**THE IMPLICATION OF ICTs ON STUDENTS’ ACADEMIC PERFORMANCE IN SELECTED SOCONDARY SCHOOLS IN RUBAGA DIVISION, KAMPALA DISTRICT**

**BY**

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**APRIL, 2019**

#

# **DECLARATION**

I, Nakyagaba Mildred Annet (Sr.), hereby declare that this work is authentic and is a result of my own academic effort presented for the award of a Master’s degree in Education Management and Planning of Nkumba University. This work has never been submitted to any other university or institution of learning for any academic award. I have earnestly acknowledged the authors, the resources and respondents from whom some information was obtained to write up this paper. I therefore affirm that this work is entirely original.

Signed ………………………

NAKYAGABA MILDRED ANNET (SR.)

# **APPROVAL**

This dissertation has been supervised and approved as having fulfilled the requirements for the award of a Master’s degree in Education Management and Planning of Nkumba University.

Signed ………………………………….

DOROTHY B. KABUGO KAKONGORO

(Supervisor)

Date …………………………………

# **DEDICATION**

I dedicate this piece of work to my Mum, Dad, Brothers, Sisters and Relatives.

# **ACKNOWLEDGEMENT**

I express my sincere thanks to the Almighty God for whose care, love, wisdom, providence and protection have seen me triumph in this research work.

I extend my sincere gratitude to Mrs. Dorothy B. Kabugo Kakongoro, my supervisor, who has tirelessly guided me by giving me all the academic advices I needed for this piece of research work. It is by your great effort that this piece of work has come to completion.

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# **ABSTRACT**

This study was about the relationship between ICTs and students’ academic performance in secondary schools in Rubaga Division Kampala District. The study was based on the following objectives: to establish the relationship between WhatsApp and the academic performance of students in secondary schools in Rubaga Division; to find out the relationship between Television and the academic performance of students in secondary schools in Rubaga Division; and to show the relationship between Video games and the academic performance of students in secondary schools in Rubaga Division.

The study employed a descriptive survey design in order to carry out the research. Both qualitative and quantitative approaches were used. The targeted population was 104 from which a sample of 82 was obtained using de Vaus’ (2002). Questionnaires, focus groups, interview guides, observation and document analysis were used for data collection. Quantitative data was analyzed using descriptive, inferential statistics obtained using SPSS while qualitative data was analyzed using thematic and content analysis.

The findings from objective one showed that students had used study time for texting their friends on WhatsApp. The findings from objective two showed that most of the students did not watch television for study purposes, instead, they used for recreational purposed mainly. The findings from objective three showed that the students had got addicted to playing video games instead of revising their books. Finally, the findings should that ICTs had a significant positive relationship with students’ academic performance in secondary schools of Rubaga division because they occupied a lot of study time that could have been used by the students for study.

As per the finding of the study, it was concluded that there was a significant positive relationship between WhatsApp and students’ academic performance in secondary schools of Rubaga division; a positive relationship between television and students’ academic performance in secondary schools of Rubaga division; a significant positive relationship between video games and students’ academic performance in secondary schools of Rubaga division.

Finally, the study recommended the student’s use of ICTs in matters regarding their academics should be well monitored and regulated by the teachers at schools. The study recommended that further researcher is to be carried on the relationship between student’s discipline and their academic performance.

#

# **CHAPTER ONE**

# **INTRODUCTION**

## **Background**

This chapter talks about the background of the study in four perspectives, that is the historical, theoretical, conceptual and contextual perspective. It continues to give the statement, purpose, objectives, research hypothesis, significance and scope of the study

In the historical background, modern information and communication technologies have created a "global village" in which people can communicate with others across the world as if they were living next door. For this reason, Information and Communication Technologies (ICTs) is often studied in the context of how modern communication technologies affect society.

Cassidy (2011) mentions that in the past few decades in Africa, Information and Communication Technologies have provided society with a vast array of new communication capabilities. In the education sector, María Verónica Alderete and María Marta Formichella (2016) contend that “education systems have participated in the sweeping changes brought about by the global dissemination of new information and communications technologies (ICTs). And that this exponential growth of information that is available anywhere to anybody and the ability to access and share this information regardless of the user’s physical location have transformed the way in which people work, organize, socialize, create, participate in public forums and use their free time”. In addition to the above, while citing a UNESCO report (UNESCO, 2014) again Maria Veronica and Maria Marta (2016) argue that incorporating ICTs has become a very important priority in the education sector and that these technologies can contribute to universal access to education, equality in instruction, quality in teaching and learning and the professional development of teachers, as well as to more efficient management and administration of education systems. But again, they caution that integrating these technologies into schools means rethinking both the way in which these institutions are set up and the practices that derive from that configuration. Consideration must also be given to curriculum development and the work of teachers and students in the classroom. Still in their consideration, they assume that it should be noted that effective use of ICTs in teaching and learning is largely determined by the attitude of school administrators and teachers, who can guarantee that access is accompanied by appropriate use of the resources.

In a study conducted in Spain on the Problematic uses of ICT among young people in their personal and school life, David Rodriguez-Gomez, Diego Castro and Julio Meneses (2018) state that the majority of contributions on the use of technologies in the educational context tend to highlight their neutral or even beneficial nature. They raise an important issue that little research has focused, from a comprehensive perspective, on the unethical, problematic, inappropriate and dysfunctional uses young people make of ICT in the educational context. They highlight some of the analyses in research that examine very specific elements such as plagiarism, academic copying and the distracting element of technology and that the majority of studies tend to tackle the problematic uses of ICT among young people from a psychopathological perspective, for example, studies on the consumption of online and offline pornography among adolescents, sexting, the academic impact of online games, and Internet addiction. They also discuss that the most notable among these are the studies on cyber-bullying, which document and analyse, among other aspects, its nature and impact on young people or the personal characteristics and the social, family and school contexts of those bullied and of bullies. Also, in their study, they reveal the dangers that the use of ICT entails an evident risk for young people who must face new challenges and situations for which they probably lack the knowledge and experience required to discern and make the correct decisions.

Without discounting the above, they contend that the problematic ICT use, regardless of the context in which it occurs, leads to repercussions that go beyond the specific use of ICT and affect other dimensions of the psycho-emotional and social development of young people. Therefore, they consider it essential to shed light on the problematic use young people make of ICT in the school context in order to adopt organisational, advisory and training measures that improve their potential as a tool in the educational context. So, they considered the aim of their study as to analyse the problematic use of ICT among young people in their personal and school life.

In Uganda, the Government instituted the National ICT Policy where it is recognized that ICT has revolutionized the way production, market access and distribution of goods and services are organized. It is further argued that Internet and the use of web-based technologies have led to new communication modalities that have forced traditional media – TV, radio and newspapers – to devise new strategies and alternative scenarios in the struggle to remain relevant. Also, it is claimed that in sectors like trade, education, health, banking and agriculture, technology developments have made it possible for people to acquire and exchange information in an increasing variety of formats and collaborate with one another across national boundaries. Even in Uganda, more and more people use the Internet daily to communicate and transact business (Uganda Ministry Of Information And Communications Technology, 2014).

With sound ICT policy in recent years, Uganda has experienced a groundswell of interest in how computers and the internet can best be harnessed to improve the effectiveness of education at all levels and in both formal and non-formal settings. Cabral (2011) has already carried out a research which was aimed at establishing how effective the computers were in the education sphere. He discovered that the computers could only be helpful if they were used in an appropriate way. But ICTs are more than just these technologies; older technologies such as the telephone, radio and television, although now given less attention, have a longer and richer history as instructional tools. For instance, radio and television have for over forty years been used for open and distance learning, although print remains the cheapest, most accessible and therefore the most dominant delivery mechanism in both developed and developing countries (Browning, 2011).

https://en.wikibooks.org/w/index.php?title=ICT\_in\_Education/Definition\_of\_Terms&oldid=3293049Students’ academic performance is considered as a multifaceted construct that comprises different domains of learning. Because the field of academic performance is very wide and covers a broad variety of educational outcomes, the definition of academic performance depends on the indicators used to measure it. Among the many criteria that indicate academic performance, there are general indicators such as procedural and declarative knowledge acquired in an educational system, more curricular-based criteria such as grades or performance on an educational achievement test, and cumulative indicators of academic performance such as educational degrees and certificates (Hattie, 2009).

**Theoretical Framework**

Theoretically, the study was guided by the Behavioral theory advanced by Skinner, B. F. (1938). This theory had the most influence from the work of American Psychologist Burheus F. Skinner. Skinner believed that people can learn more effectively if their environment is carefully controlled. He developed the principles of operant (behavior) conditioning, which basically stated that; “if the occurrence of an operant is followed by the presentation of a reinforcing stimulus, the strength is increased” (Skinner, 1938). This theory was applicable to my study because I was studying about the education environment of the students (the use of WhatsApp, Television and Video games) in relation to their academic performance. Just as Skinner had proved that students learn more effectively when their environment is controlled, I also discovered that the academic performance of students could have improved if their use of WhatsApp, Television and Video games was carefully controlled.

**Conceptual Framework**

Muhammad Saqib Khan et. al considered ICT to stand for information & communication technologies. ICT refers to technologies that provide access to information through communications. It is similar to information technology (IT). “But primarily focuses on communication technologies. This includes the internet, wireless network, cell phones & other communications medium”. As an umbrella term, ICT stands for information & communications technology that includes any communication device, encompassing radio, television, cell phones, computer and network hardware, satellite systems and so on, as well as the various services & applicate with them such as video conferencing and distance learning. It is stated that in the past few decades information & communication technologies have provided to society with vast array of a new communication capabilities. “People can communicate in real time with others in different countries using technologies such as instant messaging, voice over IP and video conferencing, social networking websites like face book allow users from all over the world to remain in contact and communicate on a regular basis”. Modern information communication technologies have created a global village in which people communicate with others across the world as if they were living next door. “For this reason, ICT is often studied in the context of how modern communication technologies affected society” (Muhammad Saqib Khan et. al, (2015). However, we would limit this study to the three variables for ICTs which are WhatsApp. Television and video games.

The study took student’s academic performance to be the scores that students achieve in any given set of examinations, communication skills and behaviors.

The variables for student’s academic performance were internal examinations, external examinations, public speaking, classroom participation and seminar presentation.

**Contextual background**

According to government statistics, telephone subscriptions stood at 18.3 million by March 2014, corresponding to a tele-density of 51.3 lines per 100 people. Internet usage has grown, with the number of active internet subscriptions standing at 3.6 million by December 2013 compared to 2.7 million in December 2012. In March 2014, the number of internet users was 7.3 million compared to 6.2 million in June 2013. Available statistics obtained from UCC as of 2012 indicate the following; Broadband Penetration stood at 9% in 2012. PC Penetration (Number of PCs per 100) – 2.3. The number of licensed TV stations was 67 with 62 operational. There were 229 licensed FM radio stations, out of which 208 were operational. The volume of Expedited Mail Services (EMS) courier items stood at 134,349 and ordinary mail was 1,497,018. The Number of registered Mobile money subscribers was 14.24 million in December 2013 up from 8.87 million in December 2012 and the value of transactions increased to 18.645 trillion as at December 2013 compared to 11.6 trillion in December 2012 (Uganda, Ministry of Information and Communications Technology, 2014)

With the above data, it is clear that society is heavily saturated with ICTs whereas most of the secondary schools surveyed, have no guidelines for students to handle and manage ICTs, yet students have continued to use them which has led to the decline in their academic performance. In the UNEB syllabus for O Level, the ICT course is offered as an optional course for students, and in most schools, there are no competent teachers trained to handle the various aspects of this course especially its ethical dimension. Despite all these deficiencies in the school contexts, students are exposed to ICTs and they continue to handle them without proper guidance.

 In his discussion on Computer Ethics, Rogers Mukalele (2018, 361) asserts that computer ethics is knowing and understanding what is right and what is wrong, and then doing the right thing right. He states in simple terms, that ethics are standards of moral conduct but quite often, people in society do the wrong things either out of ignorance or deliberately to achieve selfish interests. He observes that in today's society, computers are involved to some extent in almost every aspect of life and sometimes they often perform life-critical tasks. This makes it very important to carefully consider the issues of ethics in use of computers and software. Ethical principles are important because they help us navigate through difficult situations and reflect the way to relate with our friends and community. However, what Mukalele fails to consider seriously and which is very salient in this digital age, are the comprehensive ethical considerations that should cover the whole realm of ICT where WhatsApp, Television and Video games characterize people’s daily lives.

 The contextual background had the variables for ICTs as WhatsApp, Television and Video games and those for students’ academic performance as internal examinations, external examinations, public speaking, classroom participation and seminar presentation. In the research carried out by the Uganda National Examination Board in 2012 on Assessment for Quality Education, it was reported that the grades of students who spend most of their time on modern devices for example Televisions are continuously becoming poor. The Ministry of Education puts it that the students will only achieve high scores in their examinations if they spend most of their time doing academics. Otherwise, students who waste their study time will achieve poor grades.

A study conducted by Wood, Griffiths, and Parke (2007) included open-ended questions that encouraged participants to report different feelings about playing video games. Some of the negative consequences indirectly related to school performance, in that participants reported often missing classes and not doing their homework. They also found that these consequences were more likely to impact males, because males played video games more often and were more likely to lose track of the time while playing. In an experiment by Williams (2006), students’ academic performance increased after the participants dramatically decreased (limited time spent using technology to 30 minutes per day) their usage of all technology, including video games.

## **1.2 Statement of the problem**

Despite the numerous advantages that come with the adoption of ICTs in schools, it has continued to negatively affect students’ academic performance over the years. ICTs have led to a decline in the academic performance of students in schools. This is because students have wasted a lot of time on these gadgets and it has resulted into failure to make research and revision. The researcher has observed that several students in boarding schools have illegally acquired gadgets like phones, personal computers which are not acceptable at school. More so, the students have used WhatsApp on their personal phones to communicate to outsiders, that is to say some girls at school do call their boyfriends using these phones, others end up playing Video games during study time as well as watching television instead of revising their books.

All the above gadgets and devices end up taking most of the students’ attention during study time hence losing concentration on academics because of a lot of destructions. The academic performance of students has eventually declined.

If such a condition continued to exist without anything being done, many students may could have ended up having very low marks and poor grades in their examinations, poor public speaking skills, lack of concentration in class and poor presentations during seminars. The students were eventually demoted or discontinued leading to an increased number of schools drop outs and the society was to be at risk since the students are the leaders of tomorrow.

This alarming situation required something to be done in order to raise the grades of the students in their examinations, improve their communication skills and their behaviour in the secondary schools of Rubaga Division hence the researcher delved in this study on: “ICTs and academic performance of students in selected secondary schools in Rubaga Division”.

## **1.3 Purpose of the study**

To establish the implications of ICTs on students’ academic performance in secondary schools in Rubaga Division.

## **1.4 Specific objectives**

This study was guided by the following objectives:

1. To examine the impact of WhatsApp on the academic performance of students in secondary schools in Rubaga Division.

2. To find out the implications of Television on the academic performance of students in secondary schools in Rubaga Division.

3. To show the threats of Video games on the academic performance of students in secondary schools in Rubaga Division.

## **1.5 Hypothesis**

1. The use of WhatsApp has impact on the academic performance of students in secondary schools in Rubaga Division.

2. Watching Television has an impact on the academic performance of students in secondary schools in Rubaga Division.

3. Playing Video games has an impact on the academic performance of students in secondary schools in Rubaga Division.

##

## **1.6 Significance of the study**

The study findings could be to be of utmost importance to a number of stakeholders in the following ways:

The government might use the study findings to set up better policies on how ICTs could be used to improve academic performance in schools.

Policy makers in the ministry of education may use the study findings to develop and strengthen the ethical code for schools on how to use ICTs in a better way so that students’ academic performance may increase.

Educational administrators and planners may use the study findings to discover how ICTs could improve students` academic performance.

Academicians could use the knowledge generated by this research as a basis for further research on how to improve academic performance by the use of ICTs.

The school management bodies could use the study findings to draft rules and regulations and to advise the school administrators on how to help students use ICTs responsibly to improve academic performance.

The researcher is to benefit from the study because it was a partial fulfillment for the award of a Master’s degree in Education Management and Planning.

## **1.7 Scope**

### **1.7.1 Content scope**

The research was basically concerned with the relationship between ICTs and students’ academic performance in selected schools of Rubaga Division. The researcher broke down ICTs into WhatsApp, Television and Video games in order to establish their relationship with students’ academic performance. The researcher viewed the relationship between WhatsApp, Television plus Video games and students’ academic performance in selected schools of Rubaga Division. The research was carried out among people with at least thirteen years and not more than seventy years. It included education administrators, students, teachers, Parent-Teacher Association members (P.T.A).

### **1.7.2 Geographical scope**

The research was carried out in Rubaga Division which is one of the divisions of Kampala City. It is approximately three kilometers from Kampala city. Rubaga Division covers an approximate area of twelve kilometres.

The research was carried out in twenty secondary schools of Rubaga Division that have embraced ICTs most especially the internet.

### **1.7.3 Time scope**

The study was conducted between November 2017 and December 2018. The research considered the impact of ICTs on students’ academic performance for the past ten years up to date.

# **CHAPTER TWO**

# **LITERATURE REVIEW**

### **2.0 Introduction**

This chapter discusses the literature related to the relationship between ICTs and students’ academic performance in secondary schools in Rubaga Division in Kampala District. It particularly focused on what other researchers have written about ICTs and in particular WhatsApp, television and video games in relation to students’ academic performance.

# **2.1 Conceptual Framework on relationship between ICTs and students’ academic performance**

According to Amin (2005:142) a conceptual framework, which is generated from the conceptual review, is a scheme of concepts or variables that underlie the study and the relationship among these concepts or variables. Amin stressed that the conceptual framework allows for a better operationalization of concepts and permits the researcher to understand how these have been measure in the past. In addition, Amin noted that the conceptual framework helps the researcher and reader to know how the variables in the study relate to each other. In this section, therefore, the researcher presented the conceptual framework (Figure 2.1) which was used in the study.

## ***Figure 1: A representation of the variables of ICTs and students’ academic performance.***

|  |
| --- |
| School rulesComputer facilitiesInternet |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ICTS |  |  |  | ACADEMIC PERFORMANCE |
| WhatsAppTelevisionVideo games |  | Internal ExaminationsExternal examinationsPublic speakingClassroom participation and Seminar presentation |

## **2.1** **Theoretical Framework of the Study**

The study was guided by the Behavioural theory advanced by. Skinner, (1938). This theory had the most influence from the work of American Psychologist Skinner. Skinner believed that people can learn more effectively if their environment is carefully controlled. He developed the principles of operant conditioning, which basically stated that; “if the occurrence of an operant is followed by the presentation of a reinforcing stimulus, or punishment, the strength is increased” (Skinner, 1938).

This theory in relation to this study showed that if students are well guided and controlled on the use of ICTs, there was an expectation of improvement in their academic performance. This theory was useful in the study in the way that the environment (i.e. WhatsApp, television and video games) of the student was analyzed with an intention of discovering the relationship which it has got with the student’s grades as well as their level of communication skills.

## **2.2 Survey of available literature**

A review of current literature on the relationship between ICTs and students’ academic performance was done as per the objectives of the study and the independent and dependent variables.

### **2.2.1 WhatsApp and students’ academic performance**

 Wesonga (2017) in his article on “Effect of WhatsApp on Students’ academic performance of University Students in Uganda”, showed that WhatsApp provides an opportunity for quick and easy access to information. As to whether the information obtained provides additional academic knowledge to students is hypothesized and measured by their academic performance in school. This study provided evidence to the ongoing debate of whether the use of WhatsApp among students improves academic performance of students. Findings from the study showed that the effect of WhatsApp usage on academic performance was significant (p<0.05). Furthermore, the study demonstrated that for better academic performance, the optimum proportion of study time that a student may spend on WhatsApp usage was 25 percent. Students who managed their time well were more likely to perform better than those who did not. Furthermore, students who used WhatsApp more for academics rather than for non-academic purposes were more likely to perform better academically.

Regarding student majors: science-based majors tended to benefit more from OSNS usage compared to arts-based majors, by up to 50 percent. Student general characteristics (being male or female, married or single) and student-preferred mode of learning (using traditional, hybrid or online approach) were not significant in this study.

In conclusion, use of WhatsApp by students at universities, when properly regulated results in better academic performance.

The information which was given by those authors above did not show that spending much time on WhatsApp has led to decline of the students’ examination scores, participation in debates and seminars. This research was to find out why spending much time on WhatsApp has led to a decline in students’ academic performance. Secondly, it was going to look for the best ways to handle this issue because all those things that are causing the students to perform badly in their examinations needed to be worked upon.

### **2.2.2 Television and students’ academic performance**

In the research carried out by Peter Osharive (2015), “Television and academic performance of the students in universities in Lagos state”.He examined the influence of television on Academic Performance of students in University of Lagos. Research findings showed that a great number of students in University of Lagos, were addicted to television. The researcher recommended that television should be used for educational purposes as well. Television programmes should be expanded to enhance academic activities and avoid setbacks in the students’ academic performance; and Students should be monitored by teachers and parents on how they use television. This was to create a balance between television and academic activities of students to avoid setbacks in the academic performance of the students.

The data presented did not bring out the ways in which students have misused television. Currently, it has been observed that many students have spent a lot of time watching movies minus sparing some time to read their books or even watch news that has got some current affairs that are occurring in the world. This has caused them to deteriorate in their studies.

### **2.2.3 Video games and students’ academic performance**

In a research “Effects of video games on students’ learning: a case of Gulu University” by Opira (2010), he investigated the effect of video games on students’ learning by taking the case of Gulu University. The study was prompted to find out whether students’ learning was linearly correlated with video games. The study established that the video games were used by some students to relax their minds after having done too much reading of their books. However, other students did not mind about paying attention in class and participating in seminars because they were playing video games during those sessions.

This study however, did not address the burning issue of addiction that had been brought by video games which had resulted into consuming much of the students’ time which would have been used for doing constructive work like developing their communication skills and reading their books such that they can get better grades. It did not also address issues like the students’ loss of attention in classes when the teachers are teaching because of video games.

## **2.3 The relationship between ICTS and students’ academic performance**

This section reviewed literature related to the three specific objectives in the research. However, where necessary the literature was not restricted to secondary schools but other levels of education where (ICTs) were applied.

### **2.3.1 WhatsApp and academic performance.**

WhatsApp Messenger is a [freeware](https://en.wikipedia.org/wiki/Freeware) and [cross-platform](https://en.wikipedia.org/wiki/Cross-platform) [messaging](https://en.wikipedia.org/wiki/Messaging_apps) and [Voice over IP](https://en.wikipedia.org/wiki/Voice_over_IP) (VoIP) service owned by [Facebook](https://en.wikipedia.org/wiki/Facebook).The application allows the sending of [text messages](https://en.wikipedia.org/wiki/Text_message) and voice calls, as well as video calls, images and other media, documents, and user location. The application runs from a [mobile device](https://en.wikipedia.org/wiki/Mobile_device) though it is also accessible from desktop computers. The service requires consumer users to provide a standard [cellular](https://en.wikipedia.org/wiki/Cellular_network) [mobile number](https://en.wikipedia.org/wiki/Telephone_number). WhatsApp was founded on the February 24, 2009 by Jan Koum and Brian Acton in California. By October 15, 2019, WhatsApp has 1.5 billion active users in over 180 countries and it is estimated that the average user checks WhatsApp more than 23 times per day and 58% of users access WhatsApp several times per day making it the most [popular messaging application](https://en.wikipedia.org/wiki/List_of_virtual_communities_with_more_than_100_million_active_users) at the time. It is available in 180 countries out of 193 of which 12 countries it is banned ( **WhatsApp 2019: Stats and Facts, 2019).**

#### **2.3.1.1 WhatsApp and Internal examinations**

According to the Oxford learners’ dictionary, examinations are formal tests of a person’s knowledge or proficiency in a subject or skill. A more similar definition could be that an examination is an assessment intended to measure a test-takers’ knowledge, skill, aptitude, fitness, or classification in different topics The examinations which are given to students are usually closed book tests which require the students to rely upon their memory to respond to the questions that are asked. The examinations are usually in form of multiple choice questions, structured and easy type questions. An examination may contain all the three types of examination formats or at least one or two of those formats.

Boyd & Nicole (2008) had mentioned before WhatsApp was invented that some students in schools have illegally acquired mobile devices which are so destructive to them when in school because they occupy a lot of time that would have been used as study time. Just a year after he had mentioned that, WhatsApp application was introduced which was so popular and some students started installing it on their mobile devices which they possessed illegally when at school. This has enabled the students to communicate with their friends at any time and it has really occupied most of the time that the students would have used as study time.

Cabral (2011) supported him by saying that excessive texting on WhatsApp takes away the attention of the students. He said that students illegally used WhatsApp to talk to people outside school (i.e. the girls communicated to their boyfriends and also the boys communicated to their girlfriends). This made them unsettled and less concentrated on their studies which eventually led to a decline in their academic performance.

However, Heeks (2008) was contrary to what Cabral (2011) said. Heeks (2008) had stated that the students have got a right to communicate to whoever they feel like even when they are at school. For him, a school is a place where students should do whatever they feel like as long as it makes them happy.

The contradiction between Cabral (2011) who was arguing against WhatsApp and Heeks (2008) who was in support of the use of WhatsApp left the all situation unclear. A person could hardly know whether WhatsApp was suitable for the students or it was unsuitable. For that reason, the researcher conducted this researcher to find out whether WhatsApp was beneficial to the students or not in regard to their academic performance in internal examinations.

#### **2.3.1.2 WhatsApp and external examinations**

Students in Rubaga Division do both internal and external examinations. External examinations are usually done at the end of the year by the candidate classes which is Senior four and Senior six. During other periods of the year, the candidate classes do internal examinations in preparation for the external examinations. All other classes do internal examinations throughout the year which are aimed at enabling the students to get ready for the external examinations which are done at the end of the candidate classes.

Mitchell (2012) rejects the view of Heeks (2008) by arguing that it will be very unfortunate if students are allowed to use WhatsApp all the time for communication. To him, students should have a limit on the way they use WhatsApp. This is because students have got limited time when they are at school and yet they have a set national syllabus to cover within a given period of time. All that work requires time in order to be grasped hence students should not be allowed to use WhatsApp all the time because it will waste some of their study time.

Erickson (2012) also put it that some students spend most of their sleeping time at night (resting time) when using WhatsApp. This implies that they don’t get enough time for sleep at night therefore their minds cannot get well refreshed. Hence, they end up dozing during daytime when lessons are being conducted. This leads to absent mindedness when in class. In addition, Erickson (2012) argues that once a student does not grasp the concepts when the teacher is teaching because of dozing, that student can hardly get to understand those concepts during future revision.

According to the previous researchers, they just indicated that WhatsApp was not good for the students which gave an implication that WhatsApp is totally bad for the students in terms of their academic performance in external examinations. Therefore, the issue of WhatsApp was not fully dealt with because they the previous researchers did not show whether WhatsApp had any relevance to the students. This research therefore intended to find out whether WhatsApp had any relevance to the students. This researcher also showed the extent to which WhatsApp was allowed to be incorporated in the academic performance of the students in case it had proved to be of any help to them.

#### **2.3.1.3 WhatsApp and Public speaking**

Saylor, (2012) continues to elaborate that many of the students that have installed WhatsApp applications on their personal laptops at school are not performing well in terms of public speaking. He supports the idea that such applications should be limited to free use by students at any time because students waste a lot of time which would have been used for developing their public speaking skills and eventually they don’t improve in as far as public speaking is concerned. Communication skills help the students to express themselves well during public speaking like in debates and quizzes. These skills will enable students to learn how to encode and decode messages since communication is a two-way traffic that requires giving a feedback. The communication skills need time to be developed. There is no way in which they will be developed if most of the time is spent on WhatsApp, television and video games. This suggests that there should be moderation on the use of ICTs so that sometime is spared for developing these communication skills and this research found out the best way of how that could be done.

#### **2.3.1.4 WhatsApp and classroom participation and seminar presentation**

Basing on the study which was carried out by Yeboah and Ewur, (2014) to investigate the impact of WhatsApp Messenger usage on students’ performance in tertiary institutions in Ghana, it was established that WhatsApp had impacted negatively on the performance of tertiary students in Ghana .The study put it forward that WhatsApp takes much of students study time, results in procrastination of doing homework, destroys students’ spellings and grammatical construction of sentences, leads to lack of concentration during lectures, results in difficulty in balancing WhatsApp and academic preparation and distracts students from completing their assignments, preparations for class presentations as well as adhering to their private study time tables.

Unlike the various findings that show that WhatsApp has been misused by students, many people today claim that the purpose of WhatsApp is to the make communication easier and faster in order to enhance the effective flow of information and idea sharing among students during seminars. It is for that reason that some parents have ensured that their children are connected to WhatsApp because they do not see the reason as to why using WhatsApp can lead to low grades. This contradicts with the opinion of other researchers about the relationship between WhatsApp and students’ academic performance.

Communication skills are very important in our day to day life and they cannot be dealt away with. Students need to learn strategies of overcoming communication barriers as well as essential communication skills like active listening, effective use of voice and tone, investigate questioning skills and exploring the importance of body language and the non-verbal communications coming from other people. These skills will enable students to improve on their participation during seminars as well as improving on how to communicate effectively in class when they are delivering information. It will also help them in any of their relationships with the people they encounter for example, fellow students, teachers and all other groups of people.

#### **2.3.1.5 Summary**

It has been shown above that the students who spend most of their time on WhatsApp at school are generally not performing well because most of the time they are destructed by the WhatsApp messages that they do keep replying to during the study hours and also sometimes when in classes. This has gradually led to a decline in the students’ academic performance. On the contrary, some researchers have argued that the students have got a right to use WhatsApp to communicate as much as they like because it is part of their freedom and also they claim that using WhatsApp has got no connection with the poor grades that are scored by some of the students. This research sought to resolve this controversy by finding out the relationship that WhatsApp has got with students’ academic performance and it came up with relevant recommendations.

### **2.3.2 Television and academic performance**

According to the Mariam-Webster dictionary, a television is an electronic system of transmitting transient images of fixed or moving objects together with sound over a wire or through space by apparatus that converts light and sound into electrical waves and reconverts them into visible light rays and audible sound. The Mariam-Webster dictionary also defines a television as a telecommunication medium used for transmitting moving images in a monochrome (black and white), or in colour, and in two or three dimensions and sound.

#### **2.3.2.1 Television and Internal examinations**

Paul, Baker, and Cochran (2012) support the idea that television has become a prominent communication tool for delivering information globally. Thus, students are encouraged to use the televisions for watching important programmes like news in order to get aware of the current situations that are happening in the world. More so, some television programmes like quizzes are relevant to some of the subjects that students are taught in classrooms.

On the contrary, some authors and researchers such as Lenhart, et al., (2010); Tiryakioglu & Erzurum, (2010); Chen & Bryer, (2010) disagree with Paul, Baker, and Cochran (2012). For them, they say that despite the use of television for obtaining good information, only a low percentage of students use them for academic purposes. Most of them use the television for only recreation and watching of movies and they end up even encroaching on their study time. There was no agreement among the study findings of the researchers who had a study on the relationship between television and students’ academic performance in internal examinations. On one hand, some researchers had discovered that watching television improved the students’ performance in internal examinations. On the other hand, other researchers had noted that watching television did not help the students to improve in their academic performance. This research therefore aimed at finding out the real station that was happening in Rubaga division concerning the relationship that television had with students’ academic performance in internal examinations.

#### **2.3.2.2 Television and External examinations**

Junco (2012) in his article named; “Too much time on television and not enough books”, found out that the time spent on television negatively led to a low Grade Point Average (GPA) because it reduced the time that the students spent on reading their books.

This ties in well with the findings presented by Kirschner and Karpinski (2010), which revealed that over-involvement or obsession with television by students can have negative impacts on their academic performance. The results revealed a statistically significant positive relationship between time spent by students while watching television and their academic performance. They discovered that as the time spent on television increases, the academic performance of the students is seen to deteriorate.

The above researchers dealt with one aspect of the relationship that television had with external performance. These researchers to not show whether television could have led to an improvement in the academic performance of students in terms of external examinations. Therefore, this research aimed at establishing whether television could in any way have led to the improvement in the academic performance of students in external examinations.

#### **2.3.2.3 Television and Public speaking**

In a quantitative investigation of how television affects achievement in public speaking which was carried out by Chi-Cheng (2012), the results suggest that television can sometime help in improving public speaking because it has got many programs that students can watch in order to improve their public speaking skills.

According to the research carried out by Chi-Cheng (2012), his research only showed that television helped to improve public speaking. It did not show whether television could at times lead to a decline in public speaking. Therefore, this research was carried out to find whether television could have led to a decline in public speaking. If that was the case, it was going to find solutions to that situation.

#### **2.3.2.4 Television and participation in classroom and seminar presentation**

The study carried out by Amin, Syed. (2013) established that the availability of television facilities in the university is still very much wanting and very inadequate for the students to use for getting information for presenting in the seminars. On the other hand, it was found out that those students who got access to televisions did not use them for study purposes like getting information for seminar presentations.

On one hand, Amin, Syed. (2013) showed the urgent need for television in universities because he thought that the televisions helped to improve classroom participation and seminar presentation. On the other hand, he noted that televisions were not used by the students for preparing for seminars. His findings left a lot of doubt on whether television was purely helping the students to improve their classroom participation or the television was only read to a decline in the classroom participation of the students. Due to that uncertainty, this research had the aim of showing the effect that television had on classroom participation and seminar presentation.

#### **2.3.2.5 Summary**

It was noted that too much watching of television occupied a lot of the time of the students and it led to a decline in their academic performance. On the other hand, televisions helped in relaxing the minds of students after reading. The problem was that the students were not moderate as it regarded the time that they spent while watching television. At times, the television outweighed the priority of reading their books and this led to low grades. This research sought to show the relationship that television has with students’ academic performance so as to get better solutions on how television should be used so that it does not lead the students’ academic results to decline.

### **2.3.3 Video games and academic performance**

Hacker (2011) describes video games as any of various interactive games played using a specialized electronic gaming device or a computer or mobile device and a television or other display screen, along with a means to control graphic images.

Patrick (2012) provides almost the same definition of video games whereby he defines video games as any of the various games that can be played by using an electronic control to move points of light or graphical symbols on the screen of a visual display unit.

The working definition of video games in this research was that Video games are any of the various interactive games played using a specialized electronic gaming device or a computer or mobile device and a television or other display screen, along with a means to control graphic images (Hacker, 2011). This definition was considered appropriate because it gave a broad view of all that which could be referred to as video games.

#### **2.3.3.1 Video games and internal examinations**

According to Anand (2007), the penetration of video games into the United States alone is huge, with at least 90% of homes having children that have played (rented or owned) video games. This is a record level that continues to increase. Fifty-five percent (55%) of console players and 66% of online players are over 18 years. The college demographic seems to be the major group of gamers simply because they have a lack of parental supervision and they have more addiction and this has impacted negatively on their academic achievement because the students are too involved in playing video games instead of doing homework and assignments which are part of the internal examinations.

Anand (2007) did not point out the ways in which video games had led to a decrease in the academic performance of the students. Anand (2007) also did not carry out research to show whether video games helped to improve students’ academic performance in internal examinations.

Therefore, this research aimed at pointing out the ways in which video games led to decrease in students’ academic performance in internal examinations. The research also sought at finding out whether video games could in any way help to improve the academic performance of students in internal examinations.

#### **2.3.3.2 Video games and external examinations**

(Hacker, 2011) found decreased academic performance in external examinations due to involvement in playing video games. Anderson and Dill (2007) studied video games and aggression and suggested that not only does gaming have an impact on performance directly, but it also triggers a higher level of aggression, which is often linked to problems in school and decreased academic performance in the external examinations.

This research aimed at finding ways in which students could be prevented from playing video games when they were at school with an intention of enabling the students to concentrate on their studies. The research also aimed at finding out whether playing video games did any good to the students’ academic performance in internal examinations.

#### **2.3.3.3 Video games and Public speaking**

Wack and Tantleff-Dunn (2009) found a positive relationship between video games and academic performance in public speaking.cant Bendall, S., Killackey, & Marois & Jackson, Henry. (2005) also found that the time spent playing video games was a negative predictor of academic performance in terms of public speaking and that those who played video games more often had poorer performance in public speaking than those who played less.

Since the previous researchers had shown that playing video games led to a decline in public speaking, this research intended to find whether playing video games could in any way lead to the improvement in public speaking. The research also intended to find ways in which playing video games could have been eliminated in them schools so that students had enough time to improve their public speaking.

#### **2.3.3.4 Video games and Participation in classroom and seminar presentation**

A study conducted by Wood, Griffiths, and Parke (2007) included open-ended questions that encouraged participants to report different feelings about playing video games. Some of the negative consequences indirectly related to school performance were put forward that is to say some participants reported that these games lead to missing lectures and also skipping homework. In an experiment by Williams (2006), school performance increased after the participants dramatically decreased the time that they spent on playing video games each day. Jaruratanasirikul, Wongwaitaweewong, and Sangsupawanich (2009) also found out that the excessive playing of video games (five hours or more per session) resulted in school grades that were below a 3.00 average, and that the time spent playing video games was a predictor of academic performance in terms of classroom participation and seminar presentations.

However, Annetta, Murray, Laird, Bohr & Park (2008) refuted the idea that video games lead to decrease in the academic performance of students. These authors argued that video games indirectly lead to increased performance through promoting high English test scores, which suggests that gaming can actually lead to better test scores. It was further advanced that for that reason, North Carolina State University was even experimenting with a synchronous online graduate course that integrates video game design with science curriculum. However, other authors like Anderson and Dill (2000,), stated that there was no definitive answer to the question of whether video games disrupt academic performance or not.

According to the previous findings, there is a lot of uncertainty about the relationship which video games have got with classroom participation and seminar presentation. This is because the findings of the previous researchers were in contradiction. For that reason, this research was going to seek clarity about the relationship that video games had with classroom participation and seminar presentation.

#### **2.3.3.5 Summary**

The recent literature of the scholars showed that video games have both positively and negatively influenced academic performance. Therefore, there is no definite answer to whether video games lead to a decrease or an increase in students’ academic performance. This research sought to find out whether playing video games led to an increase or decrease in students’ academic performance and if it led to a decrease in academic performance, recommendations to improve the situation were to be put forward. it also sought to show how video games could lead to an improvement in the academic performance of the students.

## **2.4: THE RELATIONSHIP BETWEEN COMPUTER LABORATORIES, ICTs AND STUDENTS’ ACADEMIC PERFORMANCE**

### **2.4.1 Computer laboratories and ICTs**

This section viewed literature related to the relationship that exists between computer laboratories and (ICTs). After viewing the literature of other scholars, the gaps which were left by the other scholars were shown and this research aimed at covering those gaps.

#### **2.4.1.1 Computer laboratories and WhatsApp**

A study by Ngaleka and Uys (2013) showed that computer laboratories of Universities which had computers with WhatsApp applications provided a platform that, if exploited correctly, could benefit both students and educators. The students used the WhatsApp application to have group conversations about their research project. The text messages from these conversations were analyzed using Conversation Analysis

The study showed how a group of students use WhatsApp to facilitate their work outside the classroom. The students primarily had conversations about meetings, discussed their project and also had conversations that were not related to their project. What was clear from the study was that there were significant differences between verbal conversations and conversations using the mobile application. The findings also indicated significant collaboration and learning taking place outside the classroom without the influence of the lecturer, and calls for further research in order to understand the role of the lecturer in a modern learning environment.

All the recent researchers showed that the WhatsApp application that was installed on the computers in the laboratories helped them to carry out further research and class discussions outside the class environment. These researchers did not so whether the students had misused the WhatsApp applications that was installed on the computers in the laboratories.

This research therefore was intended to find out whether the students had misused WhatsApp by using it just for social conversations and chatting with friends. Provided that the researcher had discovered that the WhatsApp on the computers in the laboratories had been misused, the research was going to find ways in which WhatsApp would have been used for only academic purposes by the students whenever they entered into the computer laboratories.

#### **2.4.1.2 Computer laboratories and Television**

In the research carried out by Kumar (2016) at Mandarin language school about the importance of television to their learning, the analysis focused on examining the perceptions of students towards Mandarin Language learning via a number of information shown on the Television. Results indicated that the utilization of Television improved students' learning performance inside and outside the classroom.

The main advantage of using television on the computers in the laboratories was that it could be adopted to enhance students' learning experiences in Mandarin Language lessons.
The research which was carried out at Mandarin language schools did not show the challenges that many schools which cannot afford enough computers for all the students to use the television for learning could have faced.

This research aimed at showing in the first place the best way television could have been used to improve the academic performance of students and secondly, it was going to suggest ways in which few computers could have been used effectively for learning.

#### **2.4.1.3 Computer laboratories and Video games**

In a research carried out at McGill University (2017), the ability to create 3-D images on computers was always been an incentive to playing video games. This has enabled students to play video games on computers in the laboratories. The students have played video games even on the computers in the laboratories.htm

This research intended to establish the kind of relationship (positive or negative) that playing video games had on students’ academic performance in terms of internal examinations, external examinations, public speaking, classroom participation and seminar presentation.

### **2.4.2 Computer laboratories and students’ academic performance**

#### **2.4.2.1 Computer laboratories and internal examinations.**

In a research carried oud by Boeve et al (2015), students had divided opinions about using computers or paper for their examinations, but prior exposure to computer-based assessment was a highly significant factor for preferring the computer medium. Reflecting upon their experience, students found the noise of computer keyboards a distraction during the internal examinations and preferred fewer on-screen windows. The new system allowed internal examinations to be taken securely on student owned laptop computers and was supervised by invigilators without specialist information technology skills.

The previous research has shown that there is a positive relationship between the state of computer laboratories and students’ academic performance in terms of internal examinations. Since the previous research put it forward that there is a positive relationship, this current research aimed at finding out the reasons as to why there is a positive relationship. It also aimed at finding ways in which the state of computer laboratories affects students’ academic performance in internal examinations.

#### **2.4.2.2 Computer laboratories and external examinations**

A study by Newby (1998) focused on the computer laboratory class as a learning environment in University courses. It involved the development of validation of two instruments, the Computer Laboratory Environment Inventory (CLEI) and the Attitude towards Computing and Compute Courses Questionnaire (ACCC). The classes surveyed included those in which the development of software was the focus of the study, such as information systems and computer science, and others in which computer was used as a tool.

Further analysis using structural equation modeling suggested that computer laboratory environment affects achievement indirectly, but also directly by affecting students’ attitudes towards computers but even more so their attitude towards the course. The computer was central to the discipline being studied. The results demonstrated the importance of the laboratory environment in those courses in which the computer plays a major role. The Computer Laboratory Environment Inventory (CLEI) proved useful in the design and implementation of the laboratory component of the course and in the formative evaluation of such a course.

This research delved into the issue of finding how effective is the state of computer laboratories to the academic performance of students in their external examinations.

#### **2.4.2.3 Computer laboratories and Public speaking**

In a research carried out by Wighting (2006) on integrating information technology promoted public speaking due to the diversity of software packages available in the computer laboratories. The attitude of a student in public speaking affected the extent of their understanding of concepts, principles and practices.

In this context, technology was seen as a tool to build understanding, cultivate interest, and improve skills and competencies of students in public speaking. Technology can also help produce students with better public speaking skills. With the existence of a variety of electronic devices such as computers and special software in public speaking, it becomes more attractive, faster and more effective.

The current research aimed at finding out whether there are ways in which the students can develop a better attitude towards improving their public speaking skills through using the technological devices that are in the computer laboratories.

#### **2.4.2.4 Computer laboratories and Participation in classroom and seminar presentation**

In a research conducted at Graz university of Technology, Austria by Herman Maurer (2017) about the idea of using computers for teaching and learning for over fifty years ago, it was discovered that numerous attempts to use computers for knowledge dissemination in the classrooms and during the seminars have failed in many cases, and have become successful in others. It was discovered that applications of learning conducted via electronic media (e-Learning technology) tend to be successful. However, attempts to fully eliminate humans from the educational process are bound to fail, yet if a large number of aspects is handled well, the role of teachers can indeed be much reduced in seminars and in classrooms*.*

This research aimed at finding out how the teachers can use the computers in the laboratories to properly prepare the seminars of students. The research also aimed at demonstrating how the computers can be used by the teachers for prepare class material that they use for teaching.

## **2.5 General Summary**

In the literature review that has been discussed in this chapter above, the relationship between ICTs and students’ academic performance has not been clearly addressed. Some researchers have put it that WhatsApp, television and video games have led to a decline in students’ academic performance because they have occupied a lot of the time that the students could have used for revision.

However, some other researchers have come up and disagreed with them by stating that WhatsApp, television, and video games have no connection with the low grades that some students are scoring. For them, they see WhatsApp as a means of communication. Television is seen as a means of getting to know information and news that is occurring all over the world plus having some relaxation. The video games are also seen as a means of enjoyment and also to relax the mind if the students. This uncertainty prompted the researcher to find out exactly whether WhatsApp, television and video games had got a relationship with students’ academic performance.

## **2.6 Conclusion**

In the literature review, some writers have reported that ICTs (WhatsApp, television and video games) have led to an increase in students’ academic performance. However, other writers have reported that ICTs (WhatsApp, television and video games) have led to a decline in the academic performance of students by revealing that ICTs occupy a lot of time that would have been used for study purposes hence leading to a decline in the student’s academic performance. The disagreement from the previous researchers shows that there is still some uncertainty as to whether there is a positive or negative relationship between ICTs and students’ academic performance that is in internal and external examinations, public speaking, classroom participation and seminar presentation. Therefore, this research aimed at finding out whether there is a positive or negative relationship between ICTs and students’ academic performance. And if it is the case that ICTs have negatively affected the academic performance of students, this research was going to address such issues in order to find ways of how ICTs could be used in a better way to improve students’ academic performance.

# **CHAPTER THREE**

# **RESEARCH METHODOLOGY**

# **3.0 Introduction**

The chapter presents a detailed description of the methodology which was followed in this research. It described the research design, population and sampling techniques, validity and reliability of the research instruments, data collection methods and instruments, data analysis techniques, the assumptions and limitations plus the ethical considerations.

## **3.1 Research Design**

The study applied the descriptive survey design because it considered issues such as the economy of the design, rapid data collection and ability to understand populations from part of it. The study was concerned with providing qualitative and quantitative (numeric descriptions) of some part of the population as well as describing and explaining the data. The descriptive survey design was very suitable for extensive research. It was specifically intended to investigate the relationship between ICTs and students’ academic performance in selected secondary schools of Rubaga Division in Kampala District. Amin (2005) asserts that, this design is the most commonly used method in social research. The design enables self-report to be easily done.

## **3.2 Population and Sampling Techniques**

According to Babbie (1989), population for a study is that group (usually of people) about whom one needs to draw conclusions. A population is bigger than a sample and therefore we did not study the whole population hence having a sample.

### **3.2.1 Target Population**

The target population consisted of twenty selected secondary schools out of the twenty-seven secondary schools in Rubaga Division. The twenty selected schools included both private and government secondary schools. These twenty secondary schools were selected because the students in those schools had access to some ICTs.

It is from that population that the researcher chose a sample size for the study. The sample which was considered was appropriate for providing a focal point for the relationship between ICTs and students’ academic performance in selected secondary schools of Rubaga Division in Kampala District.

## **3.3 Sample Size**

Information could not be got from all the population because it was very high. Therefore, sampling so as to select a representative number out of the population of interest (Kakinda, 2000) was done. The sample size was determined basing on the following criteria: the required level of precision of statistical results, the level of detail in the analysis, level of accuracy, available time and budget (Veal 2005, Churchill 1987 & Sekaran, 2003). The “estimate” chosen was at 95% degree of accuracy which corresponded to a z-score of 1.96 (Saunders et al., 2003). The minimum margin of error (e) was 5%. This calculation assumed that data was collected from all cases in the sample and the data had a 95% chance of being right (level of confidence) leaving a 5% chance of being wrong. The 95% confidence was chosen because it represents a reasonable level of certainty. It therefore, compelled the researcher to compute the 95% confidence level of the said number to obtain the proportion.

Using the method popularized by de Vaus (2002), the required minimum sample of education administrators, teachers, students and members of the Parent-Teacher Association that responded were determined as follows:

n = p% \* q% \* 

where n = minimum sample

 p = proportion that would respondent accurately

 q = proportion that would fail or make mistakes

 z = value corresponding to the level of confidence required

 e = margin of error required.

In this study, 79% of the selected respondents gave information, leaving a non-response rate of 21%.

### **3.3.1 Determining the sample size for respondents**

By substituting the formula for respondents: p% x q% x 

 n = 79 x 21 x

 n = 1659 x 0.3922

 n = 1659 x 0.1536

 n = 1659 x 0.154

 n = 255.486

 n = 255

This minimum sample of 255 was further adjusted using the formula developed by de Vaus (2002) as follows:

 =  

 = the adjusted minimum sample size.

 n = the minimum sample size (as calculated above).

 N = the total population.

Given the minimum size (n= 255) and total population (N = 104)

**** 

 

*n’* = 

n’ = 73.87

According to Ojacor (undated), it is not possible most times to study the whole population due to constraints of time, resources, and man power (i.e. the researcher selected only a few subjects of the study but the results were generalized to the whole population). The sample size consisted of 20 selected secondary schools (mixed day and boarding, only day and also only boarding) that may have relevant information for the study. Among the 20 schools, five of them were government schools and the other fifteen were private schools. The reason as to why the researcher chose 20 schools is because they have embraced ICTs hence the information that they gave was appropriate for the study.

The sample consisted of various categories of people present in the selected secondary schools of Rubaga Division. The different categories of people including: 10 educational administrators, 40 teachers (two teachers per school), 50 students taking ICT either at Ordinary level or Advanced level (there were five focus groups each comprising of ten students), four members of the Parent-Teacher Association (two from private schools and two from government schools). Most of the samples were taken from the selected secondary schools and a few from elsewhere. Respondents with at least 13 years and not more than 70 years were considered because people within that range are most likely to be more informed on current issues concerning ICTs and performance of students.

# **Table 1: Sampling Frame**

|  |  |
| --- | --- |
| **Category** | **Population size** |
| Education administrators | 10 |
| Teachers (two teachers per school) | 40 |
| Students taking ICT either at Ordinary level or Advanced level (there will be five focus groups each comprising of ten students) | 50 |
| P.T.A members (two from private schools and two from government schools) | 4 |
| Total  | 104 |

Source: Primary data, 2018

### **3.3.2 Sampling Techniques**

The study employed both simple random sampling (probability) and purposive sampling (non-probability) to select the sample. According to Oso and Onen (2005) Simple random sampling is the process of selecting a sample without bias from the accessible population in order to ensure that each member of the target population has an equal and independent chance of being included in the sample. The reason as to why simple random sampling was used is that it helps to group the population into homogeneous subsets that share similar characteristics plus ensuring equitable representation of the population in the sample. In this case, both male and female were selected as respondents.

In purposive sampling, the researcher decides who to include in the sample so as to select typical and useful cases only from the accessible population (Oso and Onen, 2005). This was used in the interviews because the researcher was in position to choose the students of the focus groups that were offering ICT, the teachers that were teaching ICT including those who were working in the computer laboratories, the education administrators that had knowledge about ICTs, and the members of the Parent-Teacher Association that had the ICT knowledge.

## **3.4 Data Collection Instruments**

According to Oso and Onen (2005), data is anything given or admitted as a fact on which research inference will be based. Much deduction may precede its application but data is the end result of research procedures. Hence, the researcher precisely described how research data was obtained.

### **3.4.1 Instrumentation**

Instrumentation refers to the tools to be used for collecting data and how those tools were developed. The selection of the tools was guided by the nature of the data to be collected, the time available as well as considering the objectives of the study. The researcher described the tools in detail and justified why those tools were used for this study.

#### **3.4.1.1 Questionnaire**

A questionnaire is a set of questions for gathering information from individuals. A survey consists of asking a question of (supposedly) representative cross-section of the population at a single point in time. Hence, the researcher was in position to collect a lot of information over a very short period of time. The questionnaires which were formulated fitted all the specific objects. The researcher and the research assistant distributed questionnaires to educational administrators, teachers, students, P.T.A members who took part in providing data. The researcher used questionnaires for collecting data because some respondents were difficult to meet for interviewing and others were not necessarily permanent residents in the area of study. The sample size was rather large and given the time constraints, the questionnaires were very useful in collecting data. The target population was also largely literate and was unlikely to have difficulties in responding to questionnaire items. All the 40 teachers were given questionnaires and also the four P.T.A members were given questionnaires. Out of the forty questionnaires which were given to the teachers, 25 were returned. Two questionnaires were also returned from the four which were given to the PTA members.

#### **3.4.1.2 Interviews**

An interview is referred to as person to person verbal communication in which one party asks the other party questions with an intention of eliciting information or opinions (Oso and Onen, 2005). They enhance flexibility as their major advantage. Interviews can probe for clarification and a question can be repeated when the response indicates that the respondent misunderstood (Bailey, 1987). The interviewees were meant to answer all the questions that were be presented to them in the interview. They were also used to cater for those respondents who had no time to fill the questionnaires. The researcher aimed at interviewing 10 educational administrators but only managed to get information from 05 of them.

#### **3.4.1.3 Document Analysis**

Document analysis is the critical analysis of public or private recorded information related to the issue under investigation. One of the basic advantages of document analysis is that it allows research on the subjects to which the researcher does not have physical access, and thus cannot study by any other method (Bailey, 1987). The researcher used this method to get information from those people that the researcher was not able to reach physically. It was used to analyze the content of documents like books, journals, newspapers, magazines and articles from Nkumba University Library, Makerere University Library plus websites especially those dealing with teaching, delivery approaches and quality of learning in schools. The researcher was able to obtain the language and the words of the informants at his convenient time. This was done systematically by reading and understanding the content of various documents concerning ICTs and students’ academic performance in line with the objectives.

#### **3.4.1.3.1 Review of Primary Documents**

One of the other methods which was used to collect data from the field was the review of primary documents. This particular method required reviewing all the information which had been collected by the District and individual schools on student and teacher numbers, computer laboratory materials, classroom and other school space. This provided raw information on the relationship between ICTs and students’ academic performance. Document review method was deemed very appropriate in this study because as observed by Hedrick (1993), documents allow the researcher to track what happened, when it happened, and who was involved. The documents which were viewed were; “The Effects of Universal Secondary Education Program Accompanying Public-Private Partnership on Students’ Access, Sorting and Achievement: Evidence from Uganda” and “Study problems in Ugandan Secondary school students: a controlled evaluation”

#### **3.4.1.3.2 Review of Secondary Data**

Secondary data is among the other methods of gathering information which has been used. Secondary data refers to data which has been published or reviewed by researchers on specific areas of study. The method has been used and will continue to be used to clarify concepts to that deal with ICTs and Students’ academic performance in relation to the study objectives. Data has been collected from published papers, journal articles, monographs, books among others. The use of secondary data is recommended as one of the popular ways of gathering information on any subject under study (Bryan et al 2003; Harris, 2001). The advantages of using this method are that it would help the researcher in: clarifying theories of modes of delivery and quality of learning in comparison with what other people have done thereby establishing the gaps; it will be possible to know the current state of research on independent and dependent variables of the current study, in addition to obtaining latest thinking and research in the study area and also establishing what had been done or what is being done (covered) by other researchers. In that way, one avoids repeating what other people have done; but makes a significant contribution to knowledge.

#### Secondary data was reviewed in a number of places including: Nkumba University Library, Makerere University Library and websites especially those dealing with ICTs and students’ academic performance. Review of secondary literature as a method of research has been used by many researchers including the following: Nakayiza (2013), and Merrian (1998).

## **3.4.1.4 Observation**

Observation is the use of all senses to perceive and understand the experiences of interest to the researcher. The researcher participated in this observation by visiting the twenty secondary schools which will be selected in Rubaga Division in order to observe the availability and state of computer labs in those schools, the extent to which the students use the computer labs, the rules that those schools have set on matters concerning the students’ freedom to use of the different forms of ICTs, the way in which the students have used the various ICTs in schools and the time which they spend on them. According to Bailey (1987), the observer is able to conduct the study in the subject’s natural environment, and is thus usually able to study a situation over a much longer period than with either survey or experiment. The researcher being a resident of the area of study, it was possible for the researcher to observe using senses in order to perceive and understand the experiences of the respondents like the body language, gestures, and emotions. The researcher was able to gain first-hand experience and information necessary for the study without informants. Below are some of the computer laboratories which were visited by the researcher:

## **Figure 3.1: A photo of one of a networked computer laboratories in a school that was visited by the researcher**



##

## **Figure 3.2: A photo of one of the other computer laboratories which was visited by the researcher**

******

#### **3.4.1.5 Focus groups**

A Focus Group Discussion (FGD) is a qualitative research method and data collection technique in which a selected group of people discusses a given topic or issue in-depth, facilitated by a professional, external moderator. This method serves to solicit participants’ attitudes and perceptions, knowledge and experiences, and practices, shared in the course of interaction with different people. In other words, a focus group is a group of people who are carefully selected to participate in a given study through giving their perceptions, opinions, beliefs and attitudes towards a concept or service (Peter van Eeuwijk and Zuzanna Angehrn, 2017). A focus group is generally small and its members range from eight to fifteen. The researcher selected the members of these focus groups carefully by including only those students who take ICT either on Ordinary level or Advanced level. There were five focus groups and each focus group comprised of ten students making it to a total number of 50 students.

**3.5 Data Quality Control**

### **3.5.1 Determining the Quality of Research Tools**

Prior to using the questionnaire to collect data from the field, the questionnaire was pilot tested in five schools Rubaga in division. During the pilot test, one teacher from each of the five schools was given a questionnaire, and one member of the Parent-Teacher Association from one of the five schools was given a questionnaire. The purpose was to refine the questionnaire so that respondents did not find any problem in answering the questionnaire. This enabled the assessment of the validity of the questions and reliability of the data. The issues of reliability and validity were taken into account by this study. Merrian (1998) and Fraenkel and Wallen (2003) explained that research must demonstrate acceptable credibility and consistency through validity, reliability and external validity or generalization. These denote the extent to which findings and conclusions could be applied to other situations. This is because the data that was to be collected had to be reliable and valid (Saunders, Lewis and Thornhil 2007) if an accurate conclusion was to be drawn.

### **3.5.2 Validity Test**

Validity is used to ensure that; the instruments measure the content they are intended to measure, the score from the instruments predict a criterion measure, the results obtained correlate with other results, the instruments measure a hypothetical concept, and that the instruments appear to measure what they purport to measure (Oso and Onen, 2005). Although there are different types of validity, it is only content validity that was considered in this study. White (2002) intimated that validity is concerned with the idea that the research design fully addresses the research objectives and questions that have to be answered and achieved. Validity in this case refers to the extent to which an item on the questionnaire measured the concepts it represented. Content validity in this study is applied so as to reveal whether the wording of the items used to measure a concept are clearly related to the concept or one of its dimensions. In the current study validity has been determined using Content Validity Index (CVI). It is the main tool for assessing the accuracy of the data. A full questionnaire was prepared using the following scale:

1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree

The formula used to calculate content validity index (CVI) is:

CVI = Number of items declared valid

Total number of items on questionnaire

Or simply CVI = 

CVI = 

CVI = 0.6

The results from the content validity index (CVI) test using the above formula yielded the popular cut- off point of 0.6 (Amin, 2005), then this meant that the items on the questionnaire were considered valid and they measured the study variables quite appropriately. In other words, the items on the questionnaire brought the desired responses.

### **3.5.3 Reliability Test**

Reliability can be described as the extent to which any measuring procedure gives the same or similar results if the test is repeated with the same respondents (Koul, 2004). Reliability is about consistency of the research scales (White, 2002). Reliability is used to ensure that the respondents are consistent across variables, individuals do not vary in their responses if the instruments are administered a second time, and also that errors made during administration or scoring of the instruments are eliminated (Oso and Onen, 2005). Although there are different forms of reliability, the current study focused on internal consistency reliability. This is the type that measures whether several items on the questionnaire that propose to measure the same general construct produce similar scores.

### **3.4.2 Research Procedure**

Research Procedure describes how data will be collected using the instruments described above (Oso and Onen, 2005). According to Kisoga (undated), research procedure outlines the preparatory stages from the completion of the proposal to the point of data analysis of the collected data.

When the moderator approved the questionnaires, focus groups and the interview guide, the researcher then proceeded to book those to be interviewed and most of them were from Rubaga Division and including some few who were living outside my area of study. Thereafter, copies of the questionnaires were dispatched, focus groups were organized and an interview schedule was drawn. Then data was collected accordingly.

## **Research Procedure**

## **3.6 Data Analysis**

Data analysis deals with the organization, interpretation and presentation of collected data. The researcher employed quantitative analysis to measure the central tendencies (e.g. mean, mode, and median) for interpreting, analyzing, summarizing, organizing, examining, categorizing, tabulating and calculating the collected information in order to describe the group of subjects. The information collected was analyzed and presented using pie charts, bar charts and tables.

Qualitative data was also known as scientific data and it has an emphasis on numerical information in order to explain, predict and control phenomena. It requires extensive use of statistics and measurement of variables. Through qualitative analysis the researcher analyzed and categorized the data using descriptive analysis.

Numerical data was organized using frequencies, percentages and consequently presented in tables and pie-charts. This facilitated easy interpretation, explanation and analysis of the collected data and ultimately enabled the researcher to draw clear and meaningful conclusions.

## **3.8 Research Ethical Considerations**

The major ethical problem in this study was the privacy and confidentiality of the respondents. Obtaining a valid sample entails gaining access to specific lists and files which itself is an infringement on the privacy and confidentiality of the respondents. However, the respondents had the freedom to ignore items that they did not want to give a respond.

## **3.7 Limitations**

Ideally, this research should have been conducted among all the secondary schools in Rubaga Division. However, time and financial constraints dictated a small sample. The researcher, besides being requested to meet the full costs of the study, there was a specified time to collect the data, compile and submit the report. Considering only selected secondary schools could limit its generalization to all the secondary schools in Rubaga Division, but it could be useful for the exemplification and the beginning of a debate.

## **3.8 Conclusion**

In this chapter, the researcher presented the research design which was employed in the study, population and sampling techniques, sample size, the instruments that were used when collecting data from the area of study, quality control, data analysis, limitations and ethical considerations.

# **CHAPTER FOUR**

# **PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA**

# **4.0 Introduction**

In this chapter, the researcher has presented, analyzed and interpreted the data obtained from the survey carried out on the topic: “*The relationship between ICTs and students’ academic performance in secondary schools in Rubaga division, Kampala district.*”. Results of the study have been carefully analyzed basing on the objectives, to draw meaningful implications, with an aim of finding ways of how ICTs can be used to improve students’ academic performance.

The research data presented and analyzed in this chapter was collected from four categories of people cutting across the educational administrators, teachers, students and members of the P.T.A.

Questionnaires, interview guides, focus groups discussions, document analysis and observation were used in obtaining this data. The questions were general for all groups. The data collected was examined, categorized, coded, tabulated and percentages were collected objective by objective. All data obtained was entered, verified and all responses recorded.

**4.1 Testing the hypothesis**

The researcher went to the field with the four hypotheses which were:

I. There are implications of WhatsApp on the academic performance of students in secondary schools in Rubaga Division in Kampala District.

II. There are implications of Television on the academic performance of students in secondary schools in Rubaga Division in Kampala District.

III. There are implications of Video games on the academic performance of students in secondary schools in Rubaga Division in Kampala District.

The after carrying out research in the field and going through all the proper analyses, the researcher established that;

I. There is a significant positive relationship between WhatsApp and the academic performance of students in secondary schools in Rubaga Division in Kampala District.

II. There is a significant positive relationship between Television and the academic performance of students in secondary schools in Rubaga Division in Kampala District.

III. There is a significant positive relationship between Video games and the academic performance of students in secondary schools in Rubaga Division in Kampala District.

By discovering that there is a significant relationship between the independent variable and the dependent variable at the .05 level, the researcher rejected the null hypothesis because it was false regardless of what might have occurred in the study

## **4.2 Presentation of respondents**

The researcher here presented the categories of people who were interviewed, the research tools which each category used, the targeted number in each category and the actual number that was accessed in the field.

# **Table 2: 4.1 The categories of respondents, the research tools used to collect information from each category, the targeted number of respondents in each category and the actual number that was accessed in the field.**

|  |  |  |  |
| --- | --- | --- | --- |
| Category | Research tools | Targeted number | Actual number  |
| Education administrators | Interviews | 10 | 05 |
| Teachers (two teachers per school) | Questionnaires  | 40 | 25 |
| Students taking ICT either at Ordinary level or Advanced level (there will be five focus groups each comprising of ten students) | Focus group discussions | 50 | 50 |
| P.T.A members (two from private schools and two from government schools) | Questionnaires  | 04 | 02 |
| Total  |  | 104 | 82 |

**Source: Field study, (2018)**

The researcher aimed at interviewing 10 educational administrators but only managed to get information from 05. The researcher distributed 40 questionnaires to teachers and 25 were returned. Four P.T.A members were also given questionnaires and 02 responded. The researcher was able to get information from all the five focus groups comprising of ten students and making it to a total number of 50 students.

From Table 2 above, the researcher’s targeted number was not fully realized (i.e. the researcher expected to get information from 104 respondents but 82 respondents gave information).The 82 respondents who gave information out of the 104 who were expected to give information makes it to 79%. The 79% that actually gave information out of the 100% that was expected to give information was good enough to provide enough data about the research topic.

## **4.3 SECTION A: PERSONAL VARIABLES**

### **4.3.1 Occupational position held**

# **Table 4.2: Establishing the occupational position held**

|  |  |  |
| --- | --- | --- |
| **Occupational position held** | **Number of respondents** | **Percentage** |
| Teacher | 27 | 100% |

**Source: Field study, 2018**

From Table 3 above, all the respondents held the occupation position of being teachers. This is because, the results of table 3 were drawn from questionnaires which were administered to only teachers and members of P.T.A. All the members of P.T.A that filled the questionnaires were also teachers by profession. That is why, all the respondents were teachers.

## **4.3.2 Age bracket**

# **Table 4.3: Establishing the age bracket**

|  |  |  |
| --- | --- | --- |
| **Age bracket**  | **Number of respondents** | **Percentage**  |
| 20-29 years | 5 | 19% |
| 30-39 years | 7 | 26% |
| 40-49 years | 10 | 37% |
| 50-59 years | 3 | 11% |
| 60-75 years | 2 | 7% |
| Total  | 27 | 100% |

**Source: Field study, 2018**

From Table 4 above, the percentage of respondents increased in an ascending order from the age bracket of 20-29 years, 30-39 years up to 40-49 years. Beyond the age of 49 years, the percentage of respondents decreased drastically up to the age of 75 years. This is because, the older people have got less interest in the use of WhatsApp, Television and Video games. Many of the older people are usually not in support of the use of modern technology and therefore they have got less attachment to the use of ICTs in terms of WhatsApp, Television and Video games. Due to that reason, there was a less percentage of older people that reported about the impact of WhatsApp, Television and Video games to student’s academic performance in terms of internal examinations, external examinations, public speaking, classroom participation and seminar presentation.

However, people who are still in their youthful stage really have much interest in the use of WhatsApp, Television and Video games. Due to that reason, the percentage of respondents who had not reached the old age was high.

### **4.3.3 Sex**

# **Table 4.4: Establishing sex of respondents**

|  |  |  |
| --- | --- | --- |
| **Sex** | **Number of respondents** | **Percentage**  |
| Male | 11 | 41% |
| Female | 16 | 59% |
| Total | 27 | 100% |

**Source: Field study, 2018**

From Table 5 above, the percentage of female respondents was more than that of the male respondents. This is because it was observed by the researcher that most of the schools which had been visited had more female members on staff than the male members. Due to that reason, the female teachers’ percentage of respondents that reported about the impact of the students’ use of WhatsApp, Television and Video games to their academic performance in terms of internal examinations, external examinations, public speaking, classroom participation and seminar presentation was more than the percentage of male teachers that responded.

### **4.3.4 Highest education level attained**

# **Table 4.5: Establishing highest education level**

|  |  |  |
| --- | --- | --- |
| **Highest education level attained** | **Number of respondents** | **Percentage** |
| Diploma | 1 | 4% |
| Bachelor’s Degree | 20 | 74% |
| Post-graduate Degree | 4 | 15% |
| Master’s Degree | 2 | 7% |
| Doctorate | 0 | 0% |
| **Total** | **27** | **100%** |

**Source: Field study, (2018)**

According to these findings, a very small percentage (4%) of the respondents belonged to the Diploma holders. The highest percentage of respondents were those that had a Bachelor’s Degree, (74%). As the level of education increased beyond the Bachelor’s degree, the percentage of respondents decreased in a descending order from respondents with a Post-Graduate Degree, Master’s Degree and Doctorate respectively. Generally, people that hold Bachelor’s degree are youth and these are the ones who are interested in using WhatsApp, playing video games and watching television. More so, the people with Bachelor’s degrees usually have fresh memories of internal examinations, external examinations, public speaking and classroom participation as well as seminar presentation because in most cases, they have usually just finished their secondary school education a few years back. However, as time moves on in life and people go back to university in order to upgrade for further studies like Post-Graduate Degree, Master’s Degree and Doctorate respectively, usually those people have advanced in age and for that reason, they find WhatsApp, Television and Video games less attractive to them. In addition, those people that do advance for higher studies like Master’s Degree and Doctorate usually do not teach in secondary schools and therefore they are less familiar with the format of internal examinations, external examinations, public speaking, classroom participation as well as seminar presentation. That is why the percentage of respondents that had Master’s Degrees was less and none of them had a Doctorate.

### **4.3.5 Number of years spent in the teaching profession**

# **Table 4.6: Showing the number of years spent in the teaching profession**

|  |  |  |
| --- | --- | --- |
| **Number of years spent in the teaching profession** | **Number of respondents** | **Percentage**  |
| Less than 1 year | 1 | 4% |
| 1-3 years | 3 | 11% |
| 4-6 years | 2 | 7% |
| 7-10 years | 8 | 30% |
| 11-15 years  | 6 | 22% |
| Above 15 years | 7 | 26% |
| Total | 27 | 100% |

**Source: Field study, (2018)**

Basing on the findings in Table 7 above, the percentage of respondents that had spent a few years (less than one year. 1-3 years and 4-6 years) in the teaching profession was generally low. This could imply that those teachers who had spent less years in the teaching profession had not got enough experience in dealing with the students in the way that they did not know that the students illegally used WhatsApp, Television and Video games when they were at school. Therefore, they could not attribute the students’ performance in internal examinations, external examinations, public speaking, classroom participation and seminar presentation to the use of WhatsApp, Television and Video games. Due to that, we had a less percentage of respondents of those that had spent a few years in the teaching profession. However, as the years in the teaching profession increase (7-10 years, 11-15 years and above 15 years), the teachers get more familiar with dealing with students. Those teachers get familiar with the tricks of students when they are at school. This could have enabled such teachers to discover that the students illegally used WhatsApp, Television and Video games. Hence, those teachers could have been in position to attribute the students’ decline in internal examinations, external examinations, public speaking, classroom participation and seminar presentation to the students’ illegal use of WhatsApp, Television and Video games. Therefore, those teachers who had spent more years in the teaching profession had a great percentage of respondents.

# **SECTION B: The relationship between ICTS and students’ academic performance**

## **4.4 Understanding of the terms ICTS and students’ academic performance**

### **4.4.1 ICTs were defined in the following ways by the different categories of respondents.**

Educational administrators stated that ICTs refer to the use of modern technology systems like digital materials, phones, internet, and computers among others.

Students defined ICTs as the different platforms of communications under the technological broadcast.

P.T.A members stated that ICTs involve making and using of advanced technological artifices to communicate with one another or to share information, to learn global occurrences and to carry out transactions (business).

In my view, all the above definitions have properly expressed the meaning of ICTs since all the definitions demonstrate that ICTs are recent modern technological systems that have been put up. In this study, ICTs comprised of WhatsApp, Television and Video games.

### **4.4.2 Students’ academic performance was defined in the following ways by the different categories of respondents.**

Teachers defined students’ academic performance as the outcomes or results from any educational examinations for example examinations at the school level and examinations at the national level.

Students stated that their academic performance refers to the extent to which one achieves in scholarly studies. The students continued to say that it is the assessment that enables to know how weak or strong one is as far as studies are concerned.

P.T.A members defined students’ academic performance as a series of successes or failures that one (a student) acquires in the different tasks that the teachers or superiors assign to that particular person.

Educational administrators said that students’ academic performance is the progressive achievement in the educational life sphere of an individual.

All the above definitions noted that that student’s academic performance is the measure of the performance that the students exhibit in different spheres. In this study, students’ academic performance referred to internal examinations, external examinations, public speaking, classroom participation and seminar presentation.

## **4.5 The relationship between Whatsapp and students’ academic performance**

Students’ academic performance had the variables of internal examinations, external examinations, public speaking, classroom participation and Seminar presentation. The findings per each variable are as summarized below.

## **4.4.1Establishing the relationship between WhatsApp and students’ academic performance in internal examinations**

# **Table 4.7: Establishing the relationship between WhatsApp and students’ academic performance in internal examinations.**

|  |  |  |
| --- | --- | --- |
| There is a relationship between WhatsApp and students’ academic performance in internal examinations | Frequency basing on respondents | Percentage  |
| Strongly Agree  | 09 | 33% |
| Agree | 08 | 30% |
| Disagree  | 04 | 15% |
| Strongly Disagree  | 06 | 22% |
| Neither agree nor disagree | 00 | 00% |
| Total | 27 | 100% |

Source**: Field study (2018)**

Considering the 33% of the respondents that strongly agreed and 30% who agreed as well, it shows that there is a positive relationship between WhatsApp and students’ academic performance in internal examinations according to the findings from the field. This is in line with Cabral (2011) who stated that excessive texting on WhatsApp takes away the attention of the students. He said that students illegally used WhatsApp to talk to people outside school (i.e. the girls communicated to their boyfriends and also the boys communicated to their girlfriends). This made them unsettled and with less concentration on their studies and eventually it caused a decline in their academic performance.

On the other hand, 15% who disagreed and 22% who strongly disagreed about the positive relationship between WhatsApp and students’ academic performance in internal examinations reported that there is a negative relationship between WhatsApp and students’ academic performance in internal examinations. This was similar to Heeks (2008) who had a view that students had a right to communicate to whoever they wanted to communicate to even when they were at school. For him, a school was a place where students could do whatever they felt like as long as it made them happy. The high percentage (33% strongly agreed and 30% agreed) that agreed that there was a positive relation between WhatsApp and students’ academic performance in internal examinations implies that the students misused WhatsApp which then led to low grades.

### **4.5.2 Establishing the relationship between WhatsApp and students’ academic performance in external examinations.**

# **Table 4.8: Establishing the relationship between WhatsApp and students’ academic performance in external examinations.**

|  |  |  |
| --- | --- | --- |
| There is a relationship between WhatsApp and students’ academic performance in external examinations | Frequency basing on respondents | Percentage  |
| Strongly Agree  | 06 | 23% |
| Agree | 12 | 44% |
| Disagree  | 05 | 19% |
| Strongly Disagree  | 02 | 07% |
| Neither agree nor disagree | 02 | 07% |
| Total | 27 | 100% |

**Source: Field study (2018)**

From Table 4.8 above, 23% of the respondents strongly agreed and 44 % of the respondents agreed that there was a positive relationship between WhatsApp and students’ academic performance in external examinations. Students in the focus groups also testified that WhatsApp had occupied some of their prep time which they formerly used for revising past papers of Uganda National Examination Board (UNEB) and therefore they were no longer performing to their level best. Erickson (2012) had also presented a similar scenario when he wrote that some students spent most of their sleeping time at night (i.e. resting time) when using WhatsApp which implied that they did not get enough time for sleep at night therefore their minds could not get well Respondents agreed that this led to absent mindedness when they were in class, hence there was no way in which students could have attained good grades in their external examinations at the end.

Mitchell (2012) had also had a similar view that it was not right for the students to be allowed to use WhatsApp all the time for communication. According to him, the students ought to have had a limit on the way they used WhatsApp. This is because students had got limited time when they were at school and yet they had a set national syllabus to cover within a given period of time. All this work required time in order to be grasped hence students were not to be allowed to use WhatsApp all the time if they wanted to perform better in the external examinations.

### **4.5.3 The relationship between WhatsApp and students’ academic performance in public Speaking.**

# **Table 4.9: Establishing the relationship between WhatsApp and students’ academic performance in public Speaking.**

|  |  |  |
| --- | --- | --- |
| Relationship between WhatsApp and students’ academic performance in public speaking | Frequency basing on respondents | Percentage  |
| Strongly Agree  | 05 | 19% |
| Agree | 12 | 44% |
| Disagree  | 02 | 07% |
| Strongly Disagree  | 07 | 26% |
| Neither agree nor disagree | 01 | 04% |
| Total | 27 | 100% |

Source**: Field study (2018)**

There was relatively a big percentage of 19% that strongly agreed and also 44% who agreed about the significant positive relationship between WhatsApp and students’ academic performance in public Speaking. The education administrators came up with the same conclusion in the interview guides that excessive use of WhatsApp denied the students to get into physical contact with the people that they were chatting with. Therefore, they were not able to gain confidence of speaking with others face to face.

Saylor (2012) also come up with the same view that is, the students that had installed WhatsApp applications on their personal laptops at school had limited their time for developing their public speaking skills and eventually they did not improve in as far as public speaking was concerned.

However, a noticeable percentage of 26% strongly disagreed about the positive relationship between WhatsApp and students’ academic performance in public speaking. The students in the focus groups were among those that reported that WhatsApp had a negative relationship with students’ academic performance. The students considered WhatsApp as a means of updating them about the current affairs in the country and that gave them more information to enrich their public speaking.

### **4.5.4 The relationship between WhatsApp and students’ academic performance in classroom participation and seminar presentation.**

# **Table 4.10: Establishing the relationship between WhatsApp and students’ academic performance in classroom participation and seminar presentation.**

|  |  |  |
| --- | --- | --- |
| **Relationship between WhatsApp and students’ academic performance in classroom participation and seminar presentation** | **Frequency basing on respondents** | **Percentage**  |
| Strongly Agree  |  03 | 11% |
| Agree | 16 | 59% |
| Disagree  | 01 | 04% |
| Strongly Disagree  | 04 | 15% |
| Neither agree nor disagree | 03 | 11% |
| Total | 27 | 100% |

Source**: Field study (2018)**

From Table 4.10 above, 11% strongly agreed and also 59% of the respondents agreed that there was a positive relationship between WhatsApp and students’ academic performance in classroom participation and seminar presentation. The education administrators gave a complaint that some students hid their phones inside their books and used them illegally as the lessons were being conducted. For that matter, the students did not participate actively as lessons were being conducted by the teachers. This affected their seminar presentations in the long run because one could not give a good presentation in a seminar when that person never grasped what was taught in class since he or she was always distracted by WhatsApp during class time. This was in line with the study which was carried out by Yeboah and Ewur, (2014) to investigate the impact of WhatsApp Messenger usage on students’ performance in tertiary institutions in Ghana. The study also manifested that WhatsApp had positively impacted on the performance of students in class participation and seminar presentation of tertiary students in Ghana. The study put it forward that WhatsApp took much of students’ study time which prevented them from doing homework, destroyed students’ spellings and grammatical construction of sentences and also led to lack of concentration during lectures. This caused difficulty in balancing WhatsApp and academics and it prevented students from completing their assignments, preparing well for class presentations as well as presenting well during seminars.

On the other hand, 15% of the respondents strongly disagreed about the positive relationship between WhatsApp and students’ academic performance in classroom participation and seminar presentation. This contradicted with the opinion of Yeboah and Ewur, (2014) who had presented that WhatsApp had a positive relationship with students’ academic performance in classroom participation and seminar presentation. Some students in the focus groups noted that WhatsApp helped them to get study materials from students of other schools which they used in preparing for seminars. It is for that reason that some parents ensured that their children were connected to WhatsApp because they did not see the reason as to why using WhatsApp could have led to low grades. (Pearson, 2012) was in support of this idea since he had written that WhatsApp helped students to learn strategies of overcoming communication barriers. It also taught them essential communication skills like active listening and effective use of voice and tone. These skills enabled students to improve on their participation during seminars and also improved on the way in which students communicated effectively in class when they were delivering information.

## **4.6The relationship between television and students’ academic performance**

Students’ academic performance had the variables of internal examinations, external examinations, public speaking, classroom participation and seminar presentation. The findings per each variable are as summarized below:

### **4.6.1 The relationship between Television and students’ academic performance in internal examinations**

## **Figure 4.1: Showing the relationship between Television and students’ academic performance in internal examinations**

Source**: Field study (2018)**

According to Figure 4.1, the greatest percentage that is 70% of the respondents strongly agreed that there was a significant positive relationship between television and students’ academic performance in internal examinations. Fifteen percentage (15%) also agreed that there was a positive relationship between television and students’ academic performance in internal examinations. From question four of the interview guide and also from question four of the focus groups, the respondents pointed out that television had occupied much of the students’ time which they would have used for studies. That it is the reason as to why the scores in internal examinations became poorer. This was in line with Lenhart, et al., (2010); Tiryakioglu & Erzurum, (2010); Chen & Bryer, (2010) who had already discovered that despite the use of television for obtaining study material, only a low percentage of students used television for academic purposes. Most of them used the television for only recreation and watching movies and they ended up even encroaching on their study time hence they performed poorly in internal examinations.

On the other hand, 07% of the respondents disagreed and also 4 % strongly disagreed about the existence of a positive relationship between television and students’ academic performance in internal examinations. Paul, Baker, and Cochran (2012) were in support of those who disagreed about the existence of a positive relationship between television and students’ academic performance in internal examinations. They had mentioned that television had become a prominent communication tool for delivering information globally. Thus, students were encouraged to use the televisions for watching important programs like news in order to get aware of the current issues that were happening in the world. More so, some television programs like quizzes were relevant to some of the subjects that students were taught in class hence they could easily find some similar questions in their internal examinations,

### **4.6.2 The relationship between Television and students’ academic performance in external examinations**

## **Figure 4.2: Relationship between Television and students’ academic performance in external examinations**

Source**: Field study 2018**

From Figure 4.2 above, 20% strongly agree and 52% of the respondents agree that there is a positive relationship between television and students’ academic performance in external examinations.

Reynol (2012) in his article named; “Too much time on television and not enough books”, also found out that the time spent on television led to a low Grade Point Average (GPA) because it reduced the time that the students spent on reading their books.

This also tied in well with the findings presented by Kirschner and Karpinski (2010), which revealed that over-involvement or obsession with television by students could have a positive relationship on their academic performance. Their findings also revealed a statistically significant positive relationship between time spent by students while watching television and their academic performance. Time spent on television was shown to lead to low grades in the academic performance of students. They discovered that, as the time spent on television increased, the academic performance of the students in external examinations was seen to deteriorate.

On the other hand, 15% disagreed and 11% also strongly disagreed about the existence of a positive relationship between television and students’ academic performance in external examinations. This was mainly supported by the students in the focus groups who reported that watching television helped to refresh their minds whenever they had finished reading their books in preparation for the external examinations towards the end of the year.

### **4.6.3 The relationship between Television and students’ academic performance in public speaking**

## **Figure 4.3: The relationship between Television and students’ academic performance in public speaking**

Source**: Field study 2018**

From Figure 4.3 above, there was also a small percentage of 13% that strongly agreed and also 7% agreed that there was a positive relationship between television and students’ academic performance in public speaking. This was in line with the respondents in the interview guide who complained that most of the students did not use television for the purpose of improving their public speaking skills. Instead, the majority of the students watched television for recreation purposes only.

However, a big percentage of 43% strongly disagreed and also 37% of the respondents disagreed about of the existence of a positive relationship between television and students’ academic performance in public speaking. This implied that television had a negative relationship with public speaking. This could be backed up by the quantitative investigation on how television affects achievement in public speaking which was carried out by Hui-Chun Chu in November 2012. The results showed that some television programmes provided public speaking skills to the students.

### **4.6.4 The relationship between Television and students’ academic performance in classroom participation and seminar presentation**

## **Figure 4.4: Relationship between Television and students’ academic performance in classroom participation and seminar presentation**

Source**: Field study 2018**

From Figure 4.4 above, the percentage of respondents who agreed that there was a positive relationship between television and students’ academic performance in classroom participation and seminar presentation was almost the same as that of those who disagreed about the existence of a positive relationship between television and students’ academic performance in classroom participation and seminar presentation.

Nineteen percent (19%) strongly agreed and 31% of the respondents agreed about the existence of a positive relationship between television and students’ academic performance in classroom participation and seminar presentation. The findings of the interview guides were in support of those who agreed about the existence of a positive relationship between television and students’ academic performance in classroom participation and seminar presentation. The educational administrators who were interviewed reported that those students who got access to televisions did not watch television programmes that were connected to the material that they had to present in class and neither did they watch television programmes which were in line with what they had to present in the seminars.

On the other hand, 29% disagreed and 18% of the respondents strongly disagreed about the existence of a positive relationship between television and students’ academic performance in classroom participation and seminar presentation. The findings of those who disagreed about the existence of a positive relationship between television and students’ academic performance in classroom participation and seminar presentation were similar to the findings of Jehopio et al. (2017) who established that the availability of television facilities in the educational institutions was still very much wanting and very inadequate for the students to use for getting information for the seminars. He had noted that the availability and accessibility of televisions for gaining study information led to improvement in academic performance in terms of getting information used during seminar presentations. He recommended that there was need for the University to invest more in televisions in order to enable students get more study materials which would enable them make good presentations in class.

## **4.7 Relationship between Video Games and Students’ Academic Performance**

Students’ academic performance had the variables of internal examinations, external examinations, public speaking, classroom participation and seminar presentation. The findings per each variable are as summarized below:

### **4.7.1 The relationship between Video games and students’ academic performance in internal examinations.**

## **Figure 4.8: Establishing the relationship between Video games and students’ academic performance in internal examinations.**

Source**: Field study 2018**

From Figure 4.8 above, the majority of the respondents that is 81% strongly agreed that there was a significant positive relationship between Video games and students’ academic performance in internal examinations. Eleven percent of the respondents also agreed about the existence of a positive relationship between video games and students’ academic performance in internal examinations.

From question five of the interview guide and also of question five of the focus groups, the respondents stressed that most of the students had got addicted to playing video games and it wasted most of their study time. That is the reason as to why it led to a decline in their scores in internal examinations. Anand (2007) had also pointed out that the lack of parental supervision on the way children played video games led to a decline in the results which students achieved in academics because the students were too involved in playing video games instead of doing homework and assignments which are part of the Internal Examinations.

However, there was a small percentage of respondents that contradicted with the view of Anand (2007). Four percent of the respondents disagreed and also 4% strongly disagreed about the existence of a positive relationship between video games and students’ academic performance in internal examinations. This was supported by the views of Annetta, Murray, Laird, Bohr & Park (2008) who refuted the idea that video games led to decrease in the academic performance of students. They had put it forward that video games indirectly led to increased performance through promoting high English test scores, and they suggested that gaming could actually lead to better test scores. And for that reason, North Carolina State University is even experimenting with a synchronous online graduate course that integrates video game design with science curriculum.

### **4.7.2 Relationship between Video games and students’ academic performance in external examinations.**

## **Figure 4.6: Relationship between Video games and students’ academic performance in external examinations.**

Source**: Field study (2018)**

From Figure 4.6 above, there is a big percentage that is 22% strongly agreed and 51% of respondents agreed about the existence of a positive relationship between video games and students’ academic performance in external examinations. Anderson and Dill (2007) had also noted that playing a lot of video games decreased the potential of the candidates to excel in their external examinations because students were obsessed with playing video games most of the time when they were in candidate classes.

Just as Annetta, Murray, Laird, Bohr & Park (2008) had refuted the idea that video games lead to decrease in the academic performance of students, there was also a relative percentage of 10% of the respondents who disagreed and also 17% of respondents who strongly disagreed about the existence of a positive relationship between video games and students’ academic performance in external examinations.

### **4.7.3 Relationship between Video games and students’ academic performance in public speaking.**

## **Figure 4.7: The relationship between Video games and students’ academic performance in public speaking.**

Source**: Field study 2018**

From Figure 4.7 above, 37% strongly agreed and 42% of the respondents also agreed about the existence of a positive relationship between Video games and students’ academic performance in Public speaking. The students in the focus groups also testified that they had not allocated time for developing their public speaking skills because they enjoyed playing video games often times when the teachers were absent in classrooms. Jackson et al (2008) had also found out the same that the time spent playing video games affected the academic performance in terms of public speaking that is, that those who played video games more often had poorer performance in public speaking than those who played less.

However, some of the respondents disapproved the findings of Jackson et al (2008). Fifteen percent (15%) of the respondents disagreed about the existence of a positive relationship between video games and students’ academic performance in public speaking. The students put forward that playing video games had no connection with public speaking. Therefore, the students requested that they should be given freedom to play video games whenever they wanted even at school.

According to the researcher, he agreed with the view of the majority who reported that video games had a positive relationship with students’ academic performance in public speaking. Therefore, the researcher was in support of the idea that the students should not be allowed to play video games when at school so that they could get enough time for developing there public speaking skills.

### **4.7.4 Relationship between Video games and students’ academic performance in Classroom participation and Seminar presentation.**

## **Figure 4.8: The relationship between Video games and students’ academic performance in classroom participation and seminar presentation.**

Source**: Field study 2018**

According to Figure 4.8, a very big percentage that is 17% strongly agreed and 59% of the respondents also agreed about the existence of a positive relationship between video games and students’ academic performance in classroom participation and seminar presentation. This was in line with Wack and Tantleff-Dunn (2009) who had also found out that playing Video games led to decline in students’ academic performance.

This disapproved the findings of Annetta, Murray, Laird, Bohr & Park (2008) who had earlier discovered that video games led to increased students’ academic performance during English seminars because they had claimed that some games enabled students to improve their English.

# **SECTION C: RELATIONSHIP BETWEEN THE STATE OF COMPUTER LABORATORIES AND ICTs AS WELL AS WITH STUDENTS’ ACADEMIC PERFORMANCE**

## **4.8 Relationship between the state of Computer Laboratories and ICTS**

ICTs had the variables of WhatsApp, Television and Video games. The findings were summarized as follows:

### **4.8.1 Relationship between the state of computer laboratories and use of WhatsApp by students.**

## **Figure 4.9: Establishing the relationship between the state of computer laboratories and use of WhatsApp by students.**

Source**: Field study 2018**

According to Figure 4.9 above, 67% of the respondents strongly agreed that there was a significant positive relationship between the state of computer laboratories and use of WhatsApp by students. Twenty-two percent of the respondents also agreed that there was a positive relationship between the state of computer laboratories and use of WhatsApp by students. Saylor (2012) had already noticed that many students had installed WhatsApp applications on the computers in the laboratories that they could access whenever they visited the computer laboratories.

Due to the significant positive relationship between the state of computer laboratories and use of WhatsApp by students, this was an indicator that the students did not utilize all the time for getting ready for their internal and external examinations, for improving their public speaking skills as well as for preparing for their seminars. This is because some of their time was wasted in computer laboratories while texting to friends using WhatsApp.

However, 7% of the respondents disagreed about the existence of a positive relationship between the state of computer laboratories and use of WhatsApp by students. Four percent also strongly disagreed about the existence of a positive relationship between the state of computer laboratories and use of WhatsApp by students. Basing on the responses from the interview guides, the educational administrators strongly disagreed about the existence of a positive relationship between the state of computer laboratories and use of WhatsApp because they reported that the students were never allowed to install WhatsApp applications on the school computers.

Due to the disagreement about the existence of a significant positive relationship between the state of computer laboratories and use of WhatsApp by students, this implied that the performance in the internal examinations, external examinations. Public speaking, classroom participation and seminar presentation was not affected by the state of computer laboratories in as far as using WhatsApp application was concerned. Therefore, the students had variety of time for preparing for their internal and external examinations, for improving their public speaking skills as well as for getting ready for their seminar presentation.

### **4.8.2 Establishing the relationship between the state of Computer laboratories and use of Television by students**

## **Figure 4.10: Establishing the relationship between the state of Computer laboratories and use of Television by students**

Source**: Field study 2018**

From Figure 4.10 above, a big percentage of 83% disagreed about the existence of a positive relationship between the state of computer laboratories and use of Television by students. Respondents in question six of the interview guide confirmed that the computers which were in the laboratories had no provision for watching television. The educational administrators could have used the advice of researchers such as Lenhart, et al., (2010); Tiryakioglu & Erzurum, (2010); Chen & Bryer, (2010) who had pointed out that despite the use of television for obtaining study material, only a low percentage of students used them for academic purposes. Most of them used the television for only recreation and watching of movies and they ended up even encroaching on their study time. For that reason, the educational administrators reported that they were so strict about this matter.

Since a big percentage of 83% disagreed about the existence of a positive relationship between the state of computer laboratories and use of Television by students, this implied that the performance of the students in the internal examinations, external examinations, public speaking, classroom participation and seminar presentation was not affected by the state of computer laboratories in as far as watching television was concerned. Therefore, students had ample time for preparing for their internal and external examinations, for improving on their public speaking as well as for getting ready for their seminar presentations.

However, a small percentage of 7% strongly agreed about the existence of a positive relationship between the state of computer laboratories and use of Television by students. A few of the educational administrators reported that they had come across devices which the students illegally used to connect television networks onto the screens of the computers.

This implied that the students wasted some of the time when at school while watching television illegally instead of allocating that time for preparing for their internal and external examinations. In addition, that time which the students wasted while watching television would have been used to improve their public speaking skills and revising their books as well as preparing for seminar presentations.

There was also 3% of the respondents who neither agreed nor disagreed about the existence of the positive relationship between the state of computer laboratories and ICTs use of Television by students. Some educational administrators were bold enough to report that they had not taken a keen look to monitor all the computers in the laboratories.

### **4.8.3 Relationship between the state of Computer laboratories and use of Video games by students**

## **Figure 4.11: Establishing the relationship between the state of Computer laboratories and use of Video games by students**

Source**: Field study 2018**

From Figure 4.11 above, 30% strongly agreed and 44 % of the respondents also agreed about the existence of a positive relationship between the state of computer laboratories and use of video games by students. This was similar to what Anderson and Dill (2007) had found out that students played a lot of video games on the school computers whenever they were allowed to access the computer laboratories.

Due to the positive relationship between the state of computer laboratories and use of video games by students, this implied that the students got chance to play video games on the computers in the laboratories and yet there was no time stipulated for playing video games. Therefore, they encroached on their time which would have been used for revising their books in order to get ready for their internal and external examinations. The time which they wasted while playing video games on the school computers could have been used for improving their public speaking skills as well as getting ready for their seminar presentations.

On the other hand, a small percentage of 11% disagreed and 5% strongly disagreed about the existence of a positive relationship between the state of computer laboratories and use of video games by students. This was in line with the response of the educational administrators in the interview guide who emphasized that their teachers who taught ICT strictly monitored the students who were in the computer laboratories. Therefore, there was no way that the students could have played video games when they were in the computer laboratories. Due to that negative relationship between the state of computer laboratories and use of video games by students, this implied that the academic performance of students in internal examinations, external examinations, public speaking, classroom participation and seminar presentation was not affected. Therefore, the students could not have given an excuse that they wasted their study time while playing video games on the school computers.

A percentage of 10% neither agreed nor disagreed about the existence of a relationship between the state of computer laboratories and use of video games by students. This could be partly because some of the respondents in the interview guide reported that they did not regularly visit the computer laboratories.

## **4.9 The relationship between the state of computer laboratories and students’ academic performance.**

Students’ academic performance had the variables of Internal examinations, External examinations, Public speaking, Classroom participation and Seminar presentation. The findings per each variable are as summarized below:

### **4.9.1 Establishing the relationship between the state of computer laboratories and students’ academic performance in Internal examinations**

## **Figure 4.12: Establishing the relationship between the state of computer laboratories and students’ academic performance in internal examinations**

Source**: Field study (2018)**

From figure 16 above, 81% of the respondents strongly agreed that there was a significant positive relationship between the state of computer laboratories and students’ academic performance in internal examinations. Four percent of the respondents also agreed that there was a positive relationship between the state of computer laboratories and students’ academic performance in Internal examinations.

Basing on results from Figure 16 above, a greatest percentage that is 81% of respondents strongly agreed that the state of computer laboratories had a significant positive relationship with students’ academic performance in internal examinations. According to the views of the respondents from question seven of the interview guide, out of the five educational administrators who were interviewed, all the five educational administrators reported that many of the students in the schools were wasting a lot of time in computer laboratories when playing video games and using WhatsApp applications which they had illegally installed on some of the computers. All that time which they wasted could have been used for preparing for their internal examinations.

The researcher also observed while in the field that many of the students spent a lot of time in the computer laboratories doing non-academic work instead of revising their books which would have enabled them to get good marks in the internal examinations. Byrnes & Ellis (2006) had also written that students found the noise of computer keyboards as a distraction during the internal examinations and preferred hand written examinations.

On the other hand, 11% of the respondents disagreed and also 4% strongly disagreed about the existence of a positive relationship between the state of computer laboratories and students’ academic performance in internal examinations. This was in line with the students of Australia who did internal examinations securely on student owned laptop computers and were supervised by invigilators without specialist information technology skills. http://www.eExaminations.org/

### **4.9.2 Establishing the relationship between the state of computer laboratories and students’ academic performance in External examinations**

## **Figure 4.13: Establishing the relationship between the state of computer laboratories and students’ academic performance in external examinations**

Source**: Field study (2018)**

From Figure 17 above, a big percentage that is 24% strongly agreed and 56% of the respondents also agreed that there was a positive relationship between the state of computer laboratories and students’ academic performance in external examinations. The students who were in the focus groups were bold enough to report that since computer laboratories were open most of the time, the candidates frequently entered the computer laboratories and started surfing about what was happening in the news. Therefore, this limited the time that they could have used in discussing past papers which would have enabled them to achieve high scores in their external examinations.

### **4.9.3 Establishing the relationship between the state of computer laboratories and students’ academic performance in public speaking**

## **Figure 4.14: Establishing the relationship between the state of computer laboratories and students’ academic performance in public speaking**

Source**: Field study (2018)**

The findings from the field as per Figure 4.14 above show that 41% strongly agreed and 42%of the respondents also agreed that there was a positive relationship between the state of computer laboratories and students’ academic performance in public speaking. The educational administrators who were interviewed had also reported that computers did not help the students to practice public speaking because the lessons which were taught in the computer laboratories did not require a student to have any idea about public speaking. The students in the focus groups also noted that they were not allowed to speak whenever they entered the computer laboratories. Therefore, the computer laboratories did not give them a provision to improve their public speaking.

**4.9.4 The relationship between the state of computer laboratories and students’ academic performance in classroom participation and seminar presentation**

## **Figure 19: Establishing the relationship between the state of computer laboratories and students’ academic performance in classroom participation and seminar presentation**

Source**: Field study 2018**

From Figure 19 above, 37% of the respondents agreed the existence of a positive relationship between the state of computer laboratories and students’ academic performance in classroom participation and seminar presentation. On the other hand, a similar percentage of 37% of the respondents disagreed about the existence of a positive relationship between the state of computer laboratories and students’ academic performance in classroom participation and seminar presentation.

The 37% of the respondents who agreed about the existence of a positive relationship between the state of computer laboratories and students’ academic performance in classroom participation and seminar presentation had a similar view with the educational administrators who reported that computer laboratories had occupied the time which the students had to use for preparing for seminars.

On the other hand, the 37% of the respondents who disagreed about the existence of a positive relationship between the state of computer laboratories and students’ academic performance in classroom participation and seminar presentation had a similar view with the students in the focus groups who reported that computer laboratories helped them in making computer slides which they found useful during seminar presentations.

## **4.10 Challenges that were found in the relationship between ICTs and students’ academic performance**

According to the findings that the researcher got from the field, it was discovered that to a greater extent, ICTs had got a negative relationship with students’ academic performance. The respondents gave the following reasons as to why the relationship was mainly negative.

Educational administrators narrated that many students waste a lot of time on WhatsApp, television and playing video games.

Meanwhile, teachers presented that students had got addicted to playing video games and using WhatsApp. The teachers went ahead to note that even when the students were refused to use WhatsApp and also stopped from playing video games, the students found ways by all means to play video games and also to use WhatsApp simply because they were addicted.

The researcher also made an observation that some students were revising their books while texting on WhatsApp. That implied that they could hardly concentrate when revision was taking place.

The students reported that they had not listened to the advice which was given to them by the teachers on how to be moderate in matters concerning the use of ICTs.

The educational administrators pointed out that the parents had neglected their responsibility of bringing up their children well by not regulating the time that they spent on WhatsApp, television and video games. The end result was that the students spent very little or no time for revision during the holidays.

The teachers reported that they had not supervised the students well during the time of their revision. The students took that loophole as a chance to use some of that time to play video games and also to text their friends on WhatsApp who were outside of school.

Educational administrators in Rubaga division wrote that some of the educational administrators had not implemented the rules that were set in schools on how to use the information and communication technologies. They complained that some educational administrators were so relaxed on the way students maintain the school rules.

# **4.11 Conclusion**

The data which was collected and analyzed has shown that to a greater extent, ICTs (WhatsApp, television and video games) have got a positive relationship with academic performance of students in secondary schools of Rubaga division. The challenges found in the relationship between ICTs and students’ academic performance were also given. Possible solutions to the negative relationship between ICTs and students’ academic performance have also been put forward as presented in Chapter 5 below.

# **CHAPTER FIVE**

# **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

## **5.1 Introduction**

In this final chapter of the study, a summary of the findings, conclusions, recommendations and policy implications are presented in that order.

## **5.1 Summary of the findings**

The general objective of this study was to establish the relationship between ICTs and students’ academic performance in Rubaga Division, Kampala District.

**Objective One: Establishing the relationship between WhatsApp and students’ academic performance in secondary schools in Rubaga Division**

There was a big percentage of 33% of the respondents that strongly agreed and 30% who agreed that there was a positive relationship between WhatsApp and students’ academic performance in internal examinations. It was discovered that the students were using WhatsApp to communicate to people outside school, that is to say, some girls were communicating to their boyfriends and some boys were communicating to their girlfriends during study time at school.

A big percentage that is 44 % of the respondents agreed and 33% strongly agreed that there was a positive relationship between WhatsApp and students’ academic performance in external examinations. WhatsApp was found to always tempt the students to forego the revision of the UNEB past papers. It also prevented the students from having enough rest at night because some of them spent some of the sleeping hours while texting on WhatsApp.

Furthermore, there was relatively a big percentage of 44% that agreed and also 19% who strongly agreed about the significant positive relationship between WhatsApp and students’ academic performance in Public speaking. WhatsApp does not require physical contact of the people that are communicating and yet public speaking requires students to have self-confidence when they are communicating to other audiences physically that is to say face to face. This implied that WhatsApp did not enhance the improvement of public speaking skills.

A big percentage of 59% of the respondents agreed and11% strongly agreed that there was a positive relationship between WhatsApp and students’ academic performance in Classroom participation and Seminar presentation

Basing on the discussion of the findings, it was brought out from the field that WhatsApp has to a greater extent led to a decline in students’ academic performance in terms of internal examinations, external examinations, public speaking, classroom participation and seminar presentation.

**Objective Two: Establishing the relationship between Television and students’ academic performance in secondary schools in Rubaga Division**

The greatest percentage that is 70% of the respondents strongly agreed that there was a significant positive relationship between Television and students’ academic performance in internal examinations.

A big percentage of 52% of the respondents agreed and 20% strongly agreed that there was a positive relationship between Television and students’ academic performance in external examinations. This is an implication that Television did not help them to improve their academic performance. The study established that some of the educational administrators and teachers have not fully done their respective roles in as far as ensuring that the students do not misuse Television.

**Objective Three: The relationship between Video games and students’ academic performance in secondary schools in Rubaga Division**

The majority of the respondents, that is, 81% strongly agreed that there was a significant positive relationship between Video games and students’ academic performance in internal examinations.

There was a big percentage of 51% of respondents that agreed and also 22% that strongly agreed about the existence of a positive relationship between Video games and students’ academic performance in external examinations. It is very unfortunate that even some students in the candidate classes were obsessed with playing video games. Some candidates were too much involved in playing video games instead of doing homework and assignments which contained some material which was examinable in the external examinations.

Forty-two percent of the respondents agreed and 37% strongly agreed about the existence of a positive relationship between Video games and students’ academic performance in Public speaking.

A very big percentage of 59% of the respondents agreed and 17% strongly agreed about the existence of a positive relationship between Video games and students’ academic performance in Classroom participation and Seminar presentation. This is because the students in the focus groups presented that the video games which they played had no connection to the material that had to be presented in the seminars,

The majority of the respondents reported that Video games have led to a decline in students’ grades in the internal and external examinations.

## **5.3 Conclusions**

The study established the relationship between ICTs and students’ academic performance in Rubaga division. The study contained three objectives. This section draws conclusions based on each objective.

According to Objective one, it can be concluded that there is a significant positive relationship between WhatsApp and students’ academic performance. It was found that most of the students have misused WhatsApp. The students used WhatsApp to chat with their colleagues instead of concentrating on academics.

The conclusion based on Objective two is that whenever Television is misused by the students, that is, when they watch it without having any self-control or self-discipline, it can make the students perform poorly in the long run because the students will not concentrate on their studies because of the temptation and desire to watch Television. On the other hand, if the students are well guided about the Television programmes that they watch, Television can be profitable to their studies because some of the Television programmes like quizzes can help the students to improve their academic performance.

Lastly, the conclusion based on Objective three is that there is a positive relationship between Video games and students’ academic performance. Students have wasted a lot of their study time when playing Video games on the computer in the laboratories. This has led to a drastic decline in the scores of both their internal and external examinations. It has also denied them a chance of improving their public speaking skills because they have wasted it when playing Video games.

## **5.4 Recommendations**

The findings in Objective one indicated that WhatsApp has not generally enabled the students to improve their academic performance. Therefore, the following actions should be taken.

1. The educational administrators should set up strict disciplinary measures to whoever uses WhatsApp during study time. This will enable students to get settled and concentrate on reading their books in order to get ready for their examinations.
2. The teachers should ensure that the time allocated for revising UNEB past papers is strictly respected by the students.
3. Students should be taught to have self-motivation towards their academics so that they can be self-driven when it comes to reading.
4. The wardens of the dormitories should always cross-check at night in the dormitories whether the students are sleeping rather than doing other things like using WhatsApp at night. With that practice, the students will have enough rest and their minds will get refreshed and they will grasp whatever is taught as they prepare to sit their external examinations.
5. In order to improve their public speaking skills of students, they should be introduced to things like debating that involves face to face contact with the audiences instead of using WhatsApp when at school.
6. The researcher advices the teachers that they should monitor all the students when they are teaching to ensure that all students are attentive during the classes so that the students cannot use WhatsApp during class time.

The findings in objective two indicated that Television has occupied some of the students’ study time. Therefore, the following actions should be taken.

1. The time for watching television when at school should be limited to a few hours perhaps only on Saturday so that students spend a lot of time revising their books and doing all the assignments that their teachers give to them which will eventually improve their grades in the examinations.
2. The researcher recommends that the students need to learn how to sacrifice some of the present pleasures and amusement that they attain whenever they watch television and allocate that time to studying whatever they have to cover on the syllabus.
3. The students’ prefects who are in charge of the television at school should work hand in hand with the respective teachers to ensure that the television programmes that the students watch when they are at school should be connected with what they study.

The findings in objective three indicated that Video games students have got addicted to playing Video games when at school and that is a threat to their academic performance. Therefore, the following actions should be taken.

1. There is need to fight the addiction of some students towards playing video games so that video games do not encroach on the time stipulated for study and group discussions so that students can work hard to raise their scores in the internal examinations.
2. The students also need parental supervision concerning the playing of video games so that even when they go for holidays, they can spare some time to revise their books and also to do corrections of their end of term examinations.
3. The candidates should be banned from playing video games so that they can be in position to cover all that is necessary for them to be well conversant with sitting for the external examinations.
4. Some of the time that they were formerly using for playing video games should be spared for practicing public speaking.
5. The students should not be allowed to play video games when at school so that they could get enough time for developing their public speaking skills.

The researcher recommends that the teachers should always supervise the students whenever they are in the computer laboratories whereby they should not leave them on their own. This will enable students to use computers for academic purposes. The teachers should also take appropriate disciplinary measures towards the students that are found playing video games, texting on WhatsApp or watching Television when it is not time for doing so.

The researcher recommends that the students should be willing to listen to the advice of their teachers about the proper use of ICTs. The students should not just follow their passions which may be pushing them to spend most of the time while playing video games and watching television minus revising of books. The students should therefore be willing to practice the virtue of self-control so that they can use the time at school profitably by doing things that improve their scores in the internal and external examinations, public speaking, and participation in classroom and seminar presentations.

The researcher recommends that the members of P.T.A should always give advice to the educational administrators and the teachers about the ways in which ICTs can help to improve students’ academic performance. This is because, most of the members who are chosen to be part of the P.T.A board in schools have got a lot of experience in as far as proper governance and daily running of schools are concerned.

Provided all that is put in place, ICTs will be expected to lead to an improvement in the academic performance of students.

## **5.5 Further research**

During the actual conduction of the research, there are other variables that were discovered to be affecting students’ academic performance. However, these variables did not necessitate any additions into the research project which was already defined.

The researcher therefore suggests the following research topics for further research in order to find more solutions of improving students’ academic performance.

I. The relationship between family background and students’ academic performance.

II. The relationship between discipline and students’ academic performance.

III. The relationship between students’ motivation and academic performance.

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# **APPENDIX A**

# **SELF ADMINISTERED QUESTIONNAIRE FOR TEACHERS OF 'O' AND ‘A’ LEVEL SECONDARY SCHOOLS IN RUBAGA DIVISION**

This questionnaire seeks to solicit information on **The relationship between ICTs and Student’s Academic Performance in Secondary schools in Uganda: A Case of Rubaga Division**. The researcher has randomly and conveniently selected you as a respondent in administering this questionnaire on the topic. For the research to be successful, you are requested to answer all the questions honestly and to the best of your ability. Your answers in this study will be kept confidential and will be used for academic purposes only. To foster this confidentiality, you feel free to fill and return the questionnaire without writing your name on it.

Thank you for your cooperation.

Mildred A. Nakyagaba (0751227626)

**SECTION A: Personal Variables**

1. Occupational position held \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Age bracket

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 20-29 years | 30-39 years | 40-49 years | 50-59 years | 60-75 years |
| 1 | 2 | 3 | 4 | 5 |

3. Sex

|  |  |
| --- | --- |
| Male  | Female  |
| 1 | 2 |

4. Highest education level attained

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Diploma | Bachelor’s Degree | Post-graduate Degree | Master's Degree | Doctorate |
| 1 | 2 | 3 | 4 | 5 |

5. Number of years spent in the teaching profession

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Less than 1 year | 1-3 years | 4-6 years | 7-10 years | 11-15 years | Above 15 years |
| 1 | 2 | 3 | 4 | 5 | 6 |

**SECTION B: THE RELATIONSHIP BETWEEN ICTs AND STUDENTS’ ACADEMIC PERFORMANCE**

6. What do you understand by the term Information and Communication Technologies (ICTs)?

……………………………………………………………………………………………………………………………………………………………………………………………………...............

7. What do you understand by the term “students’ academic performance”?

.......................................................................................................................................................................................................................................................................................................................

Please respond to the statements below by ticking the alternative that best describes your opinion and experience. Where (1) Strongly disagree (2) Disagree (3) Neither agree nor disagree (4) Agree and (5) Strongly agree.

1. **WhatsApp and Students’ Academic Performance**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | 1 | 2 | 3 | 4 | 5 |
| 8 | There is a relationship between WhatsApp and students’ academic performance in Internal Examinations |  |  |  |  |  |
| 9 | There is a relationship between WhatsApp and students’ academic performance in External Examinations |  |  |  |  |  |
| 10 | There is a relationship between WhatsApp and students’ academic performance in Public speaking |  |  |  |  |  |
| 11 | There is a relationship between WhatsApp and students’ academic performance in Participation in classrooms and seminar presentations. |  |  |  |  |  |

**(ii) Television and Students’ Academic Performance**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | 1 | 2 | 3 | 4 | 5 |
| 12 | There is a relationship between Television and students’ academic performance in Internal Examinations |  |  |  |  |  |
| 13 | There is a relationship between Televisionand students’ academic performance in External Examinations |  |  |  |  |  |
| 14 | There is a relationship between Televisionand students’ academic performance in Public speaking |  |  |  |  |  |
| 15 | There is a relationship between Televisionand students’ academic performance in Participation in classrooms and seminar presentations. |  |  |  |  |  |
| **(iii)Video and Students Performance** |
|  |  | 1 | 2 | 3 | 4 | 5 |
| 16 | There is a relationship between Video games and students’ academic performance in Internal Examinations |  |  |  |  |  |
| 17 | There is a relationship between Video games and students’ academic performance in External Examinations |  |  |  |  |  |
| 18 | There is a relationship between Video games and students’ academic performance in Public speaking |  |  |  |  |  |
| 19 | There is a relationship between Video games and students’ academic performance in Participation in classrooms and seminar presentations. |  |  |  |  |  |

**SECTION C: THE RELATIONSHIP BETWEEN THE STATE OF COMPUTER LABORATORIES AND ICTs AS WELL AS WITH STUDENTS’ ACADEMIC PERFORMANCE**

**(i) The state of Computer laboratories and ICTs (WhatsApp, Television and Video games)**

|  |
| --- |
| Please respond to the statements below by ticking the alternative that best describes your opinion and experience. Where (1) Strongly disagree (2) Disagree (3) Neither agree nor disagree (4) Agree and (5) Strongly agree |
|  |  | 1 | 2 | 3 | 4 | 5 |
| 20 | There is a relationship between the state of computer laboratories and use of WhatsApp by students  |  |  |  |  |  |
| 21 | There is a relationship between the state of computer laboratories and use of Television by students  |  |  |  |  |  |
| 22 | There is a relationship between the state of computer laboratories and use of Video games by students  |  |  |  |  |  |

**(ii) The state of Computer laboratories and students’ academic performance**

|  |
| --- |
| Please respond to the statements below by ticking the alternative that best describes your opinion and experience. Where (1) Strongly disagree (2) Disagree (3) Neither agree nor disagree (4) Agree and (5) Strongly agree |
|  |  | 1 | 2 | 3 | 4 | 5 |
| 23 | There is a relationship between the state of computer laboratories and students’ academic performance in Internal Examinations |  |  |  |  |  |
| 24 | There is a relationship between the state of computer laboratories and students’ academic performance in External Examinations |  |  |  |  |  |
| 25 | There is a relationship between the state of computer laboratories and students’ academic performance in Public speaking |  |  |  |  |  |
| 26 | There is a relationship between computer the state of laboratories and students’ academic performance in participation in classrooms and seminar presentations. |  |  |  |  |  |

**SECTION D: CHALLENGES AND RECOMMENDATIONS**

27. What challenges do you find with using ICTs for improving students’academic performance?

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28. Suggest ways in which ICTs (WhatsApp, Television and Video games) can be used to improve students’ academic performance in terms of Examinations and Communication skills.

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Thank you for your time.

You have completed the questionnaire. If you would like to receive the results of my study, or if you would like more information, do not hesitate to contact me on nakyagabamildred@yahoo.co.ug

Thank you again for your cooperation.

# **APPENDIX B**

# **INTERVIEW GUIDE**

# Interview Guide for Key informants

This interview guide seeks to solicit information on ‘The relationship between ICTs and Students’ Academic Performance in secondary schools in Uganda. A case study of Rubaga Division”. The researcher has carefully selected you as a respondent in administering this interview guide basing on your knowledge and experience in Secondary School administration. For the research to be successful, you are requested to answer all the questions honestly and to the best of your ability. Your answers in this study will be kept confidential and will be used for academic purposes only.

Thank you for your cooperation.

Mildred A. Nakyagaba (0751227626)

**Part One: ICTs AND STUDENTS’ ACADEMIC PERFORMANCE**

1. What do you understand by the term “Information and Communication Technologies” (ICTs)?

……………………………………………………………………………………………………………………………………………………………………………………………………

2. What do you understand by the term “students’ academic performance”?

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3. Explain how WhatsApp affects students’ academic performance on the following aspects?

a) Internal examinations

…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

b) External examinations

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c) Public speaking

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d) Participation in classroom and seminars

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4. Explain how Television affects students’ academic performance on the following aspects?

a) Internal examinations

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b) External examinations

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c) Public speaking

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d) Participation in classroom and seminars

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5. Explain how Video games affect students’ academic performance on the following aspects?

a) Internal examinations

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b) External examinations

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

c) Public speaking

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d) Participation in classroom and seminars

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**Part Two: COMPUTER LABORATORIES AND USE OF ICTs IN SELECTED SECONDARY SCHOOLS**

6. a. Explain the relationship between computer laboratories and use of WhatsApp by students?

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b. Explain the relationship between computer laboratories and use of Televisions by students?

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c. Explain the relationship between computer laboratories and use of Video games by students?

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**Part Three: COMPUTER LABORATORIES AND STUDENTS ACADEMIC PERFORMANCE IN SELECTED SECONDARY SCHOOLS**

**7.** a. Explain the relationship between computer laboratories and students’ academic performance in Internal examinations?

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b. Explain the relationship between computer laboratories and students’ academic performance in External examinations?

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c. Explain the relationship between computer laboratories and students’ performance in Public speaking?

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d) Explain the relationship between computer laboratories and students’ participation in classroom and seminars?

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**Part Four: Challenges and Recommendations**

8. What are the challenges you find in the relationship between use of ICTs and students’ academic performance?

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9. Suggest ways in which ICTs can be used to improve students’ academic performance.

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Thank you for your time.

# **APPENDIX C**

# **FOCUS GROUP DISCUSSION GUIDE FOR STUDENTS THAT OFFER ICT AT ORDINARY AND ADVANCED LEVELS IN PRIVATE AND GOVERNMENT SECONDARY SCHOOLS IN RUBAGA DIVISION.**

Dear respondents

I am Nakyagaba Mildred Annet doing a Master’s degree in Educational Management and Planning of Nkumba University, carrying out a research on “The relationship between ICTs and Students’ Academic Performance in Secondary Schools in Rubaga Division, Kampala District”. The purpose of this study is to establish the relationship between ICTs and students’ academic performance in secondary schools in Rubaga Division. Rubaga Division has been selected as a sample because it has got very many schools that have adopted the use of ICTs. You have been purposely selected as a respondent for this study therefore, I request you participate in this research with honesty, and sincerity. The research is purely academic and any information given shall be treated privately with respect and confidentiality. Our discussion is divided into various themes arising out of the study objectives. Therefore, be free to express yourself and answer the questions at liberty.

God bless you.

**Guiding Questions**

**Part one: ICTS AND STUDENTS’ ACADEMIC PERFORMANCE**

1. What do you understand by the term “Information and Communication Technologies” (ICTs)?

……………………………………………………………………………………………………………………………………………………………………………………………………

2. What do you understand by the term “Students’ academic performance”?

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3. Explain how WhatsApp affects students’ academic performance on the following aspects?

a) Internal examinations

……………………………………………………………………………………………………………………………………………………………………………………………………

b) External examinations

……………………………………………………………………………………………………………………………………………………………………………………………………

c) Public speaking

……………………………………………………………………………………………………………………………………………………………………………………………………

d) Participation in classroom and seminars

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4. Explain how Television affects students’ academic performance on the following aspects?

a) Internal examinations

……………………………………………………………………………………………………………………………………………………………………………………………………

b) External examinations

……………………………………………………………………………………………………………………………………………………………………………………………………

c) Public speaking

……………………………………………………………………………………………………………………………………………………………………………………………………

d) Participation in classroom and seminars

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5. In which ways do Video games affect students’ academic performance on the following aspects:

a) Internal examinations

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b) External examinations

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c) Public speaking

……………………………………………………………………………………………………………………………………………………………………………………………………

d) Participation in classroom and seminars

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**Part two: Challenges and Recommendations**

**6.** What are the challenges you find in the relationship between ICTs and students’ academic performance?

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7. Suggest ways in which ICTs can be used to improve students’ academic performance

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Thank you for your time.

# **APPENDIX D**

# **LABORATORY RULES AND REGULATIONS OF ONE OF THE COMPUTER LABORATORIES**

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# **APPENDIX E**

# **LABORATORY RULES AND REGULATIONS OF ONE OF THE OTHER COMPUTER LABORATORIES**

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