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Influence of Teachers' Preparedness on Students' Academic Performance in Public Secondary Schools in Rwanda

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Abstract

The standard level of preparedness among secondary school teachers plays an important role in improvement of students' academic performance. Hence, the study sought to examine the influence of teachers' preparedness on students' academic performance in public secondary schools in Gatsibo district in Rwanda. Correlation research design was employed. The target population was 308 respondents including 280 teachers and 28 directors of studies. The sample size was 174 (158 teachers and 16 directors of studies). Yamane formula was utilized to get the sample size. Interview guide, question and document analysis were taken as instrument of data collection. The findings revealed that majority of respondents with the mean of 3.13 and the standard deviation of 1.28 corresponding with 45.6% of teachers' agreed that they have effective use of instructional materials. It was also revealed that majority of the respondents with the mean of 3.19 and 1.28 of standard deviation revealed they use computer to prepare their lessons. The study also indicated that majority of respondents having the mean of 3.09 and the standard deviation of 1.35 corresponding with 40.5% of teachers agreed that there is active class participation. The findings also reveal that there is 26.2% of teacher preparedness able to affect the level of students' academic performance and the remaining 73.8 % of students' academic performance can be affected by other variables. The study found there is a statistically significant high correlation between teacher preparedness and students' academic performance ($P=.000$ and $r = .817$). The study recommended the school head teachers to make regular checking of teachers' documents for the purpose of enhancing the level of teachers' readiness. The Ministry of education responsible to improve teaching profession is recommended to enhance to quality and quantity of professional training given to teachers. The Non-governmental organizations should make collaboration with the school administration for the purpose of improving the level of teachers' preparedness and students' academic performance.

Keywords: *Teacher preparedness, Students' academic performance, Public secondary schools*

1.0 Introduction

The effective building of human knowledge should be based on the needs of labor market that need for an improvement based on CBC being ready to meet the labor market with skilled labor (Ondimu, 2018). This implies that teachers as one of responsible in making effective implementation of the designed curriculum. However, some schools in various countries meet some challenges including teachers' preparedness that make the inability to achieve the average performance scores in teaching and learning activities (UNESCO, 2015). Teacher preparedness can be defined as collective knowledge, attitudes and skills presented by teachers to make proper putting in place the designed curriculum that led to improved quality of education done through improved academic performance (Ondimu, 2018). Therefore, teachers have to establish various teaching methodologies and teaching documents in order to enhance their pedagogical content and knowledge in order to strengthen the school performance (Kimosop, 2011). Despite, Kimosop (2011) also added that poor teachers' preparedness tends to lead to poor students' academic performance if content desired to be learnt is not adequately meeting the desired curriculum goals, then the curriculum designed will not be implemented effectively (Brown *et al.*, 2014). According to Yorke (2011), academic performance of students refers to students learning outcomes which are subjected to the development of course quality assurance. Despite, the academic factors, the prior students' completion is considered as the key that leads to academic predictor of the students' further achievements at high level of the study (Gow & Schweitzer, 2004).

Globally, teacher preparedness like in United States of America (USA) indicates a significance impact related to the promotion of teacher capacity as well as the quality of education (Kenneth, 2012). According to Fraser (2007) the majority of teachers in USA came up through what might now be labeled as alternative ways where teachers were prepared in school district-based program. Duncan (2009) revealed that teacher preparedness in Europe is associated with getting what can make them to increase teaching experience to all beginner teachers. Baines (2010) added that the preparation and ongoing support to teachers should have regular mentors. On the other hand, Cochran-Smith and Zeichner (2005) stated that low standard of teacher preparedness affects negatively the performance of students in school activities mostly in rural areas. In Africa, teacher preparedness indicates a complex process of a teacher processing professional value and attitudes and also be able to put in practice such values established (UNESCO, 2015). According to Susan (2019) teachers should be in need to be able to establish sound judgment related to the values required in school setting situation that target to improve the academic performance of students and quality education in general.

In Kenya, teacher-preparedness is considered to play a crucial role for improving students' grade scores, school completion and active participation to students in classroom (Kim, 2012). Therefore, students are supposed to be individually involved through their own initiatives in learning activities with curriculum designed, school regulations and teachers' guidance. According to Susan (2019) teachers to enhance own preparedness and be able to improve students' grades, attendance and school completion, they should need to identify the students' knowledge gap that they should address as teachers before adapting the standard ways of fulfilling and improving the students' performance. Kim (2012) revealed that teachers' competency in classroom preparedness is a key in learning institutions which is linearly related to the performance of any task established in school setting which also enhance periodically teacher-preparedness and self-learning. In Tanzania, teachers strive to incorporate skills, values, attitudes, and knowledge into regular school

operations, and students are required to reflect on them in order to improve academic achievement (Manasia, 2019). Though, Park et al (2017) indicated that the relevance knowledge, positive attitudes and teachers' interests could be used to be variables of teaching readiness as also the concept of teachers' preparedness. Therefore, the quality of teachers should be rooted from the teachers' capacities and performance (Komba & Mwandaji, 2016).

According to Kafyulilo, Rugambuka and Moses (2012) teachers should be highly trained and skilled for the purpose of making effective content delivery that requires the application of relevant teaching methods that are essential to helping students to acquire the lesson learnt effectively. Reeves (2004), revealed that the students' academic completion, should be directly proportional to the extent of teachers' preparation and quality of teachers. In Rwanda, adequate teacher-preparedness is important in the new dispensation that may require teacher readiness, teacher' content knowledge and technical skills presented by teachers during teaching and learning activities (REB, 2015). The attainment of Rwanda vision 2030 could highly depend on adequate teacher-preparedness in teaching and learning activities. This could need emphasis related to learning skills to teachers to be prepared competently as measuring expectations of learning presented by students. Organization of United State of America for International Development (USAID, 2015) revealed that the level of students' academic performance mostly depends on the level of teachers' preparedness.

1.1 Statement of the Problem

From the forgoing discussion between various educational agencies, it is clear that the Ministry of Education (MINEDUC) in Rwanda established a reform from Knowledge Based Curriculum (KBC) to Competence Based Curriculum (CBC) (REB, 2015). This was established in order to achieve the mission of MINEDUC based on transformation of Rwandan citizens into skilled human capital for socio-economic development of the country by ensuring equitable access to the quality of education (REB, 2015). For teachers to fully improvement of students' academic performance, they should have skills, related subject content knowledge and relevant technological skills as well as readiness for effective implementation of CBC in Rwanda should focus on strengthening the students' generic competencies (Yeung, 2017). Regardless, a teacher is required to serve as a facilitator of students during the learning and teaching phase, which means that increasing students' class involvement and constructive learning will contribute to increased grades and completion (Mutsinzi, 2017). There is evidence that 59.5% of students in rural areas in Rwanda do not effectively get improved academic performance due to various factors including lack of teachers' preparedness (Mutsinzi, 2017). Therefore, this is alarming by students and parents due to low academic performance established in public secondary schools. This study therefore, sought to examine the influence of teachers' preparedness on students' academic performance in public secondary schools located in Gatsibo district.

1.2 Research Objective

The objective of the study was to find out the influence of teachers' preparedness on students' academic performance in public secondary schools in Gatsibo district in Rwanda.

2.0 Literature Review

2.1 Overview of Teacher' preparedness

Teacher's preparedness can be referred to the collection of knowledge, attitudes and skills presented by teachers for the purpose of enhancing education outcomes (Ondimu, 2018). It implies that teachers need to improve their knowledge based on content to be taught and effective use of technological tools as well as being ready to enhance teaching and learning environment to be more conducive. However, Susan (2019) also added that the insufficient number of trained qualified teachers in school setting proportionally reduces the level of teacher preparedness which significantly contributes to lower level of students' grade scores in various assessments established in school setting. Shelly (2011) revealed that the standardization of curriculum depends on the level of teachers to be accountable and ability for implementation and lesson development that based on teamwork so as to improve their teaching experience considered to be intrinsic motivation which is also taken as motivating factor towards to students. Brieceflo (2010) stated that the quality of education is equivalently associated with the level of teacher preparedness however, the preparation is not only accumulated to knowledge and skills but also school environment and leadership.

Susan (2019) indicated that teacher preparedness should include programs that strengthen teachers' characteristics like gender, race, qualifications and working experience. A high selective teacher preparedness attracts and improves teachers' performance with initial various traits. According to Goldhaber and Anthony (2007), teacher preparedness characteristics indicate various aspects of teachers' preparation done before content delivery that affect the remedial measures used to achieve the desired school performance. Boyd et al. (2008), revealed that disparities in teacher' readiness based on in-service activities affect teachers in course of duty as evidence in adequate and inadequate teacher-preparedness observed in schools and across schools affect students' performance. According to Villaume and Brabham (2012), teachers who implement a curriculum must possess the requisite competences based on pedagogical content. However, Villaume and Brabham (2012) also added that ability to use internet and technological tools facilitate teaching and learning methodology that makes effective implementation of designed curriculum and promotion of quality education.

Klassen and Chice (2010) stated that teachers of female gender as exhibiting stress arising from class work and students' behavior compared to teachers of male gender under a similar working environment. However, Chaplain (2008) supported that teacher of male gender indicates better management of stress in class environment compared to female gender. According to Okewa (2011) and Maleka (2012) there was gender disparity in levels of teachers' preparedness that may affect the quality of education. Despite, Teacher preparedness indicates teachers who effectively present a standard level of pedagogical knowledge that enhance the process related to lesson delivery (Wilson *et al.*, 2009). However, Teacher' experiences and the qualification need to be enhanced by teachers' workshops and seminars that help to improve their career of teaching (Wilson *et al.*, 2009). This implies that teachers should participate in professional seminars and workshops to be prepared effectively.

2.2 Teacher' Preparedness for Effective Teaching

According to Shelly (2011), the effective teaching help students to perform better on standardized assessment due to teacher experiences and level of preparedness. Wolf (2007) revealed that variety of skills established by students depends on teachers' capacity and knowledge for the purpose of updating the students' memories for recollection. Brown et al. (2014) revealed that the effective teaching should be prepared and planned for improved outcomes. The preparation of teachers enhances the classroom management and lesson preparation as well as other activities related to teaching (Kimosop, 2015). Rosenshine et al. (2005) revealed that teacher' preparedness should focus on the lesson plan as significance indicator that can help teacher to make effective implementation of designed curriculum and learning objectives. Ofoegbu (2004) also added that the lack of effectiveness to teachers in improvement of classroom interaction leads students to experience poor performance that also reduce the level of quality education. This also influences teachers to have poor achievement of learning objectives due to having inadequate teaching conditions and insufficient teaching resources (Twoli, 2006).

Teacher preparedness promotes the effectiveness of teaching activities by facilitating teachers to make relevance lesson plan that also gives them to become more confident in implementation of curriculum instruction (Kafu, 2013). This implies that during the phase of lesson plan, teachers might get aware of content mastery in order to achieve the instructional objective effectively (Kimosop, 2015). Oberg (2011) stated that teacher' knowledge in subject content to be taught and lesson planning are the most important based on teachers' instructional activities that lead to effective teaching and learning activities. According to Urevbu (2015), the effective teaching requires the high level of teacher preparedness that should acknowledge teaching instructions based on documents and records for effective use of instructional development and practices that leads to adequate classroom instruction.

2.3 An Overview of Students' Academic Performance

According to Yusuf (2010), the students' academic performance refers to different level of measurable and observable behavior presented by a student. Simpson and Weiner (2009) added that the students' academic performance can also be defined like having effective participation in academic activity in specific circumstances due to experiment situation that was established. The academic performance is considered as an outcome of students' mental capacity in a given subject which may be done continuously or after a given period of time. Therefore, the academic performance of students indicates the scores got by students from teacher-made test. According to Azrinawati et al. (2013), the students' academic performance can be influenced by various circumstances including environment and location of school as well as motivations given to both teachers and students in secondary schools and learning styles as well as learning materials.

However, Norsida et al. (2010) revealed that the students success done in academic perspective should be more closely to school leadership and facilities in secondary school that enhance the retaining the best educators, programs and enrolment of the best talent. Florah (2010) indicated that students' transition from primary education to secondary level of education presents its own benchmarks that, if not well investigating what could affect the school productivity. Appleby (2005) stated that both school and students are expected to make school completion from early childhood to adulthood. The active participation of students in secondary level of education should be strengthened by teachers using various schools' facilities in order to improve the school

performance (Florah, 2010). However, students' own initiative in class attendance should be improved in determining their academic performance in secondary schools to tertiary education (Zeegers, 2004).

Taylor, Hinton and Wilson (2015) stated that the pressure of educational stakeholders should be upon directive to teachers and school management as responsible to enhance academic outcomes established by school and the quality of education by coming with advanced strategies. Taylor, Hinton and Wilson (2015) also added that the enhancement of school extra-classes, promotion of methodologies used while teaching can include technological tools and motivating students for the purpose of improving their school outcomes. According to Nyagosa (2011) the students getting low academic grades can be one the impacts of lower teachers' qualifications and level of content delivery. Nyagosa (2011) also added that since teachers try to put in place teaching strategies related to enhancing students' motivation in classroom environment as well as enhancing their academic performance.

2.4 Teacher Subject Content Knowledge and Students' Academic Performance

According to Elizabeth, Francis and David (2017), the subjected matter knowledge presented by teachers in classroom setting is taken as important factor that lead to strengthening the students' outcomes in the related learning subject. The intellectual capacity presented by teachers frequently determines the level of students' mind development considered to be the center of students' learning process (Ball, 2008). On the other hand Anderson (2008) also added that the subject content indicates teacher' thought that establishes the understanding of content desired to be taught by teachers in order to enhance the students' school productivity and competency. Elizabeth, Francis and David (2017), revealed that the effectiveness of students' academic performance varies due to the extent of teachers' content mastery which always update the students' mindset and the quality of education. Teachers' subject content knowledge may be influenced by the students' attitudes and expectation in classroom setting educational policies and school management for the purpose of getting the standard of schools performance as well as that of students that need to get high academic grades (Kimosop, 2015). This implies that the level of students' academic grades and completion depends on the level of subject content knowledge presented by teachers

According to Jadama (2014), teachers' content to subject to be taught influences the learning concepts experienced by students. Ademulegun (2010) also indicated that the academic performance may be affected teachers' qualification and experience in terms having high extent related to subject content that support students better than those students taught with teachers with low teacher' qualification and experience. This also implies that teachers need to keep improving their academic qualifications and experiences in order to enhance their level of subject content knowledge that leads to better performance of students in academic activities established in school environment. According to Gusky (2014) it is very important to request teachers to prepare the lessons to be taught so as to enhance teaching strategies that promote students' researches and adaptation in various subjects. However, guiding students to learn subjects' content improves the school productivity and the quality of education (Ball, 2008). On the other hand, Jadama (2014), also added that teachers that try to ignore or do not have standard of subject content knowledge can lead to low students' understanding and effective school completion as they provide undesirable results.

Jadama (2014) also stated that teachers that experience a lower level of subject content knowledge get difficulty to respond to the students' questions asked during teaching and learning process. Therefore, the level of teacher's understanding of the subject content depends on the level of structuring the lesson plans and researches as well as evaluation of the students' assignment that are desired to get the level of academic performance. According to Elizabeth, Francis and David (2017), teachers should vary teaching methodologies while teaching with alternative questions and ability that may clarify the subject content which also facilitates teachers to perform effective students' assessment to the content learnt. Kimosop (2015) expressed that once the content to learnt is not complete due to learning curriculum objectives, the curriculum implementation could also not be done effectively.

2.5 Teacher' Readiness and Students' Academic Performance

According to Lynch and Smith (2016), readiness can be defined as the way through which staffs in school are ready to improve and implement the school activities. Therefore, the school administrators should always strengthen the working descriptions and deal with working situations. David et al. (2017) revealed that developing the right capabilities and creating engagement improve the readiness of staff members. This implies that the school administration should make effective allocation of teaching tasks to competent teachers in order to raise students' learning and school productivity. Hattie (2012) revealed that teachers' readiness should be enhanced through training that improves teachers' teaching methodologies as a condition for improving the students' understanding and creative abilities as well as active learning considered to be the aspects of teachers' professionalism. David et al (2017) also added that the improvement in students' concepts greatly improves the level of students' academic performance through professional training of teachers. According to Slattenin (2010), teacher's readiness for teaching should be equipped with getting professional training related to the ways of varying the methods of teaching desired to make effective and learning process in order to improve the implementation of curriculum and both students and teachers' academic performance.

Slattenin (2010) stated that teacher's readiness should be accompanied with motivation and values-based school performance that always targets the students' school completion. Khmel (2012) stated that professional training given to teachers should be indicated by everyone who is mastering a profession in three ways such as substantive, personnel and procedures used while teaching. Khmel (2012) also added that the performance of students depends on the frequency of teacher's professional training offered. This implies that teachers in school setting should be effectively trained in order to help them to give adequate knowledge and skills to students. According to Kuhn and Thomas (2010), the structure of pedagogical education as a whole should reflect the idea of what to teach as a future teacher. According to Hattie (2012) the role of teachers expected to develop the work methods of students and their personality should be improved in a significant manner so as to make adequate students' learning and academic performance. Lynch and Smith (2016) also added that teachers' readiness should be combined with technology so as to improve teachers' ability and effective content delivery that adopt adequate teaching and learning process and performance.

2.6 Use of Technological Tools to Teachers and Students' Academic Performance

According to Ahmed and Ahmad (2019) the use of technology in education significantly influences the academic performance positively as teachers get aware of helping students to

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improve the practical learning conditions. Burden and Byrd (2015) also added that students use computers and other digital learning tools enhance the methods of teaching to teachers and effective learning and commination-based content. El-Khalili and El-Ghalayini (2014) also stated that effective use of technology to teachers lead to students' achievement and students' access to school resources as well as productivity based on students' results that lead to the improvement of students' academic performance. Keller (2017) added that the use of technology to teachers make easy dissemination of content taught to students effectively as one of the aspects of improving the quality of education. According to Morris (2010) technological usage is indicated to be a significant impact based on students' learning process that leads to better students and teachers' performance.

The effective use of computer to students during teaching and learning process as well as digital learning materials improve the students' academic performance due to having active participation in teaching and learning process (Ahmed & Ahmad, 2019). Despite, the role of technology in education motivates and differentiate students' desires to achieve the learning objectives that always focus on getting improved academic performance and being competent at the labor market (Sansone *et al.*, 2011). The corrective use of technology to teachers updates the students' dreams and vision as well as future potential based on school effectiveness that could always implement effective teaching and learning activities (Amelink, Scale & Tront, 2012). According to Jennifer, Mohammed and Adel (2016) technology used by students during teaching and learning activities help them to be engaged and study in a way that promote the level of conducive classroom setting. According to Donovan et al. (2007) teaching and learning activities conducted by using technology, improve the students' writing skills and other learning skills that always strengthen the purposeful use of technology. Therefore, technological integration in education could impact positively the students and teachers in classroom to improve the school performance.

2.7 Teacher' documents and students' academic performance

The term "appropriateness of instructor paperwork" describes the amount and quality of acceptable or appropriate resources, facilities and equipment, and human capital. The adequacy of teachers' records, such as the project plan, lesson plan, class diary, enrollment or average attendance, and materials, is the most expense input determining student progress, thus according DFID (2007). In this regard, an adequate quantity is often assessed to be one textbook per three students, as well as sufficient reading materials at the elementary level, because every kid gets the opportunity to read at least one latest novel on a regular basis. The records of teachers, as per Padmanabhan, assess the efficacy of schooling institutions (2011). Textbooks and resource materials are critical tools for effective teaching and learning; their lack or inadequacy enables teachers to treat subjects abstractly, portraying them as dull and uninteresting. It's also critical to have the right kind of people in place to make sure that enough teaching aids and space are able to help educational endeavors. This study examined the effectiveness of TLR in FDSS since the adoption of FDSE in public schools. As per Coombs (2010), the educational system's ability to respond properly to user demands will be limited by a shortage of books, booksellers, buildings, and equipment. To improve education's quality, efficiency, and output, great educational resources (TLM), physical facilities, and staff activities are utilized.

2.8 Influence of Teacher' Preparedness on Students' Academic Performance

Kariuki, Njoka and Mbugua (2018) revealed that teachers' professional preparedness play a significance association with students' learning outcomes established by teachers. This implies that teachers should develop effective connectivity with students during lesson delivery so as to make effective implementation of learning curriculum. Floden and Ferrini-Mundy (2012) stated that poor emotional characteristics of teachers and student should be avoided in classroom environment for the purpose of supporting the management of classroom instruction and interpersonal collaboration between teachers and students at a work place. Teachers' preparation emphasized in school environment requires assistance from various educational stakeholders in order to make effective improvement of students' grades considered to the feedback of quality education (Gumey, 2007). Therefore, there is a significance relationship between teachers' lesson preparation and students' content mastery and other learning outcomes.

Hill, Ball and Schilling (2008) reported that students' academic performance is based on students' knowledge rooted from the methods using in content delivery by teachers that should also be based on the professional knowledge and discipline established by teachers. This implies that teachers should make effective lesson delivery in classroom setting. According to Gumey (2007), teachers should master the ways through which students think and set various methodologies that help students to solve various learning problems and be aware of being integrated in community. Therefore, teachers should be required to use adequate teaching methodologies that make learning concept more understandable as well as establishing relevant instructional resources in teaching activities. Wilson et al. (2012) stated that teacher' professional document like schemes of work and lesson plans should be controlled by school head teachers responsible to improve the school students' completion.

The preparation of teachers and effective use of scheme of work facilitate improve the high standard of teaching and results that also enhance the academic performance of students as well as that of teachers' performance (Isiugo-Abanihe, Ifeoma & Tandi, 2010). . Isiugo-Abanihe, Ifeoma and Tandi (2010) also added that in case there is a lack of regular monitoring based on teaching activities, could make a high contribution based on poor academic performance of students in national examinations in various subjects. Kariuki, Njoka and Mbugua (2018) stated that teachers' professional preparation contributes to the academic performance of students. However, the students' class attendance is significantly attracted by teachers' teaching methodologies advanced to effective teaching and learning (Rivkin, Hanushek & Kain, 2005). Therefore, teacher preparedness plays a significance role in ensuring that students have been attained adequate learning outcomes in education.

3.0 Research Methodology

The correlation research design was employed in the study to establish the relationship between teacher preparedness and students' academic performance in public secondary schools in Gatsibo in Rwanda. The target population was 308 respondents including 280 teachers and 28 directors of studies. The sample size was 174 (158 teachers and 16 directors of studies). Yamane formula was utilized to get the sample size. Interview guide, question and document analysis were taken as instrument of data collection. 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

conducting a pilot study that provided reliability of the research instrument and got 96.9% using Cronbach's Alpha and considered to be reliable as it was greater than 70% as recommended.

4.0 Research Findings

The finding of the study was presented based on the objectives which was to find out the influence of teachers' preparedness on students' academic performance in public secondary schools in Gatsibo district in Rwanda.

4.1 Teacher preparedness in selected public secondary schools

4.1.1 Teacher subject content knowledge

Table 1 presents the study findings on ways to teach subject content knowledge.

Table 1: Ways of teacher subject content knowledge

Statements	SD		D		U		A		SA		Mean	Std
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Teachers' mastery about subject taught	19	13.1	39	26.9	26	17.9	48	33.1	13	9.0	2.98	1.22
Frequency of teacher professional training	20	13.8	37	25.5	27	18.6	43	29.7	18	12.4	3.01	1.27
Teachers knowledge and skills vary classroom environment	15	10.3	41	28.3	23	15.9	42	29.0	24	16.6	3.08	1.26
Effective use of instructional materials	15	10.3	41	28.3	23	15.9	42	29.0	24	16.6	3.13	1.28
Effective engagement in subject taught	18	12.4	25	17.2	12	8.3	56	38.6	34	23.4	2.95	1.24
Having high level of expertise in Teaching	20	13.8	30	20.7	10	6.9	48	33.1	37	25.5	2.81	1.24

SD: Strongly Disagree, **D:** Disagree, **U:** Undecided, **A:** Agree, **SA:** Strongly Agree and **Std:** Standard deviation

Researcher distributed questionnaires to 145 teachers in selected public secondary schools in Gatsibo district to deal about teacher subject content knowledge and majority provided the mean of 3.13 with 1.28 of Std corresponding with 45.6% of teachers agreed that they have effective use of instructional materials. This implies that majority of teachers in schools that were selected, do not use the instructional materials effectively. Anderson (2018) revealed that the subject content indicates teacher' thought that establishes the understanding of content desired to be taught by teachers for the purpose of improving the academic performance of students. This was followed by the mean of 3.08 and the standard deviation of 1.26 corresponding with 51.6% of teachers agreed that the classroom environment affect the development of knowledge and skills among teachers. This implies that the teachers' adaptation the students' learning outcomes. Jadama (2014) also stated that teachers that experience a lower level of subject content knowledge get difficulty to respondent the students' questions asked during the process of providing knowledge to students in class.

The study also found that the mean of 3.01 and the standard deviation of 1.27 corresponding with 42.1% of teachers agreed that there is a frequency teacher professional training. This shows that there is a need of increasing the opportunities professional training among teachers in selected public secondary schools in Gatsibo district though, the absence of professional training, can reduce the level of teachers' preparedness and leads to lowering the students' academic performance. Kimosop (2015) expressed that effective provision relevant content to students and standardizing academic performance depends on the amount of professional training given to teachers which support them to stimulate their teaching activities.

The study also revealed that the mean of 2.95 and 1.24 of standard deviation corresponding with 62% of teachers agreed that they make effective engagement in subject taught. This also implies that some teachers do not get engaged effectively in what they are teaching which can impact negatively the level of school performance. On the other hand, the mean of 2.81 and 1.24 of standard deviation corresponding with 58.6% of teachers agreed that they have a high level of expertise in teaching. This implies that the level of expertise of teachers in selected public secondary schools is still low and can also reduce the level of teacher and students' performance. The intellectual capacity presented by teachers frequently determines the level of students' mind development considered to be the center of students' learning process (Ball, 2008). Jadama (2014) also added that teachers that experience a lower level of subject content knowledge get difficulty to respondent the students' questions asked during teaching and learning process.

4.1.2 Teachers' use of technological skills

Table 2 depicts the descriptive statistics of the teachers' use of technological skills.

Table 2: Teachers' use of technological skills

	N	Minimum	Maximum	Mean	Std.
Using computer while teaching	145	1.00	5.00	3.10	1.27
Using computer to prepare lesson	145	1.00	5.00	3.19	1.29
Engaging students to make research	145	1.00	5.00	3.17	1.29
Downloading teaching materials using internet	145	1.00	5.00	3.06	1.35
Effective use of Microsoft word and excel	145	1.00	5.00	3.06	1.30
Sharing content using internet	145	1.00	5.00	3.05	1.27
Valid N (listwise)	145				

The study collected the data from teachers of selected public secondary schools in Gatsibo district on teacher' use of technological skills. The study found that majority with the mean of 3.19 and 1.28 of std revealed that they use compute to prepare their lessons. This shows that some teachers do not implement technology in the preparation of their content to teach. This was followed by the mean of 3.17 and standard deviation of 1.28 confirmed that they engage students to make research associated on their learning concept. This brings the image that most of teachers express the lack of providing motivation to their students to make researchers which could significantly affect their performance level. Burden and Byrd (2015) revealed that students use computers and other digital learning tools enhance the methods of teaching to teachers and effective learning and commination-based content taught to a large group of students at the same time.

In the same vein, the study indicates that 3.10 of the mean and 1.27 of standard deviation agreed that they use computer while teaching. This implies that some teachers are still using the traditional methods of teaching which can lead to reducing the level of school performance. According to Ahmed and Ahmad (2019) the use of technology in education significantly influences the academic performance positively as teachers get aware of helping students to improve the practical learning conditions. Lastly, the mean of 3.05 and 1.27 of standard deviation stated that they share content using internet. This implies that in selected public secondary schools of Gatsibo district, there is a number of teachers that do not implement the modern ways of teaching which could significantly affect the quality of education. The corrective use of technology to teachers and sharing content due to having internet in school, update the students' dreams and vision as well as future potential based on school effectiveness that could always implement effective teaching and learning activities (Amelink, Scale & Tront, 2012).

4.1.3 Teachers' readiness

The summary of study results on teachers' readiness is presented in Table 3

Table 3: Teachers' readiness

Statements	SD		D		U		A		SA		Mean	Std
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Getting in-service training	23	15.9	38	26.2	23	15.9	44	30.3	32	22.1	2.95	1.30
Prepared teachers to teach	25	17.4	40	27.8	17	11.8	47	32.6	15	10.4	2.91	1.31
Aware of content management	20	13.8	18	12.4	15	10.3	46	31.7	46	31.7	2.97	1.30
High level of teachers' willingness to teach	17	11.7	24	16.6	21	14.5	50	34.5	32	22.1	2.98	1.37
Getting sufficient trainings	14	9.7	44	30.3	19	13.1	50	34.5	18	12.4	3.09	1.23

SD: Strongly Disagree, **D:** Disagree, **U:** Undecided, **A:** Agree, **SA:** Strongly Agree and **Std:** Standard deviation

The study was in need to collect the data teacher of public secondary schools in Gatsibo district and the data was based on teachers' readiness. The study results in Table 3 reveals that majority of respondents expressing 3.09 of mean and 1.23 of standard deviation corresponding with 46.9% of teachers agreed that they get sufficient training based on their daily teaching activities. This implies that the enhancement of teaching profession is not effectively standardized. Khmel (2012) stated that professional training given to teachers should be indicated by everyone who is mastering a profession face in three ways such as substantive, personnel and procedures used while teaching. This was followed by 56.6% of teachers having the mean of 2.98 and 1.37 of Std indicated that there is a high level of teacher's willingness to teach. This shows that there is an amount of teachers in Gatsibo district are not willingly to teach and this could proportionally reduce the level of school productivity. David et al (2017) revealed that developing the right capabilities and creating engagement improve the readiness of staff members. This implies that the school administration should make effective allocation of teaching tasks to competent teachers for the purpose of enhancing the level of students' learning outcomes.

The study also was motivated to investigate the level of teachers' awareness in content management among in teachers of public secondary schools and revealed that 63.4% of the respondents expressing the 2.97 of mean and 1.30 of std on the awareness of content management. This indicates that there is still an amount of teachers that do not have effective management of teaching content which could affect the effectiveness of teaching career. On the other hand, 52.3% of study participants indicated 2.95 of mean and 1.30 of std confirmed on getting effective in-service training. This implies that the level of teachers' in-service training is not yet on the standard level which could significantly influence the readiness level of teachers.

Directors in the office of studies were given a guided interview associated with teacher preparedness to support obtained quantitative findings and revealed that “*the effectiveness of teacher preparedness in established by the level teacher’ readiness in daily teaching activities, preparation of teaching document and effective use of technology while teaching*”. They also added that “*having content mastery in teachers also enhance the level of teachers’ preparedness however, in selected public secondary schools*”. This implies that the low level of teacher preparedness could lead to lowering the level of academic performance.

4.2 Level of students’ academic performance in public secondary schools

The respondents indicated responses of the study related to the level of academic performance among students in public secondary schools and the summary of the results are presented in Table 4

Table 4: Students’ academic performance

Statements	SD		D		U		A		SA		Mean	Std
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Improved students' grade	24	16.6	31	21.4	22	15.2	49	33.8	19	13.1	3.06	1.32
Active class participation	25	17.2	31	21.4	16	11.0	52	35.9	21	14.5	3.09	1.35
Full class attendance	19	13.1	46	31.7	12	8.3	42	29.0	26	17.9	3.07	1.36
Effective performance in class assignment	23	15.9	35	24.1	18	12.4	47	32.4	22	15.2	3.06	1.34

SD: Strongly Disagree, **D:** Disagree, **U:** Undecided, **A:** Agree, **SA:** Strongly Agree and **Std:** Standard deviation

The study collected and revealed that majority of respondents having the mean of 3.09 and the standard deviation of 1.35 corresponding with 40.5% of teachers agreed that there is active class participation. The active participation of students in secondary level of education should be strengthened by teachers using various schools’ facilities in order to improve the school performance (Florah, 2010). According to Azrinawati et al. (2013) the students’ academic performance may be influenced by some indicators such as environment of school and location, motivations given to both teachers and students in secondary schools and learning styles as well as learning materials. This was followed with the mean of 3.07 and 1.36 of std corresponding 46.9% of teachers agreed that their students make full class attendance. This indicates that the absence of students’ class attendance can reduce the level of students’ academic performance. Norsida et al. (2010) revealed that the student’s completion should be more closely to school leadership and facilities in secondary school that enhance the retaining the best educators, programs and enrolment of the best talent.

The study also collected the data based on school grade and performance in class assignment and revealed that the mean of 3.06 of teachers agreed on the statements. This indicates having low grades and performance in class assignment proportionally reduce the level of students' academic performance. According to Radhika (2018), the determinants of academic performance indicated by schooling students are like class participation, class assignment, home-work assignments, tests, examination and participation in competitions as well as other academic events.

Table 5: O' level National Examination Results in the Sampled Schools (2017- 2019)

Years	2017		2018		2019	
DIVISIONS	Gils	Boys	Gils	Boys	Gils	Boys
Division I	82	95	64	88	75	156
Division II	214	323	231	253	156	307
Division III	316	432	314	278	389	335
Division IV	367	314	398	268	390	379
Division VI	158	171	112	152	124	162
Division U	34	31	20	28	42	34
Total	1171	1366	1139	1067	1176	1373

Table 5 indicates divisions of students in 16sampled schools since 2017; according to these results above, students were still performing poorly in terms of their academic progress. In education, the academic performance of students was considered as a key criterion to judge one's total potentiality and capability. As reflected in the table it was clear that there is still a big gap to be bridged in order to boost the school productivity which should go proportionally with teacher's preparedness. Taylor, Hinton and Wilson (2015) stated that the pressure of educational stakeholders should be upon directive to teachers and school management as responsible to improve the academic performance of students and the quality of education by coming with advanced strategies. The directors of the study were given a guided interview associated with students' academic performance in selected in public secondary schools in Gatsibo district to support the obtained quantitative findings and revealed that "*students' academic performance was considered as a key criterion to judge one's total potentiality and capability*". The directors of the study also added that "*the level class attendance among students is still low which could significantly reduce the level of students' grade and completion*".

4.3 Influence of teachers' preparedness on students' academic performance in public secondary schools

This study performed linear regression analysis to indicate the level independent variables which can influence the level of students' academic performance. However, this paper performed the correlation analysis in order to find out the direction of correlation among variables such as teacher preparedness and students' academic performance. The summary of the relationship between teachers' preparedness and students' academic performance is presented in Table 6

Table 6: Relationship between teachers' preparedness and students' academic performance

		Teacher preparedness	Students' academic performance
Teacher preparedness	Pearson Correlation	1.000	.817**
	Sig. (2-tailed)		.000
	N	145	145
Students' academic performance	Pearson Correlation	.817**	1.000
	Sig. (2-tailed)	.000	
	N	145	145

**. Correlation is significant at the 0.01 level (2-tailed).

The results presented in Table 6 indicates there is a statistical significance high degree of positive relationship between teachers' preparedness and students' academic performance thus P-value = .000 which less than 0.01 as the level of significance and Pearson coefficient of correlation $r = .817$. According to Kariuki, Njoka and Mbugua (2018) teachers' preparedness play a significance association with students' learning outcomes established by teachers. This implies that teachers should develop effective connectivity with students during lesson delivery so as to make effective implementation of learning curriculum.

Table 7: R Square results of teachers' preparedness on students' academic performance

		Change Statistics							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.512 ^a	.262	.241	1.18004	.262	12.434	4	140	.000

Source: Field data (20201) a. Predictors: (Constant), Teacher' document, Subject content knowledge, Teacher' readiness, Use of technological tools

The results in Table 7 indicate the R Square results of teachers' preparedness and students' academic performance. The findings present the R Square of .262. This means that the variables like teacher' document, subject content knowledge, teacher' readiness, use of technological tools are able to influence the students' academic performance. It also implies that teachers' preparedness is ready to influence the level of students' academic performance at 26.2% and the remaining 73.8% can be influenced by other factors. Teachers preparation emphasized in school environment requires assistance from various educational stakeholders in order to make effective improvement of students' grades considered to the feedback of quality education (Gumey, 2017).

5.0 Summary of findings and Conclusion

The objective of the study was to find out the influence of teachers' preparedness on students' academic performance in public secondary schools in Gatsibo district in Rwanda. The study revealed that teachers' preparedness is ready to influence the level of students' academic performance at 26.2% and the remaining 73.8% can be influenced by other factors. The study also

revealed that there is a statistical significance high degree of positive relationship between teachers' preparedness and students' academic performance thus $P\text{-value} = .000$ which less than 0.01 as the level of significance and Pearson coefficient of correlation $r = .817$. This also implies that there is an association between teachers' preparedness and students' academic performance which also leads to positive direction. The study concluded that the high standard of teacher preparedness proportionally increases the level of students' academic performance. On the other hand, the found that any lack of effective preparedness among teacher reduce the level of students' academic performance

6.0 Recommendations

Basing on the presented findings and drawn conclusion, the following recommendations were addressed to the school head teachers Ministry of Education and Non-governmental Organizations.

1. The school head teachers are recommended to make regular checking of teachers' documents for the purpose of enhancing the level of teachers' readiness.
2. The Ministry of education responsible to improve teaching profession is recommended to enhance to quality and quantity of professional training given to teachers.
3. The Non-governmental organizations should make collaboration with the school administration for the purpose of improving the level of teachers' preparedness and students' academic performance
4. The researcher suggested that the further research can be done to find out the influence of teacher preparedness on curriculum implementation in public secondary schools

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