

the second one is to gather valid and reliable information. Reliability denotes the consistency in the results of the tests. There are some errors in each test. The proportion of the test score that is owing to error is tried to verify by the reliability index. The reliability was found out by Cronbach's Alpha coefficient. The internal consistency method is mostly used to determine consistency between the test items of a Likert Scale. This technique requires neither multiple administrations of tools nor the splitting of the items. The internal consistency method gives a perfect estimate of reliability. Statistical tests were applied to check the reliability of the instrument and the value of Cronbach's Alpha coefficient was observed at 0.81 which was adequate for the instrumental reliability.

3.4. Data Collection and Analysis

For data collection, a five-point Likert Scale was used. Data was collected from public secondary schools of two Tehsils of district D. G. Khan. The researcher personally visited the sample schools for data collection and got filled questionnaires back from the participants of the research. Quantitative data was analyzed with the help of SPSS (statistical package for social sciences) V 20 and MS Excel software. Mean, Standard deviation, percentage, Pearson correlation and simple t-test were applied for data analysis.



CHAPTER 4

Data Analysis



This chapter deals with the data analysis in the form of tables and their description in the factors base as compared to individual statements of the Questionnaire. The analyzed data is displayed below as;

4.1. Demographic Variables

Table 4.1: *Age-wise*

	Frequency	Valid %	Cumulative %
14	60	15.6	15.6
15	117	30.5	46.1
16	153	39.8	85.9
17	43	11.2	97.1
18	11	2.9	100.0
Total	384	100.0	

Table 4.1 shows that a total of 384 (100%) students are part of this quantitative research of which, 60 (15.6%) are 14 years, 117 (30.5%) are 15 years, 153 (39.8%) are 16 years, 43 (11.2%) are 17 years, and 11 (2.9%) are having 18 years as age-wise. The results show that the maximum number of students are 16 years age meanwhile 11 years old students are found in minimum numbers.

Table 4.2: *Gender-Wise*

	Frequency	Valid %	Cumulative %
Male	192	50.0	50.0
Female	192	50.0	100.0
Total	384	100.0	

Table 4.2 highlights that 384 (100%) students are actual participants of which 192 (50%) are male and 192 (50%) female took part as gender wise. This result highlights that an equal ratio of male and female secondary students are part of this study and they give their 100% responses towards concern study.

Table 4.3: *Back ground-wise*



	Frequency	Valid %	Cumulative %
Rural	192	50.0	50.0
Urban	192	50.0	100.0
Total	384	100.0	

Table 4.3 elaborates that 384 (100%) students of which 192 (50%) are from rural areas and 192 (50%) are from urban areas take part in this research study. This result shows that equal ratios of urban and rural secondary students participated in this study and they gave their 100% responses towards the concerned study.

Table 4.4: *Tehsil-wise*

	Frequency	Valid %	Cumulative %
DGK	192	50.0	50.0
Taunsa	192	50.0	100.0
Total	384	100.0	

Table 4.4 elaborates that 384 (100%) students of which 192 (50%) are from Tehsil Dera Ghazi Khan and 192 (50%) are from Tehsil Taunsa Sharif take part in this research study. Meanwhile, equal ratios of secondary students are from each Tehsil of Dera Ghazi Khan District.

4.2. Quantitative Analysis of Questionnaire

Table 4.5: *Institution has sufficient digital devices*

	Frequency	Valid %	Cumulative %
Yes	260	67.7	67.7
No	124	32.3	100.0
Total	384	100.0	

Table 4.5 reflects the answer to the question “Your institution has sufficient digital devices to teach students” in which 260 (67.7%) students responded as “Yes” and 124(32.3%) students responded as “No” regarding above mention question. Most urban secondary schools of Dera Ghazi Khan



District have sufficient computer labs, digital devices for use and other instruments which are used in the teaching and learning process. On the other hand, the schools from rural areas have less comfortable environments which are called digital environments because of this variation in the responses of the students they are different from each other.

Table 4.6: *Familiar with the digital devices*

	Frequency	Valid %	Cumulative %
Yes	384	100.0	100.0
No	0		
Total	384		

Table 4.6 reflects the answer to the question “You are familiar with the digital devices” in which 384 (100.0%) students responded as “Yes” regarding above mention question. From this statement, the overall collected data from the students reveals the level of familiarity with digital devices because all of them have sufficient knowledge about computers, laptops, digital books, digital tablets, and other mobile devices.

Table 4.7: *Teacher uses digital devices for teaching*

	Frequency	Valid %	Cumulative %
Yes	230	59.9	59.9
No	154	40.1	100.0
Total	384	100.0	

Table 4.7 reflects the answer to the question “Your teacher uses digital devices for teaching purposes in classrooms” in which 230 (59.9%) students responded as “Yes” and 154(40.1%) students responded as “No” regarding above mention question. The responses in negative mode were collected from those students who are studying in rural areas schools of both tehsils of Dera Ghazi Khan. On the other hand, urban areas have different facilities regarding the uses of digital devices for teaching in classroom as compared to



rural areas. Hence, lack of teacher training as regards to uses and implementation of these digital devices in regular classrooms observe in both rural and urban secondary schools.

Table 4.8: *Do you have any digital devices at home*

	Frequency	Valid %	Cumulative %
Yes	237	61.7	61.7
No	147	38.3	100.0
Total	384	100.0	

Table 4.8 reflects the answer to the question “Do you have any digital devices at home for learning?” in which 237 (61.7%) students responded “Yes” and 147(38.3%) students responded “No” regarding above mention question.61.7 percent of students have their own digital devices. Because they belong to urban areas and have the facilities regarding the use of digital devices at home. Some students of rural secondary schools are not taking an interest in digital devices. These negative responses reflect the ignorance of the students.

5. Overall Analysis of the Questionnaire

Q1: What is the usage of Digital Devices at secondary school?

Table 4.9: *Data Analysis Ranalysis Regarding Male Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	37.18	14.73	.000	2.052	1.984
Rural	96	34.13	11.19			

N=192, Df=190, Level of Significance=0.05

Table 4.9 shows that the calculated value of t is 2.052 which is significant ($p < 0.05 = .000$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the usage of digital devices at secondary schools by male students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=37.18,



SD=14.73) and rural (Mean=34.13, SD=11.19) secondary schools. The above explanation shows sufficient mean differences, in which the urban category is high than the rural category of male students. These differences are found due to unawareness of digital devices and their use in educational purposes.

Table 4.10: *Data Analysis Regarding Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	35.83	13.29	.002	2.471	1.984
Rural	96	33.42	10.03			

N=192, Df=190, Level of Significance=0.05 Table 4.10 shows that the calculated value of t is 2.471 which is significant ($p < 0.05 = .002$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the usage of digital devices at secondary schools by female students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=35.83, SD=13.19) and rural (Mean=33.42, SD=10.03) secondary schools. In this result, female students of urban secondary schools have a higher mean score than female students of rural schools. In rural areas, most female students have no free permission from their parents or environment to use digital devices in education.

Table 4.11: *Data Analysis Regarding Male and Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	192	39.81	13.22	.005	3.916	1.962
Rural	192	35.18	11.84			

N=384, Df=382, Level of Significance=0.05



Table 4.11 shows that the calculated value of t is 3.916 which is significant ($p < 0.05 = .005$) for the reason that it is a smaller amount than the tabulated value of t (1.962) at 0.05 level. So, from this result, the researcher observes that the usage of digital devices at secondary schools among male and female students has a significant role. Moreover, the statistical analysis also highlights that male and female students of urban (Mean=39.81, SD=13.22) and rural (Mean=35.18, SD=11.84) secondary schools. The above explanation shows sufficient mean differences, in which the urban category is higher than the rural category. The reasons for the differences are found due to unawareness of digital devices and their use for educational purposes.

Q2: What is the need for Digital Devices in the academic performance of urban and rural secondary school students?

Table 4.12: *Data Analysis Regarding Male Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	34.39	11.25	.000	2.009	1.984
Rural	96	34.41	11.37			

N=192, Df=190, Level of Significance=0.05

Table 4.12 shows that the calculated value of t is 2.009 which is significant ($p < 0.05 = .000$) for the reason. It is in a smaller amount than the tabulated value of t (1.984) at 0.05 levels. From this result, the researcher observes that the need for digital devices in the academic performance of the urban and rural secondary schools regarding male students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=34.39, SD=11.25) and rural (Mean=34.41, SD=11.37) secondary schools. The mean differences are found same in this



category. Because both rural and urban secondary school male students want to use digital devices in their future studies and enhance their academic performance.

Table 4.13: *Data Analysis Regarding Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	29.61	11.39	.009	2.217	1.984
Rural	96	30.82	13.05			

N=192, Df=190, Level of Significance=0.05 Table 4.13 shows that the calculated value of t is 2.217 which is significant ($p < 0.05 = .000$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the need for digital devices in the academic performance of the urban and rural secondary schools regarding female students has a significant role. Moreover, the statistical analysis also highlighted the female students of urban (Mean=29.61, SD=11.39) and rural (Mean=30.82, SD=13.05) secondary schools. The mean differences are found almost equal in this category. Because both rural and urban female secondary school students want to use digital devices in their future studies.

Table 4.14: *Data Analysis Regarding Male and Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	192	37.42	14.38	.001	2.592	1.962
Rural	192	36.11	12.29			

N=384, Df=382, Level of Significance=0.05

Table 4.14 shows that the calculated value of t is 2.592 which is significant ($p < 0.05 = .001$) for the reason. It is a smaller amount than the tabulated value of t (1.962) at 0.05 level. From this result, the researcher observes that the need for



digital devices in the academic performance of the urban and rural secondary schools regarding male and female students has a significant role. Moreover, the statistical analysis also highlights the male and female students of urban (Mean=37.42, SD=14.38) and rural (Mean=36.11, SD=12.29) secondary schools. The mean differences were found same in this category because both rural and urban secondary school students (male and female) want to use digital devices in their future studies for the enhancement and development of their academic performances.

Q3: What is the relationship between Digital Devices and the study habits of secondary school students?

Table: 4.15: *Data Analysis Regarding Male Students*

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.753**
	Sig. (2-tailed)		.012
	Frequency	192	0.014
Study Habits	Pearson Correlation	.753**	1
	Sig. (2-tailed)	.042	
	Frequency	0.014	0.014

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.15 reflects that the Pearson correlation observed on the study habits is $r = 0.735^{**}$. It shows a positive relation with significance or p-value = 0.012 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level. ß

Table: 4.16: *Data Analysis Regarding Female Students*

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.639**
	Sig. (2-tailed)		.029
	Frequency	192	0.026
Study Habits	Pearson Correlation	.639**	1
	Sig. (2-tailed)	.042	
	Frequency	0.026	0.026

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.16 reflects that the Pearson correlation observed on the study habits is $r = 0.639^{**}$. It shows a positive relation with significance or p-value = 0.029 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table: 4.17: *Data Analysis Regarding Male and Female Students*

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.982**
	Sig. (2-tailed)		.017
	Frequency	384	0.019
Study Habits	Pearson Correlation	.982**	1
	Sig. (2-tailed)	.037	
	Frequency	0.019	0.019

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.17 reflects that the Pearson correlation observed on the study habits is $r = 0.982^{**}$. It shows a positive relation with significance or p-value = 0.017 which is less than $\alpha = 0.01$ involving that digital devices are



significantly related to study habits at the secondary school level.

Q 4: What is the relationship between Digital Devices and the academic performance of secondary school students?

Table: 4.18: *Data Analysis Regarding Male Students*

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.672**
	Sig. (2-tailed)		.016
	Frequency	192	0.022
Academic Performance	Pearson Correlation	.672**	1
	Sig. (2-tailed)	.056	
	Frequency	0.022	0.022

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.18 reflects that the Pearson correlation observed on the study habits is $r = 0.672^{**}$. It shows a positive relation with significance or p-value = 0.016 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table: 4.19: *Data Analysis Regarding Female Students*

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.519**
	Sig. (2-tailed)		.018
	Frequency	192	0.019
Academic Performance	Pearson Correlation	.519**	1
	Sig. (2-tailed)	.038	
	Frequency	0.019	0.019

** Significant correlation at the level of 0.01(2-tailed)



The result of Table 4.19 reflects that the Pearson correlation observed on the study habits is $r = 0.519^{**}$. It shows a positive relation with significance or p-value = 0.018 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table: 4.20: *Data Analysis Regarding Male and Female Students*

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.733**
	Sig. (2-tailed)		.019
	Frequency	384	0.042
Academic Performance	Pearson Correlation	.733**	1
	Sig. (2-tailed)	.019	
	Frequency	0.042	0.042

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.20 reflects that the Pearson correlation observed on the study habits is $r = 0.733^{**}$. It shows a positive relation with significance or p-value = 0.019 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

6. Analysis by Tehsil-Wise (Dera Ghazi Khan)

Q1: What is the usage of Digital Devices at secondary school?

Table 4.21: *Data Analysis Regarding Male Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	29.38	13.47	.000	2.139	1.984
Rural	96	26.51	10.11			

N=192, Df=190, Level of Significance=0.05



Table 4.21 shows that the calculated value of t is 2.139 which is significant ($p < 0.05 = .000$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the usage of digital devices at secondary schools by male students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=29.38, SD=13.47) and rural (Mean=26.51, SD=10.11) secondary schools. In this table, the result reflects that male students from urban areas have a high mean score as compared to rural students. The students of urban schools have sufficient knowledge and use at secondary schools.

Table 4.22: Data Analysis Regarding Female Students

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	30.78	10.13	.000	2.090	1.984
Rural	96	30.10	10.09			

N=192, Df=190, Level of Significance=0.05 Table 4.22 shows that the calculated value of t is 2.090 which is significant ($p < 0.05 = .000$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the usage of digital devices at secondary schools by female students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=30.78, SD=10.13) and rural (Mean=30.10, SD=10.09) secondary schools. In this table, the result shows that female students from urban and rural were equal in the mean score which

reflects both having sufficient knowledge and use in classrooms.

Table 4.23: Data Analysis Regarding Male and Female Students

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	192	41.54	13.82	.001	3.916	1.962
Rural	192	29.69	11.21			

N=384, Df=382, Level of Significance=0.05 Table 4.23 shows that the calculated value of t is 3.916 which is significant ($p < 0.05 = .001$) for the reason that it is a smaller amount than the tabulated value of t (1.962) at 0.05 level. From this result, the researcher observes that the usage of digital devices at secondary schools among male and female students has a significant role. Moreover, the statistical analysis also highlights the male and female students of urban (Mean=41.54, SD=13.82) and rural (Mean=29.69, SD=11.21) secondary schools. In this table, the result reflects that male and female students from urban areas have high means scores as compared to rural students. Because the students of urban schools have sufficient knowledge and use at their secondary schools.

Q2: What is the need for Digital Devices in the academic performance of urban and rural secondary school students?

Table 4.24: Data Analysis Regarding Male Students

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	31.77	10.72	.002	2.431	1.984
Rural	96	32.36	11.04			

N=192, Df=190, Level of Significance=0.05

Table 4.24 shows that the calculated value of t is 2.431 which is significant ($p < 0.05 = .002$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level.



From this result, the researcher observes that the need for Digital Devices in the academic performance of urban and rural secondary schools regarding male students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=31.77, SD=10.72) and rural (Mean=32.36, SD=11.04) secondary schools. In this table, the result reflects that male students from urban and rural are equal in the mean score which reflects both have sufficient knowledge regarding the need for digital devices in their future educational practices.

Table 4.25: *Data Analysis Regarding Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	30.93	11.72	.000	2.116	1.984
Rural	96	30.16	11.80			

N=192, Df=190, Level of Significance=0.05

Table 4.25 shows that the calculated value of t is 2.116 which is significant ($p < 0.05 = .000$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the need for Digital Devices in the academic performance of urban and rural secondary schools regarding female students has a significant role. Moreover, the statistical analysis also highlights that the female students of urban (Mean=30.93, SD=11.72) and rural (Mean=30.16, SD=11.80) secondary schools. In this table, the result reflects that female students from urban and rural are equal in the mean score which reflects both have sufficient knowledge regarding the need for digital devices in their future educational practices

Table 4.26: *Data Analysis Regarding Male and Female Students*



Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	192	39.35	13.18	.006	2.304	1.962
Rural	192	37.28	11.94			

N=384, Df=382, Level of Significance=0.05

Table 4.26 shows that the calculated value of t is 2.304 which is significant ($p < 0.05 = .006$) for the reason that it is a smaller amount than the tabulated value of t (1.962) at 0.05 level. From this result, the researcher observes that the need for Digital Devices in the academic performance of urban and rural secondary schools regarding male and female students has a significant role. Moreover, the statistical analysis also highlighted the male and female students of urban (Mean=39.35, SD=13.18) and rural (Mean=37.28, SD=11.94) secondary schools. In this table, the result reflects that male and female students from urban are observed high mean scores as compared to rural students. In urban areas students have sufficient facilities regarding digital devices and they have adequate knowledge regarding the need for digital devices in their future educational practices.

Q3: What is the relationship between Digital Devices and the study habits of secondary school students?

Table: 4.27: Data Analysis Regarding Male Students

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.288**
	Sig. (2-tailed)		.016
	Frequency	96	0.022
Study Habits	Pearson Correlation	.288**	1
	Sig. (2-tailed)	.016	
	Frequency	0.022	0.022



**** Significant correlation at the level of 0.01(2-tailed)**

The result of Table 4.27 reflects that the Pearson correlation observed on the study habits is $r = 0.288^{**}$. It shows a positive relation with significance or p-value = 0.016 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table: 4.28: Data Analysis Regarding Female Students

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.418**
	Sig. (2-tailed)		.010
	Frequency	96	0.017
Study Habits	Pearson Correlation	.418**	1
	Sig. (2-tailed)	.010	
	Frequency	0.017	0.017

**** Significant correlation at the level of 0.01(2-tailed)**

The result of Table 4.28 reflects that the Pearson correlation observed on the study habits is $r = 0.418^{**}$. It shows a positive relation with significance or p-value = 0.010 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.29: Data Analysis Regarding Male and Female Students

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.682**
	Sig. (2-tailed)		.031
	Frequency	192	0.039
Study Habits	Pearson Correlation	.682**	1



	Sig. (2-tailed)	.031	
	Frequency	0.039	0.039

**** Significant correlation at the level of 0.01(2-tailed)**

The result of Table 4.29 reflects that the Pearson correlation observed on the study habits is $r = 0.682^{**}$. It shows a positive relation with significance or p-value = 0.031 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Q 4: What is the relationship between Digital Devices and the academic performance of secondary school students?

Table 4.30: Data Analysis Regarding Male Students

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.492**
	Sig. (2-tailed)		.017
	Frequency	96	0.071
Academic Performance	Pearson Correlation	.492**	1
	Sig. (2-tailed)	.017	
	Frequency	0.071	0.071

**** Significant correlation at the level of 0.01(2-tailed)**

The result of Table 4.30 reflects that the Pearson correlation observed on the study habits is $r = 0.492^{**}$. It shows a positive relation with significance or p-value = 0.017 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.31: Data Analysis Regarding Female Students

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.362**



	Sig. (2-tailed)		.013
	Frequency	96	0.051
Academic Performance	Pearson Correlation	.362**	1
	Sig. (2-tailed)	.013	
	Frequency	0.051	0.051

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.31 reflects that the Pearson correlation observed on the study habits is $r = 0.362^{**}$. It shows a positive relation with significance or p-value = 0.013 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.32: Data Analysis Regarding Male and Female Students

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.576**
	Sig. (2-tailed)		.031
	Frequency	192	0.039
Academic Performance	Pearson Correlation	.576**	1
	Sig. (2-tailed)	.031	
	Frequency	0.039	0.039

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.32 reflects that the Pearson correlation observed on the study habits is $r = 0.576^{**}$. It shows a positive relation with significance or p-value = 0.031 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

7. Tehsil-Wise (Taunsa Sharif) Data Analysis

Q1: What is the usage of Digital Devices at secondary school?

Table 4.33: Data Analysis Regarding Male Students



Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	33.28	12.19	.001	2.377	1.984
Rural	96	35.83	14.14			

N=192, Df=190, Level of Significance=0.05

Table 4.33 shows that the calculated value of t is 2.377 which is significant ($p < 0.05 = .001$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher has observed that the usage of Digital Devices at secondary school among male students has a significant role. Moreover, the statistical analysis also highlights that the male students of urban (Mean=33.28, SD=12.19) and rural (Mean=35.83, SD=14.14) secondary schools. In this table, the result reflects that male students from urban secondary schools are high in their mean score as compared to rural students. It reflects rural secondary female students have known the use of digital devices at secondary schools.

Table 4.34: *Data Analysis Regarding Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	31.10	12.92	.001	2.219	1.984
Rural	96	30.38	11.46			

N=192, Df=190, Level of Significance=0.05

Table 4.34 shows that the calculated value of t is 2.219 which is significant ($p < 0.05 = .001$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher has observed that the usage of Digital Devices at secondary school among female students has a significant role. Moreover, the statistical analysis also

highlights that the male students of urban (Mean=31.10, SD=12.92) and rural (Mean=30.38, SD=11.46) secondary schools. In this table, the result reflects that female students from urban and rural are equal in their mean value which reflects both secondary students have known the use of digital devices at secondary schools.

Table 4.35: *Data Analysis Regarding Male and Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	192	39.83	13.09	.009	2.812	1.962
Rural	192	35.42	11.84			

N=384, Df=382, Level of Significance=0.05

Table 4.35 shows that the calculated value of t is 2.812 which is significant ($p < 0.05 = .009$) for the reason that it is a smaller amount than the tabulated value of t (1.962) at 0.05 level. From this result, the researcher has observed that the usage of Digital Devices at secondary school among male and female students has a significant role. Moreover, the statistical analysis also highlights the male and female students of urban (Mean=39.83, SD=13.09) and rural (Mean=35.42, SD=11.84) secondary schools. In this table, the result shows that male and female students from urban secondary schools are high in their mean score as compared to rural students which reflects rural secondary female students have known the use of digital devices at secondary schools.

Q2: What is the need for Digital Devices in the academic performance of urban and rural secondary school students?

Table 4.36: *Data Analysis Regarding Male Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	33.24	12.28	.000	2.462	1.984
Rural	96	32.17	11.92			



N=192, Df=190, Level of Significance=0.05

Table 4.36 shows that the calculated value of t is 2.462 which is significant ($p < 0.05 = .001$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. From this result, the researcher observes that the need for Digital Devices in the academic performance of urban and rural secondary schools regarding male students has a significant role. Moreover, the statistical analysis also highlighted the male students of secondary school from urban (Mean=33.24, SD=12.28) and rural (Mean=32.17, SD=11.92). In this table, the result reflects that male students from urban and rural are equal in their mean value which reflects both secondary students have known the need for digital devices in their academic achievements.

Table 4.37: Data Analysis Regarding Female Students

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	96	33.28	11.92	.005	2.304	1.984
Rural	96	34.52	14.27			

N=192, Df=190, Level of Significance=0.05

Table 4.37 shows that the calculated value of t was 2.304 which is significant ($p < 0.05 = .005$) for the reason that it is a smaller amount than the tabulated value of t (1.984) at 0.05 level. So, from this result, the researcher observed that the need for Digital Devices in the academic performance of urban and rural secondary schools regarding female students has a significant role. Moreover, the statistical analysis also highlighted the female students of secondary school from urban (Mean=33.28, SD=11.92) and rural (Mean=34.52, SD=14.27). In this table, the result reflects that female students from urban and rural were equal in their mean value

which reflects both secondary students have known the need for digital devices in their academic achievements.

Table 4.38: *Data Analysis Regarding Male and Female Students*

Category	N	Mean	SD	Sig.	Calculated Value	Tabulated value
Urban	192	34.38	12.45	.001	2.381	1.962
Rural	192	36.29	14.27			

N=384, Df=382, Level of Significance=0.05

Table 4.38 shows that the calculated value of t is 2.381 which is significant ($p < 0.05 = .001$) for the reason that it is a smaller amount than the tabulated value of t (1.962) at 0.05 level. From this result, the researcher observes that the need for Digital Devices in the academic performance of the urban and rural secondary schools regarding male and female students has a significant role. Moreover, the statistical analysis also highlighted the male and female students of secondary school from urban (Mean=34.38, SD=12.45) and rural (Mean=36.29, SD=14.27). In this table, the result reflects that male and female students from urban are observed high in their mean values as compared to rural secondary students. It reflects male and female rural secondary students have known the need for digital devices in their academic achievements.

Q3: What is the relationship between Digital Devices and the study habits of secondary school students?

Table 4.39: *Data Analysis Regarding Male Students*

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.211**
	Sig. (2-tailed)		.019
	Frequency	96	0.017
Study Habits	Pearson Correlation	.211**	1



	Sig. (2-tailed)	.045	
	Frequency	0.017	0.017

**** Significant correlation at the level of 0.01(2-tailed)**

The result of Table 4.39 reflects that the Pearson correlation observed on the study habits is $r = 0.211^{**}$. It shows a positive relation with significance or p-value = 0.019 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.40: Data Analysis Regarding Female Students

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.648**
	Sig. (2-tailed)		.016
	Frequency	96	0.021
Study Habits	Pearson Correlation	.648**	1
	Sig. (2-tailed)	.016	
	Frequency	0.021	0.021

**** Significant correlation at the level of 0.01(2-tailed)**

The result of Table 4.40 reflects that the Pearson correlation observed on the study habits is $r = 0.648^{**}$. It shows a positive relation with significance or p-value = 0.016 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.41: Data Analysis Regarding Male and Female Students

		Digital Devices	Study Habits
Digital Devices	Pearson Correlation	1	.539**
	Sig. (2-tailed)		.014
	Frequency	192	0.011



Study Habits	Pearson Correlation	.539**	1
	Sig. (2-tailed)	.014	
	Frequency	0.011	0.011

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.41 reflects that the Pearson correlation observed on the study habits is $r = 0.539^{**}$. It shows a positive relation with significance or p-value = 0.014 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Q 4: What is the relationship between Digital Devices and the academic performance of secondary school students?

Table 4.42: Data Analysis Regarding Male Students

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.294**
	Sig. (2-tailed)		.010
	Frequency	96	0.028
Academic Performance	Pearson Correlation	.294**	1
	Sig. (2-tailed)	.010	
	Frequency	0.028	0.028

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.42 reflects that the Pearson correlation observed on the study habits is $r = 0.294^{**}$. It shows a positive relation with significance or p-value = 0.010 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.43: Data Analysis Regarding Female Students



		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.311**
	Sig. (2-tailed)		.013
	Frequency	96	0.029
Academic Performance	Pearson Correlation	.311**	1
	Sig. (2-tailed)	.013	
	Frequency	0.029	0.029

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.43 reflects that the Pearson correlation observed on the study habits is $r = 0.311^{**}$. It shows a positive relation with significance or p-value = 0.013 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

Table 4.44: Data Analysis Regarding Male and Female Students

		Digital Devices	Academic Performance
Digital Devices	Pearson Correlation	1	.792**
	Sig. (2-tailed)		.013
	Frequency	192	0.021
Academic Performance	Pearson Correlation	.792**	1
	Sig. (2-tailed)	.013	
	Frequency	0.021	0.021

** Significant correlation at the level of 0.01(2-tailed)

The result of Table 4.44 reflects that the Pearson correlation observed on the study habits is $r = 0.792^{**}$. It shows a positive relation with significance or p-value = 0.013 which is less than $\alpha = 0.01$ involving that digital devices are

significantly related to study habits at the secondary school level.



CHAPTER 5

Conclusion and Recommendations



In this chapter, a summary of all research processes has been presented. This part of the research provides a summary of all parts of the study. It also deals with the findings of the data analysis, conclusions and recommendations also.

5.1 Summary

Digital devices have been utilized by the learner to gain more knowledge for positive and desired outcomes (Kukulska-Hulme & Traxler, 2007). Hence, they increase the types and quality of teaching as well as learning strategies. In the teaching and learning process, the teachers also benefit from the use of these digital devices and enhance their teaching skills to become effective teachers (Motlik 2008). Digital devices have been used in different fields like medicine, trade and business. Nowadays, the use of digital devices in education has improved the performance and achievement levels of students, especially at the school level. In the education sector, teachers can also enhance the achievement of the students as well as their pedagogical strategies (Gabriel, Campbell, Wiebe, Macdonald & McAuley, 2012). The term digital native has become famous because the newcomers in schools, colleges, and universities are more conceptual and rational. Due to their significance of rationality level, they can be called the generation of the net, the generation of Google or the digital net (Jorosi & Isaac, 2008). Learning from digital devices is a complex process which requires some particular capabilities to increase knowledge. The teachers and the students are using digital devices in the teaching and learning process to make it more effective. This research is going to investigate “the use of digital devices on the study habits and academic performance of secondary school students”.



To complete this study following objectives were made; a) To investigate the usage of Digital Devices at the secondary school level, b) To investigate the needs of Digital Devices in the academic performance of urban and rural secondary school students, c) To analyze the relationship between Digital Devices and study habits of the secondary school students, d) To evaluate the relationship between Digital Devices and academic performance of the secondary school students. To achieve the above-mentioned objectives of the study, the following research questions were developed; A) what is the usage of Digital Devices at secondary school? B) What is the need for Digital Devices in the academic performance of urban and rural secondary school students? C) What is the relationship between Digital Devices and the study habits of secondary school students? D) What is the relationship between Digital Devices and the academic performance of secondary school students? The present investigative research study was limited to only secondary school teachers working in urban and rural areas. Due to financial and time considerations, the study was delimited to only two Tehsils (D. G. Khan and Taunsa) were taken from the three Tehsils (Dera Ghazi Khan, Taunsa, and KotChutta) of Dera Ghazi Khan District.

The descriptive method was adopted for the reason that digital devices were modern tools of learning. It was essential to collect comprehensive information on how these digital devices can be used for modification of the behaviour of learners in their academic lives. The population has consisted of 123 (78 male and 45 female) secondary schools and 75066 (42350 male and 32716 female) secondary students. The convenience sample size was consisted of 384 students (192



male and 192 female) from rural and urban secondary schools from two Tehsils of Dera Ghazi Khan District; Dera Ghazi Khan Tehsil and Taunsa Sharif Tehsil. Data was gathered from participants (students) through a questionnaire. It is analyzed through a quantitative approach. A research instrument was developed with the help of an extensive review of related literature review, suggestions from supervisors and precious points of view of experts. Statistical tests were applied to check the reliability of the instrument and the value of Cronbach's Alpha coefficient thar was observed at 0.81. It was adequate for instrumental reliability. Quantitative data was analyzed with the help of SPSS (statistical package for social sciences) V 20 and MS Excel software. Mean, Standard deviation, percentage, Pearson Correlation and simple t-test were applied for data analysis.

5.2 Findings

The following findings have been depicted through the data analysis:

1. Table 4.1 shows that the maximum numbers of students are 16 years age and 11 years of age of students found in minimum numbers.
2. Table 4.2 highlights that an equal ratio of male and female secondary students is part of this study and they gave their 100% responses towards concern study.
3. Table 4.3 reflects that an equal ratio of urban and rural secondary students participated in this study and they gave their 100% responses towards the concerned study.
4. Table 4.4 shows that participants (students) are in equal ratio (50%, 50%) of secondary schools from



each Tehsil (Dera Ghazi Khan and Taunsa Sharif) of Dera Ghazi Khan District.

5. Table 4.5 highlights that most of the urban secondary schools of Dera Ghazi Khan District have sufficient computer labs and digital devices for use. Other instruments which are used in the teaching and learning process, the schools from rural areas have less comfortable environments which are called digital environments. Because of this variation, the responses of students are different from each other.
6. Table 4.6 reflects that the overall collected data from the students reveals the level of familiarity with digital devices. Because all the students have sufficient knowledge about computers, laptops, digital books, digital tablets, and other mobile devices.
7. Table 4.7 shows that the responses in negative mode were collected from those students who are studying in rural areas schools of both tehsils of Dera Ghazi Khan. On the other hand, urban areas have different facilities regarding the uses of digital devices for teaching in classroom as compared to rural areas. Hence, lack of teacher training as regards to uses and implementation of these digital devices in regular classrooms is observed in rural and urban secondary schools.
8. Table 4.8 highlights that 61.7 per cent of students have their own digital devices because they belong to urban areas and have the facilities regarding the use of digital devices at home. Some students of rural secondary schools are not interested in digital devices. Because of this, the negative responses reflect the ignorance of the students.



9. Table 4.9 reflects the sufficient mean differences, in which the urban category is high than the rural category of male students. These differences are found due to unawareness of digital devices and their use in educational purposes.
10. Table No 4.10 shows that female students of urban secondary schools have higher mean scores than female students of rural schools. In rural areas, most of the female students have no free permission from their parents or environment to use digital devices for learning purposes.
11. Table No 4.11 highlights that sufficient mean difference, in which the urban category is higher than the rural category. The differences are due to unawareness about the use of digital devices for educational purposes.
12. Table No 4.12 reflects that mean differences are found same in this category. Both rural and urban secondary schools for male students want to use digital devices in their future studies to enhance their academic performance.
13. Table No 4.13 highlights that the mean differences have been found almost equal in this category. In rural and urban female secondary schools, the students want to use digital devices in their future studies.
14. Table No 4.14 shows that the mean differences exist in this category. Because both rural and urban secondary school students (male and female) want to use digital devices in their future studies for the enhancement and development of their academic performances.



15. The result of Table no 4.15 reflects that the Pearson correlation observed on the study habits is $r = 0.735^{**}$. It shows a positive relation with significance or p-value = 0.012 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
16. The result of Table no 4.16 reflects that the Pearson correlation observed on the study habits is $r = 0.639^{**}$. It shows a positive relation with significance or p-value = 0.029 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
17. The result of Table no 4.17 reflects that the Pearson correlation observed on the study habits is $r = 0.982^{**}$. It shows a positive relation with significance or p-value = 0.017 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
18. The result of Table no 4.18 reflects that the Pearson correlation observed on the study habits is $r = 0.672^{**}$. It shows a positive relation with significance or p-value = 0.016 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
19. The result of Table 4.19 reflects that the Pearson correlation observed on the study habits is $r = 0.519^{**}$. It shows a positive relation with significance or p-value = 0.018 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.



20. The result of Table no 4.20 reflects that the Pearson correlation observed on the study habits is $r = 0.733^{**}$. It shows a positive relation with significance or p-value = 0.019 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
21. Table No 4.21 highlights that male students from the urban area have a high means score as compared to rural students because students of urban schools have sufficient knowledge and use at secondary schools.
22. Table No 4.22 explains that female students from urban and rural areas are equal in the mean score which reflects both having sufficient knowledge and use in classrooms.
23. Table No 4.23 highlights that male and female students from the urban area have high means scores as compared to rural students because students of urban schools have sufficient knowledge and use at their secondary schools.
24. Table No 4.24 elaborates that male students from urban and rural are equal in the mean score which reflects both have sufficient knowledge regarding the need of digital devices in their future educational practices.
25. Table No. 25 highlights that that female student from urban and rural are equal in the mean score which reflects both have sufficient knowledge regarding the need for digital devices in their future educational practices.
26. Table No 4.26 elaborates that male and female students from urban are high in the mean score as compared to



rural students. In urban areas, the students have sufficient facilities regarding digital devices and they have adequate knowledge regarding the need for digital devices in their future educational practices.

27. The result of Table no 4.27 reflects that the Pearson correlation observed on the study habits is $r = 0.288^{**}$. It shows a positive relation with significance or p-value = 0.016 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
28. The result of Table no 4.28 reflects that the Pearson correlation observed on the study habits is $r = 0.418^{**}$. It shows a positive relation with significance or p-value = 0.010 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
29. The result of Table no 4.29 reflects that the Pearson correlation observed on the study habits is $r = 0.682^{**}$. It shows a positive relation with significance or p-value = 0.031 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
30. The result of Table no 4.30 reflects that the Pearson correlation observed on the study habits is $r = 0.492^{**}$. It shows a positive relation with significance or p-value = 0.017 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.
31. The result of Table no 4.31 reflects that the Pearson correlation observed on the study habits is $r = 0.362^{**}$. It shows a positive relation with significance or p-value



= 0.013 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

32. The result of Table no 4.32 reflects that the Pearson correlation observed on the study habits is $r = 0.576^{**}$. It shows a positive relation with significance or p-value = 0.031 which is less than $\alpha = 0.01$ involving that digital device are significantly related to study habits at the secondary school level.
33. Table 4.33 highlights that male students from urban secondary schools are high in their mean score as compared to rural students. It reflects rural secondary female students have known the use of digital devices at secondary schools.
34. Table 4.34 explains that female students from urban and rural are equal in their mean value. It reflects both secondary students have known the use of digital devices at secondary schools.
35. Table 4.35 highlights that male and female students from urban secondary schools are high in their mean scores as compared to rural students. It reflects rural secondary female students have known the use of digital devices at secondary schools.
36. Table 4.36 shows that male students from urban and rural are equal in their mean value. It reflects both secondary students have known the need for digital devices in their academic achievements.
37. Table 4.37 reflects that female students from urban and rural are equal in their mean value which reflects both secondary students have known the need for digital devices in their academic achievements.



38. Table 4.38 highlights that male and female students from urban are high in their mean values as compared to rural secondary students. It reflects male and female rural secondary students have known the need for digital devices in their academic achievements.
39. The result of Table 4.39 reflects that the Pearson correlation observed on the study habits is $r = 0.211$. It shows a positive relation with significance or $p\text{-value} = 0.019$ which is less than $\alpha = 0.01$ involving that digital devices were significantly related to study habits at the secondary school level.
40. The result of Table 4.40 reflects that the Pearson correlation observed on the study habits is $r = 0.648$. It shows a positive relation with significance or $p\text{-value} = 0.016$ which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.
41. The result of Table 4.41 reflects that the Pearson correlation observed on the study habits is $r = 0.539$. It shows a positive relation with significance or $p\text{-value} = 0.014$ which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.
42. The result of Table 4.42 reflects that the Pearson correlation observed on the study habits is $r = 0.294$. It shows a positive relation with significance or $p\text{-value} = 0.010$ which is less than $\alpha = 0.01$ involving that digital devices were significantly related to study habits at the secondary school level.
43. The result of Table 4.43 reflects that the Pearson correlation observed on the study habits is $r = 0.311$. It



shows a positive relation with significance or p-value = 0.013 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

44. The result of Table 4.44 reflects that the Pearson correlation observed on the study habits is $r = 0.792$. It shows a positive relation with significance or p-value = 0.013 which is less than $\alpha = 0.01$ involving that digital devices are significantly related to study habits at the secondary school level.

5.3 Discussion

The current research study intends to investigate “the use of digital devices on the study habits and academic performance of secondary school students”. The results reflect that the students are impressed and motivated by digital devices and their learning habits get improve. According to the result data, male and female students reflect the importance of digital devices in their academic lives. This conviction of teachers and students may affected by the scope. They have put together digital devices and study habits to their process of teaching and learning both inside and outside of the classroom environment. The study finding regarding the use of digital devices on the study habits and academic performance of secondary school students is supported by a research study of Prestridge, Sara (2012).

From another point of view, the student’s beliefs about the use of digital devices and their positive influence on study habits and academic performance might be an indication of the beliefs of teachers. The teachers have different teaching methodologies and approaches in their classroom teaching. They always use it positively according to the needs of the



learners. Bearing in mind the prospect of using these digital learning devices in secondary schools to maintain technological learning in class, such practices of educators may comprise an obstruction in utilizing these innovative learning devices. Consequently, attracts the attention that would create optimistic approaches about digital devices and their use in classrooms at schools (Higgins, & Moseley, 2001). Digital devices aim to facilitate the learners to take part actively mutual physical and virtual activities of learning in the classroom. It makes the teaching and learning environment. It shows the probability that these digital devices to positively support learning. Meanwhile, gradually digital devices reflect technical support. It enhances the study habits that can be used more successfully and resourcefully in schools. According to the consideration of the above-stated observation of digital learning devices and their impact on study habits at secondary schools, is making attempts to incorporate them into the learning environment. In other words, digital devices may be helpful for both mainstream educational stakeholders' i.e. students and teachers; especially students have a positive influence and enlargement of their habits regarding the studies to make them more efficient and effective accordingly.

5.4 Conclusion

1. It was concluded that the age of the majority of respondents was 16 years. They belonged to equal heterogenic gender; male and female students of rural and urban secondary schools of two tehsils of Dera Ghazi Kahn District. The majority of the schools had sufficient computer labs and digital devices for use. The schools of rural areas had less comfortable



learning environments as compared to the urban secondary schools. More are less; all students knew digital devices. The urban secondary school students were using them at their homes as compared to rural school students.

2. It was concluded that the secondary school students were moderate and their academic performance was also moderate regarding the positive knowledge about digital devices and their use respectively. Most of the students, especially males, had a higher level of confidence. They were active participants in the use of digital devices. On the other hand, female students especially those who belong to rural areas, had enough mindset to modification of their study habits related to the digital devices for learning.
3. It was concluded that the students from urban areas were more efficient than the rural students regarding the need for digital devices to enhance their academic performances at the secondary school level. It was observed that students from urban areas had more sufficient facilities than rural secondary school students. So due to this difference in their facilities, the use of digital devices for enhancement of their academic performance is higher in urban side students.
4. It was concluded that digital devices were more necessary for the modification of behaviour regarding study habits. In these changeable or innovative variables, all the students of different demographic characteristics have an equal desire to use digital devices and modify their learning habits. Mostly students agreed to



change their study habits with the use of digital devices.

5. It was also concluded that there was a positive relationship between digital devices and academic performances among the male and female students of rural and urban secondary schools. These digital devices had a positive relationship with learning habits and academic performance at secondary schools. Meanwhile, due to a lack of facilities and technological usage, the students in rural areas had less interest in digital devices. The students of urban secondary schools (male and female) were highly classified, with positive marks to the digital devices and academic performance at secondary schools.

5.5 Recommendations

The following are the recommendations from the research study;

1. Education has changed further than just the once conventional paper homework sheets and chalkboards. Education has included the latest technology as groundwork for the connectedness of students, preparation for further life, progressing maintenance scales, and endorsement of generational practices of cultural-wise in the classroom environment. There are quite a few hardware components and software programs that donate day by day to the educational success of students.
2. By executing technological pedagogy, teachers may deliver efficient subject matters with learning and teaching digital devices modules such as; iPads,



digital cameras, tablets, computers, and Smart Boards, all whereas learners are using these technologies in their learning process to make academic careers positive and effective. Teachers that incorporate and squeeze digital devices in the classroom, donate to the overall productive life of students.

3. Digital devices and their technical usage should be an entitled standard for secondary schools to positively modify the study habits of the students. Administrators and staff should be present at regular professional training for improvement sessions to stay side by side with digital citizenships, usage of proper sense, usage with effectiveness, and expensive and appropriate digital device content to increase their instruction and curriculum.
4. The secondary schools (rural and urban) are answerable for portable and non-portable technologies such as iPads, digital cameras, tablets, computers, Smart Boards and other useful components for learning and sufficient professional development for teaching staff to have a learning environment with rich technology. The responsibility is for educators to use these effective tools efficiently and effectively for pedagogical practices. In classrooms, it would affect and insert importance to learners' academic performances with positive study habits.
5. It is expected that this research study will encourage all stakeholders to reflect on some of the given recommendations and to motivate the learning approach for classroom practices as student-centred. In this manner, our society will change positively and



students may learn and modify their study habits with digital devices.



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