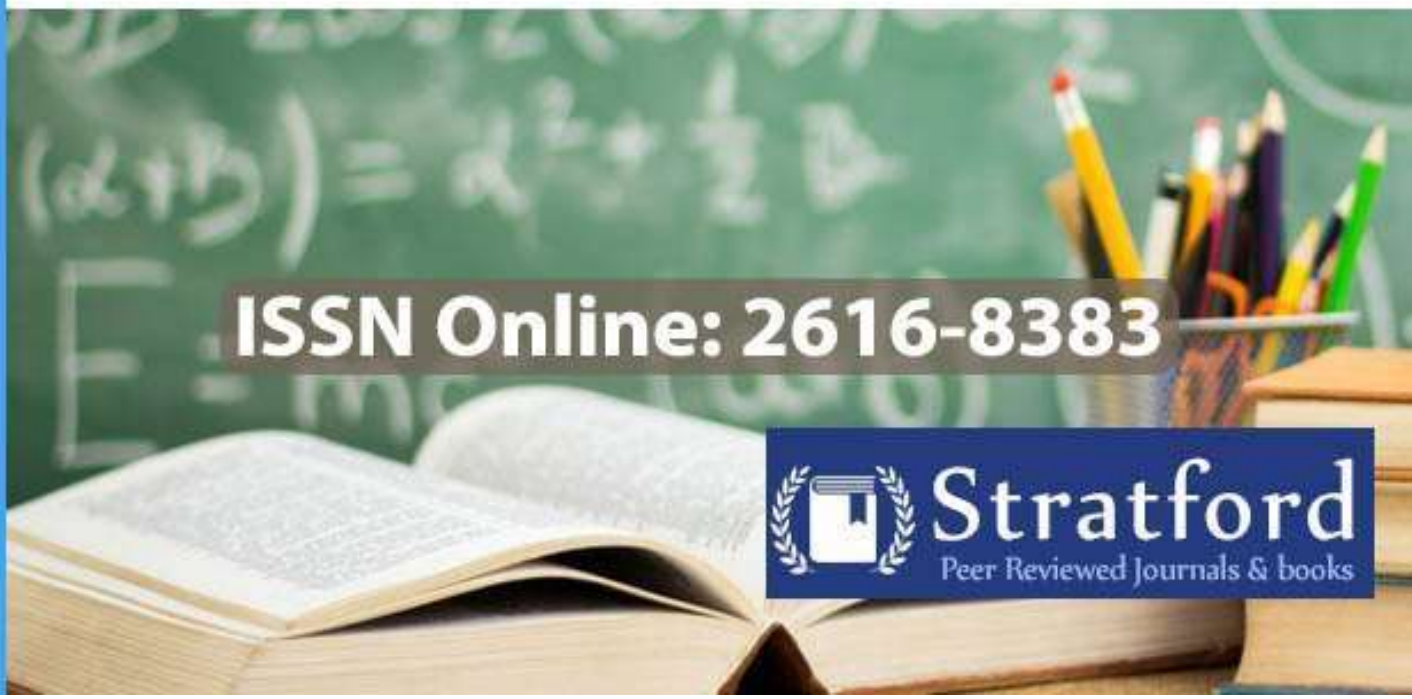
Journal of Education



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ISSN: 2616-8383

Stratford Peer Reviewed Journals and Book Publishing
Journal of Education
Volume 5||Issue 4 ||Page 99-113 ||October||2022| Email: info@stratfordjournals.org ISSN: 2616-8383

Information, Communication & Technology Usage and Students' Academic Performance in Public Secondary Schools in Rwanda

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***How to cite this article*: Byiringiro, C., P. & Mukamazimpaka, M., C. (2022). Information, Communication & Technology Usage and Students' Academic Performance in Public Secondary Schools in Rwanda. Journal of Education, 5(4), 99-113.** https://doi.org/10.53819/81018102t3058

Abstract

The effectiveness of Information communication and Technology (ICT) usage makes effective improvement in terms of school productivity and students' performance. The purpose of this paper therefore was to establish the influence of ICT usages on students' academic performance in selected public secondary schools in Nyamasheke district in Rwanda. The target population was 297 people and 170 respondents as sample size got by using Yamane formula. Descriptive and correlation research designs were employed. Questionnaire, guided interview and education document analysis review was used as data collection instrument. The quantitative data was analyzed using IBM SPSS software version 21. Qualitative data was analyzed thematically. The findings revealed that majority of students corresponding with 58.9% of teachers indicated that their students never use ICT laboratory while 27.2% of teachers revealed that their students use ICT laboratory once in a week which reduces the level of students' academic performance. It was revealed that when ICT usage implement effectively, influences the level students' academic performance at 77.2% and the remaining 22.8% can be affected by other variables. It was also noted that that there is a statistical significance high positive relationship between ICT Usage and students' academic performance thus P-value = .024 which less than 0.05 as the level of significance and Pearson coefficient of correlation r = .684 which is high. This paper recommends that the Ministry of Education should provide the adequate infrastructures of that can enhance the usage of ICT in daily teaching and learning activities in order to improve the ICT literacy in schools and school productivity.

Keywords: *ICT usage, Secondary School, Students' academic performance, Public Secondary Schools, Rwanda*

Stratford Peer Reviewed Journals and Book Publishing
Journal of Education
Volume 5||Issue 4 ||Page 99-113 ||October||2022| Email: info@stratfordjournals.org ISSN: 2616-8383

1.0 Introduction

Globally, Information and Commination Technology in education can be used in the performance of academic activities as to promote function and standard of ICT usage that enhance school outcomes and students' academic performance (Sweeney, 2012). Many countries all over the world like the United States, Belgium and India understand the effectiveness of ICT in the labor market and experience the skills needed which are also considered to be one of the sections that lead to educational development with adequate knowledge (Syed, 2015). On the other hand, there have been raised misconceptions related to ICTs which are generally referred to as computers and computing activities (Syed, 2015). Therefore, the effective management and display of needed information require the effective usage of ICT which may also lead to a positive impact on students' academic performance (Pelgrum & Law, 2003). ICT usage in teaching and learning is very important as enhances both teachers' and students' performance (Kairo, 2013). However, Heys and Whitebread (2006), revealed that ICT usages also help students to active participation in gaining knowledge and skills through teachers' support and guidance.

According to Yorke (2011), the academic performance of students refers to school productivity got by students as the results subjected to the development of course quality assurance. Despite, the academic factors, the prior students' completion is considered the key that leads to academic predictor of the students' further achievements at a high level of study (Gow & Schweitzer, 2004). Therefore, ICT usage can learn to students' self-motivation, improving students' class attendance, grade, completion as well as class participation. Regionally, Muhammed et al. (2015) revealed that ICT in Africa was considered to be a concern as it makes an impact related to the expansion of educational opportunities. Meenakshi (2013), added that ICT usage is also considered to be an argument tool that is used as an existing in-school teaching method which is also recorded as an added value to education development and continues to be used in learning activities. In Tunisia, ICT usage was strengthened by the government in enhancing techniques that support education through using technological tools that make the adequate system of education with relevant infrastructures to be used (Chiraz, 2016). According to Youssef and Dahmani (2008), the performance established by students from academic activities depends on the learning environment experienced as established by secondary schools indicating some factors either that can be affected by ICT usage and consequence the school's effectiveness.

Sembag and Odabas (2009), also added that secondary schools should strengthen the culture of ICT usage in various school activities to put in place the student activities that could to effective academic performance. UNESCO (2014), the state government of Kenya, presented put many efforts to make effective implementation of ICT in schools. thus, it is supposed to promote the students' learning outcomes in secondary schools. Njaari (2012), also added that school administration should promote ICT integration to facilitate teachers' learning objectives and the effectiveness of secondary schools. Therefore, Rajpal (2013), perceived that in a school setting, there should effective allocation of adequate resources to be used as needed in ICT usage and also ensure the proper maintenance of ICT tools. According to Farrell (2007), ICT Usage in the Education Sector in Rwanda began to allocate various activities related to the use of ICT and facilities such as training secondary school teachers on ICT in education, methods of developing new e-learning content, and developing various programs used to improve learning conditions and school productivity. Farrell (2007) also stated that while the majority of teachers and school administration have been trained in ICT usage, minorities continue to face challenges, particularly in school activities designed to improve students' academic performance.

https://doi.org/10.53819/81018102t3058

1.1 Problem Statement

Through ICT education policy, Rwanda has targeted to improve educational innovation and cost-effective of world class through ICT tools so as to help students to create knowledge focusing on all boundaries of education (Ntakirutimana, 2019). Therefore, this requested teachers and other school staffs, to enhance the school outcomes which made teachers in diversifying the methodologies of teaching and learning (MINEDUC, 2016). By putting in place the ICT education policy and innovation, there was a need to students to be involved in ICT usage in terms of searching information related to the content to be learnt, making school progress, presenting necessary information as well as storing information related to the course content in order to improve the standard of education as well as students as students' academic performance (MINEDUC, 2016).

In Rwanda, the ICT usages to both teachers and students raised to be a high challenge in improvement of academic performance (MINEDUC, 2018). Therefore, this may have an impact on students' academic performance due to low expertise of ICT usages as supposed to be used and enhance modern teaching and learning procedures which make the standard of quality education (Julia, 2014). However, this may lead to low academic performance which may reduce students' competition at the labor market due to their low adaptation and experience in ICT usages as only 19% of secondary schools have internet connection in Nyamasheke district thus reduce the effective ICT usage and academic performance of secondary school students (Andrew & Jonathan, 2018).

1.2 Objective of the study

The objective of this paper was to establish the influence of ICT usages on students' academic performance in selected public secondary schools in Nyamasheke district in Rwanda.

2.1 Literature Review

2.1.1 The Concept of ICT in Education

According to Kairo (2013) the usage of ICT should be based the capacity of the users that are responsible to manage such usages. However, Kairo (2013) also added that ICT in school setting promote the level of students' adaptability and effecting learning and teaching environment that may lead to both students and teachers' performance. The electronic tools distributed in education sector, strengthen the effectiveness of classroom environment to take place (Rajpal, 2013). The awareness of students in secondary schools meets ICT and the ways that they conduct their learning activities within school environment (Wasifi, 2011). Despite, there should be a need to make learning more successful. According to Tondeur, Braak and Valcke (2007), a teacher as a facilitator of teaching and learning activities gets an advantage of helping the recall of a particular learning content effectively to students that also leads to strengthening teaching and learning dynamic. Wasif (2011) also added that teachers get aware of indicating the technical skills that could be emphasized related to the designed learning program which requires the integration of ICT in schools.

According to Goodison (2002), the effectiveness of a school should be based on establishing teaching methodologies which could help in putting in place the designed curriculum in order to enhance policy planning which is considered to be the overall of school policy. Andersson (2006) established that there could be a linkage related to the changes in ICT investments and changes in education performance. Machin, McNally and Silva (2007) stated that the positive influence of

ICT investments based on school effectiveness that might develop and simplify the school activities. According to Selwyn (2007), the establishment of ICT tools and related activities enhance students to improve their skills based on their capacity in order to make better their school assignment and personal projects. Nevertheless, Wasif (2011) concluded that using the tools of ICT in school setting could develop the school performance more efficiency and effective.

2.1.2 Integration of ICT in Education

Ronald (2017) revealed that conducive school environment needs to have ICT tools and expert as it can be affected by other variables excluding tools used in technology and teaching materials desired to be used by teachers in a classroom environment. Despite this, the professional training experienced to use technology in a classroom setting leads to be inadequate as it was supposed to promote the meaning related to learning and standard technological usage in education, which should meet the pedagogical instructions and curriculum content (Diaz-Barriga, 2013). This implies that the effective integration of ICT should meet the reshaping of technology by school administrators and teaching staff. The transformation of ICT in education brought various educational facilities and tools that could further lead to the improvement based on the quality of education and students' performance (Aguilar, 2012). This helps the way of information dissemination in education sector and quick provision of educational results. Ronald (2017) revealed that educational agent plays a significant role in distribution of technological tools in schools so as to facilitate students to have access to ICT usages and their learning activities. Ronald (2017) also added that technological resources have become resources to be used in education sector and put much emphasis in improving learning activities that should involve technology in education.

This implies that effective settling the tools of technology in education enhance teaching and learning loads. According to Granados (2015), the effective use of ICT in education indicates breaking traditional educational materials like pens, books and boards to digital devices that make easy teaching roles opportunities and also update one' knowledge and skills of teaching strategies based on current requirements. According to Cabero (2005), emerging the new technologies that are created outside the context of education, may bring later integration and understanding. However, Suarez and Custidio (2014) indicated that the development of education is among of the primary needs of very individual which might be combined with ICT to create a new shape of learning environment due to the fact that there is a need to develop active learning. The flexibility indicated by every student in education as the major role in increasing the digital learning. On the other hand, Tapia and Leon (2013) revealed that effective integration of ICT in education must be comprised by well updated guidelines that indicate the related framework based on learning activities and other school programs for better implementation. Tapia and Leon (2013) presented that effective integration related innovation in school setting should include the important activities such as provision of adequate content to student and strengthening active learning due to making effective commination and collaboration, teamwork based on technological adaptation that rises the student's competencies in local society.

2.1.3 Challenges Facing the Use of ICT in Education

Karsenti (2011) stated that learning institutions can attempt using obsolete systems which may lead to staking them. However, Mungai (2011) also added that obsolete computers and other ICT tools and technologies lower the morale of school staffs specifically teachers and students that need mostly to use such ICT tools in daily learning activities. Therefore, this may affect both teachers and students to find external assistance from cyber due to the fact that teachers should be required to provide professional guidance to students as worrying emerging difficulties facing on the use of internet by students in their daily lives including school activities in order to improve their school performance. Bingimlas (2009) revealed that the individual technophobia and fear based on advanced new technology, promote the challenges that can affect the effective usages of ICT in teachers and earning process. According to Mungai (2011), Teachers may get fear of being given the irrelevant in case of making introduction of computer in classroom setting. Therefore, teachers who are desired to be the source of knowledge should present and prevent them to lose identity which is deemed to be inadequate. Butcher (2013) revealed that the insufficiency teachers' expertise and inadequate level of ICT skills as well as lack of strengthened policy environment and implementation are problems related to ICT usage everywhere.

Mungai (2011) indicated that schools meet challenges based on burglary and vandalism due to the fact that having adequate technology requires high financial capacity which become a burden to schools with low economic status. Therefore, this may need support from various educational stakeholders and agencies to get school facilities that help in implementation of ICT policy in education. According to Rajpal (2013) having access to ICT facilities is indicated to be the major challenge to majority of students in Africa due to the fact that schools indicate to have adequate infrastructures and other materials that help to use ICT in school effectively. However, the government of Kenya (2010) indicated that ICT materials in secondary schools and usage were not respected effectively due to insufficient level of expertise among the school staffs that also affect the students learning conditions and productivity. On the other hand, Bingimlas (2009) stated that the primary schools in developing countries meet challenges based on having developed and maintained infrastructures that enable effective implementation of learning curriculum that should meet the demands of technological usages in education that lead to high technology society. Therefore, the school administrators should aware of understanding what could be done to keep up with new technology in education. Butcher (2013) added that effective technological usage enhances school activities.

2.1.4 Effective Use of ICT in Education

Syed (2015) stated that effective school practices based on students centered could mostly be focused on a high level of using ICT as it plays greater participation in the promotion of quality education. This also shows that the system of ICT usage in education should be strengthened to make a high level of the teaching profession and adequate teaching approaches that indicates positive contact with students (Yusuf, 2005). Syed (2015) revealed that the use of ICT and adaptation brings changes related to the performance of school activities and outside lifestyles. The effective delivery of education and a wide range of education access can be strengthened by the standard use of ICT (Bottino, 2013). Therefore, effective learning offers positive possibilities between learners and teachers which leads to motivation of teaching.

2.1.5 ICT enhances the scholastic performance

Fister *et al*. (2008) established that extensive use of ICT in education needs culture which promotes effective use of ICT in school activities that could play a positive effect on academic performance. Reeves and Jonassen (2016) revealed that the effective ICT usages enhance the expansion access to education that strengthens the relevant to education at a workplace that should meet the quality of education. Despite, teacher's experiences that should put in place the ICT usages in classroom setting and other educational agencies that lead high standard level of educational performance.

Valasidou and Bousiou (2005) indicated a statistical correlation which positive in the use of ICT and academic performance gained by students in various prepared school activities through improvement based on communication related to teaching instructions. Therefore, the effective use of digital technologies in education could be lead to positive impact to both students' achievement and attitudes. Coates et al. (2004) added that technological tools established like computer and other materials should be managed strategically instead of helping teachers and students to do what they be able to do at their own. According to Kozma (2005), the effective use of ICT can enhance and deepen students' content knowledge which can influence them to have effective construction-based knowledge and support standard thinking skills due by using a variety of constructivist learning strategies. Girasoli and Hannafin (2008) added that ICT usages promote student self-efficacy as well as academic performance at a high level.

2.1.6 ICT enhances learning motivation

According to cross and Adam (2007), various perspectives lead to improvement in students' motivation and engagement in learning activities that strengthen the acquisition of basic skills through adequate training given to teachers. This transforms ICT tools settled effectively to improve the students-centred learning environment. Reeves and Jonassen (2016) revealed that the features related to ICT in environmental change indicate a significant role that meets the cognitive development of students due to adequate enhanced acquisition related to generic cognitive competencies considered to be an advantage based on students' life-long life and knowledge in society. This implies that students need to get ICT skills in learning activities to promote the use of computers considered to be the source of information and cognition.

2.1.7 ICT enhances learning environment

According to Duffy and Knuth (2010), ICT enhance an entirely new learning environment for students that present skills to be settled effectively. However, critical-thinking students keep improving as they have increased the variety of sources of learning (Duffy and Knuth, 2010). This implies that effective use of ICT enhances the process related to school programs and included activities that promote a conducive learning environment. Coates et al. (2004) also added that ICT is an important powerful tool that provides educational opportunities that may overcome various challenges related to learning environment through support of information and communication technology by learning institutions. Susman (2008) stated that ICT presents opportunities related to having access to its usages to get information based on students' needs related to school program teaching resources that make a conducive learning environment. However, Alexender (2009), also added that ICT may make the complex process easier to understand what was taught to gain a positive learning environment which may perform as to be a facilitator related to active learning and higher-order of things skills. Therefore, ICT can be served as a significant tool used for

effective curriculum implementation and improvement of quality education that adopts the capacity of each student to learn content.

2.1.8 ICT enhances the quality and accessibility of education

According to Moore and Kearsley (2006), ICT improves the flexibility related to the provision and access to education that also promote the participation of students in education anytime and anywhere. Therefore, this promotes active learning to students that should manage their learning themselves not through teachers. However, Moore and Kearsley (2006), also added what could be geographically focused on in the use of technology at school to mitigate various challenges based on students learning that need the capability to undertake education effectively. Young (2002) indicated that wide establishment based on materials to be used in the classroom should support teachers in their school activities including ICT materials. Though, there could be a need to develop academic activities to overcome various challenges met by graduate students in the labour market (Amutabi & Oketch, 2003). The development of society keeps increasing due to having access to ICT (Plomp, Pelgrum & Law, 2007). Therefore, effective accessibility based on ICT makes easy communication as well as other digital barriers (Lim & Chai, 2004). This shows that teachers and students should improve their professionalism in education while school administrators should settle adequate course materials that help effective implementation (Cholin, 2005). Sanyal (2010) revealed that ICT provides new educational approaches that can develop education for quality and are accessible to everyone in the community. Despite this, Chandra and Patkar (2007) stated that ICT is also an international dimension related to various services provided in education. This implies effective allocation and usage of ICT tools in schools can improve the higher order of thinking skills among students in schools as also improve students' collaboration.

3.0 Methodology

This paper employed a correlation research design to establish the influence of ICT usage on students' academic performance in selected public secondary schools in the Nyamasheke district in Rwanda. The target population was 297 respondents and the Yamane formula was used to get a sample size of 170 respondents. A questionnaire and guided interview were used as data collection instruments. Stratified sampling was also used as a sampling technique. The simple random sampling technique was used for the respondents of each stratum. The validity of the research instrument was maintained by distributing the research instruments to the expert respondents in the area of the study. The IBM SPSS software version 21 was used in data management. The reliability was maintained by making a pilot study that provided reliability of the research instrument and got 97.2% using Cronbach's Alpha and considered to be reliable as it was greater than 70% as recommended.

4.0 Findings and Discussions

The finding of this paper was present due to objective which was to establish the influence of ICT usages on students' academic performance in selected public secondary schools in Nyamasheke district in Rwanda. However, the association between variables was also presented.

4.1 Descriptive Analysis

4.1.1 ICT usage in selected public secondary schools

The respondents were asked to indicate the aspect of ICT usages in selected public secondary schools located in Nyamasheke district.

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Journal of Education
Volume 5||Issue 4 ||Page 99-113 ||October||2022| Email: info@stratfordjournals.org ISSN: 2616-8383

Table 1: ICT usage in selected public secondary schools in Nyamasheke district

Statements	SD		D		U		A		SA		Mean	Std
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Use ICT to search information	16	10.6	52	34.4	14	9.3	20	13.3	49	32.5	3.2	1.5
Aware of organizing information due to ICT knowledge	16	10.6	57	37.7	14	9.3	31	20.5	33	21.9	3.1	1.4
Making effective school progress through ICT	8	5.3	46	30.5	37	24.5	20	13.2	40	26.5	3.3	1.3
Having adequate presentation skills through ICT Usage	38	26.1	34	22.5	14	9.3	24	15.9	41	27.2	3.0	1.6
Being able to disseminate information	39	25.8	28	18.5	20	13.2	44	29.1	20	13.2	2.7	1.3
Storing information for frequency use	27	17.9	35	23.2	30	19.9	31	20.5	28	18.5	3.0	1.4
Making effective communication	40	26.5	19	12.6	20	13.2	35	23.2	37	24.5	2.8	1.4

The study presents the findings related to the various ways of ICT usage in selected schools. It is clear that the mean of 3.3 and 1.3 of standard deviation corresponding with 39.7% of teachers their students use ICT by making effective school progress. This was followed by the mean of 3.2 and the standard deviation of 1.5 corresponding with 45.8% of teachers' respondents agreed that their students use ICT search various resourceful information. According to Kairo (2013) the usage of ICT should be based the capacity of the users that are responsible to manage such usages.

On the other hand, the study also found that the mean of 3.1 and 1.4 of standard deviation corresponding with 42.4% of teachers agreed that the students get aware of organizing information or obtained data due to ICT usage. The electronic tools distributed in education sector help in the dissemination of information easier and quickly and strengthen the effectiveness of classroom environment to take place (Rajpal, 2013). The study reveals that 3.0 of mean and 1.4 of stds corresponding with 39% of teachers agreed that the students use ICT through storing information for frequency use. This implies that majority of students don't having skills that support them to search information and keep it for further use. The awareness of students in secondary schools meets ICT and the ways that they conduct their learning activities within school environment require students to make clear research and get resourceful information (Wasifi, 2011).

https://doi.org/10.53819/81018102t3058

Similarly, the study also found that the mean of 3.0 and 1.6 of standard deviation corresponding with 43.1% of teachers agreed that their students use ICT which help them to have adequate presentation skills as obtained while the mean of 2.8 and the standard deviation of 1.4 corresponding with 47.7% of teachers agreed that through ICT usage, students get aware of making effective communication. This implies that the lower level of ICT usage among students, reduces that the level of ICT skills and technology in communication. Andersson (2006) established that there could be a linkage related to the changes in ICT investments and changes in education performance to school teachers and students.

Table 2: The frequency of using ICT laboratory by students

Frequency of using ICT lab	Frequency	Valid Percentage
Once a week	41	27.2
Twice a week	21	13.9
Never use ICT laboratory	89	58.9
Total	151	100.0

The study investigated the frequency of using ICT laboratory by students. The study found that majority of students corresponding with 58.9% of teachers indicated that their students never use ICT laboratory while 27.2% of teachers revealed that their students use ICT laboratory once in a week. On the other hand, the study also indicates that only 13.9% of teachers indicate that they use ICT laboratory twice in a week. This implies that this low level of using ICT laboratory to the majority of students can proportionally reduce the level of school productivity. Ronald (2017) revealed that conducive school environment needs to have ICT tools and expert as it can be affected by other variables excluding tools used in technology and teaching materials desired to be used by teachers in classroom environment.

The school head teachers were given a guided interview on ICT usage in selected public secondary schools in Nyamasheke district to support the obtained quantitative findings and revealed that

> "In school, ICT used in terms of searching information, making school progress, presenting information and storing information". The school head teachers also added that "teachers and students as still not yet familiar with the use of ICT which significantly reduces the school productivity".

This implies teachers need to be trained about the usage of ICT tools.

4.1.2 Level of students' academic performance in selected public secondary schools

The respondents were asked to indicate the level of students' academic performance in selected public secondary schools in Nyamasheke district.

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Journal of Education
Volume 5||Issue 4 ||Page 99-113 ||October||2022| Email: info@stratfordjournals.org ISSN: 2616-8383

Table 3: Students' academic performance in selected public secondary schools

Statements	SD		D		U		A		SA		Mean	Std
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Having self-motivation in learning activities	8	5.3	59	39.1	36	23.8	35	23.2	13	8.6	2.9	1.1
Getting improved grades in exams	21	13.9	30	19.9	44	29.1	35	23.2	21	13.9	3.0	1.2
Having regular class attendance	0	0.0	23	15.2	66	43.7	49	32.5	13	8.6	3.3	0.8
Improved students' school completion	0	0.0	46	30.5	14	9.3	65	43	26	17.2	3.5	1.1
Getting well scored in Exams	14	9.3	38	25.2	4	2.6	69	45.7	26	17.2	3.4	1.3

The study investigated the level of academic performance in selected public secondary schools. The study found that the majority corresponding with the mean of 3.5 and the standard deviation of 1.1 scaled with 60.2% of teachers agreed that there is an improved students' school completion and this was followed by the mean of 3.4 and the standard deviation of 1.4 corresponding with 62.9% of teachers indicated that their students get well scored in exam. This implies that the scale of getting effective scored in various scored exam is still not yet sufficient.

On the other hand, the study also found that the mean of 3.3 and 0.8 of standard deviation corresponding with 41.1% of teachers agreed that the students have regular class attendance. However, the mean of 3.0 and 1.2 of standard deviation corresponding with 37.1% of teachers agreed that their students get improved grades in various provided exams. This implies that the lack effective class attendance can proportionally reduce the level of students' grades as well as school productivity. Elder (2014) indicated that the level of students' learning condition and understanding enhance the students' grade as the way of academic performance. However, school setting is in charge of creating the key factors that can improve the performance of students in various academic school activities (Wamulla, 2013).

The respondents of the study with the mean of 2.9 and 1.1 of standard deviation agreed on having self-motivation in learning activities. According to cross and Adam (2007) various perspectives that lead to improvement students' motivation and engagement in learning activities that strengthen the acquisition of basic skills through adequate training given to teachers.

The school head teachers were given a guided interview on students' academic performance in Nyamasheke district to support the obtained quantitative findings and revealed that

> "The level of students' academic performance in public secondary schools is still low in Nyamasheke district where majority of graduates are not effectively competent at the labor market". The respondents also added that "students are still

getting low academic grades in national examination and experience a low level of school completion due to various factors including ICT usage".

This implies that teachers have to be given professional training associated on the use ICT while teaching. Wamulla (2013), the academic performance of students can be influenced by various factors like students learning condition and standard of living, teaching instructional materials, teacher' experience and management level of class environment.

4.1.3 Influence of ICT Usage on students' academic performance

This paper performed linear regression analysis to establish the influence of ICT usages on students' academic performance in selected public secondary schools in Nyamasheke district. However, correlation analysis was also performed to find out the direction of relationship between variables.

Table 4: Relationship between ICT Usage and students' academic performance

	ICT Usage	Students 'academic
ICT Usage	1.000	
	0.000	
Students' academic	0.684	1.000
	0.024	

The results established in Table 4 indicates that there is a statistical significance high positive relationship between ICT Usage and students' academic performance thus P-value = .024 which less than 0.05 as the level of significance and Pearson coefficient of correlation r = .684 which is high. Machin, McNally and Silva (2007) stated that the positive influence of ICT investments based on school effectiveness that might develop and simplify the school activities. According to Selwyn (2007), the establishment of ICT tools and related activities enhance students to improve their skills based on their capacity in order to make better their school assignment and personal projects.

Table 5: R Square results of ICT Usage on students' academic performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.882a	0.778	0.772	0.64656	0.778	127.888	4.0	146	0.000

The results in Table 5 indicate the R Square results of ICT usage and students' academic performance. The findings present the R Square of .772. This means that the variables like storing information, searching information, presenting information, making school progress are able to influence the students' academic performance in Nyamasheke district. This also implies that ICT usage influences the level students' academic performance at 77.2% and the remaining 22.8% can be affected by other variables. Reeves and Jonassen (2016) revealed that the effective ICT usages enhance the expansion access to education that strengthens the relevant to education at a workplace that should meet the quality of education.

5.0 Conclusion

The objective of this paper was to establish the influence of ICT usages on students' academic performance in selected public secondary schools in Nyamasheke district in Rwanda. The study found that ICT usage is ready to influence the level students' academic performance at 77.2% and the remaining 22.8% can be affected by other variables. It was also noted that that there is a statistical significance high positive relationship between ICT Usage and students' academic performance thus P-value = .024 which less than 0.05 as the level of significance and Pearson coefficient of correlation r = .684 which is high. This paper concludes that the high standard of ICT usage in the process teaching and learning could effectively increase the level of students' academic performance in selected public secondary schools in Nyamasheke district. Despite, the poor usage of ICT can negative influence or level of students' academic performance in selected public secondary schools of Nyamasheke district.

6.0 Recommendations

Basing on the presented findings and conclusion, the recommendations need to be addressed to the Ministry of Education, school head teachers and teachers. The Ministry of Education which represents the government in the sector of Education should provide the adequate infrastructures of that can the usage of ICT IN daily teaching and learning activities in order to improve the ICT literacy in schools and school productivity. The school head teachers should provide regular professional training associated on the usage of ICT while teaching so as to improve their professional skills that can help them to smooth and competent learning environment. The school head teachers should also increase the frequency of using ICT laboratory so that students become experienced. Teachers should work collaboratively in order to share their skills that can help them to share the ICT skills in classroom environment and improve the school performance among students.

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