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OPTION: BIOLOGY AND CHEMISTRY

ANALYSING THE RELATIONSHIP BETWEEN STUDENTS' ENGAGEMENT AND
STUDENT PERFORMANCE IN BIOLOGY

Case of Study G.S Gitaburaza, Murambi sector.

Period (2019-2021).

Undergraduate research thesis presented in partial fulfillment of the requirements for the award
of Bachelor degree in Biology and chemistry with honor in Education

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DECLARATION

Declaration by the Candidate

We are UZABAKIRIHO Aimable Reg. No.: 2100786 and MUCYO Fabiola Reg. No.: 2100619, at this moment declare that this is our original work and not a duplication any similar academic work. It has therefore not been submitted to any other institution of higher learning.

All materials cited in this paper which are not my own have been duly acknowledged.

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Date...../...../2022

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Declaration by the Supervisor

I declare that this work has been submitted for examination with my approval as KP Supervisor.

SUPERVISOR’S NAME.....

SIGNED.....

DATE...../...../2022

ABSTRACT

The study concerns with analyzing the relationship between students engagement and student performance in Biology, case study G.S Gitaburaza (2019-2021). The study was guided by the following objectives: to identify the contribution of the students' engagement and student performance in sciences particularly in Biology. To find out the relationship between students engagement and student performance in sciences particularly in Biology. To examine the challenges faced by students engagement and student performance in sciences particularly in Biology. The study adopted descriptive research design both qualitative and quantitative data were collected via the help of questionnaires and interviews. The target population of this study was either students, teachers and staffs of G.S.Gitaburaza. The sample size was 107 respondents selected from G.S.Gitaburaza. The research instruments were designed to obtain data from the questionnaires, interview and review of documents. There was a need of data processing consisted by editing, coding and tabulating. All the ethical issues were considered. The findings indicate that the contributions of the students' engagement and student performance in sciences particularly in Biology includes the followings: The study indicated that students were actively engaged in online teaching and learning if the instructors focused on with 14% of the respondents, Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities, with 32% of the respondents, Enriching students' educational experiences by increasing the level of academic performance with 25% of the respondents, Fostering a positive climate among students by maintaining a supportive classroom and family environment with 12% of the respondents. It is recommended that cooperative learning method should be applied during instruction on selected topics suited to those students who belong to heterogeneous groups for make student well engaged. For the suggestion for further research, researchers should consider the contribution of Competence based curriculum and the performance of student in secondary school.

DEDICATION

To:

Our parents,

Our family members,

Our friends and classmates,

And all our friends

ACKNOWLEDGEMENTS

This work has been compiled with the help of many persons who contributed to its completion.

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TABLE OF CONTENT

DECLARATION	ii
ABSTRACT	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
LIST OF FIGURES	ix
LISTS OF TABLES	x
LIST OF ABBREVIATION AND ACRONYMS	xi
CHAPTER ONE: GENERAL INTRODUCTION	1
1.0 Introduction	1
1.1. Background of the study	1
1.2. Statement of the problem	2
1.3. PURPOSE OF THE STUDY	3
1.3.1. General objective	3
1.3.2. Specific Objectives of study	4
1.4. Research questions	4
1.5. Significance of the study	4
1.5.1 Individual interest	4
1.5.2 Social interest	4
1.5.3 Scientific interest	4
1.6 Scope of the study	5
1.6.1. Content Scope	5
1.6.2. Geographical Scope	5
1.6.3. Time scope	5

1.7. ORGANISATION OF THE STUDY.....	5
CHAPTER TWO: LITERATURE REVIEW	6
2.0 Introduction	6
2.1.1. Students engagement	6
2.1.2. Student performance	6
2.2. Theoretical Framework	6
2.3. The relationship between student engagement and performance	Error! Bookmark not defined.
2.4. Factors Affecting Student Engagement.....	Error! Bookmark not defined.
2.5. Conceptual framework	11
2.6. Research gap.....	12
CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY	14
3.0. Introduction	14
3.1. Research design	14
3.2 Target population	14
3.3 Sampling procedures	15
3.3.1. Simple random sampling	15
3.3.2. Purposive sampling method.....	15
3.4 Sample size.....	15
3.5 Research instruments for data collection.....	16
3.5.1. Questionnaire	16
3.5.2. Interview guide	17
3.6. Data processing	17
3.6.1. Editing.....	17
3.6.2. Coding.....	17
3.6.3. Tabulation	18

3.7. Ethical issues	18
3.8. Data analysis.....	18
3.9 Reliability and validity measures	18
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRETATION AND SUMMARY	20
4.0. INTRODUCTION.....	20
4. 1.DATA PRESENTATIONAND ANALYSIS.....	20
4.1.1. Identification of the population (respondents).....	20
4.1.2. Findings related to the topic of the study via it objective for student.....	22
4.1.3. Findings related to the topic for teachers	29
4.1.4. Interview for staff of G.S Gitaburaza	32
4.2. DISCUSSIONS OF FINDINGS	33
CHAPTER FIVE: GENERAL CONCLUSION AND RECOMMENDATIONS.....	36
5.0 INTRODUCTION.....	37
5.1 CONCLUSION	37
5.2 RECOMMENDATIONS	38
5.3. SUGGESTION FOR FURTHER RESEARCH.....	38
REFERENCES.....	39
APPENDIX	42

LISTE OF FIGURES

Figure 1: Gender of the respondents	21
Figure 2: Marital status:	21
Figure 3: The students raise the hand in class	22
Figure 4: The student participating in or small group discussions	23
Figure 5: The student are communicate with the representatives of the school.....	24
Figure 6: The worked with other students on the course projects and/or tasks.....	24
Figure 7: Attended sports or any other extracurricular activities	25
Figure 8: The factors influencing student performance in sciences particularly biology	27
Figure 9: The challenges faced by students' engagement and student performance in sciences particularly in Biology	28
Figure 10: The student of G.S.Gitaburaza are engaged while you are teaching	29
Figure 11: Describe the relationships between students engagement and student performance in sciences particularly in Biology	31
Figure 12: The challenge faced by students' engagement and student performance in sciences particularly in Biology	31

LISTS OF TABLES

Table 1: Sample distribution	16
Table 2: Education of the respondents	20
Table 3: Age Of respondents.....	22
Table 4: The student attend class every day.....	23
Table 5: The student are satisfied that you study here	24
Table 6: the contributions of the students' engagement and student performance in sciences particularly in Biology	25
Table 7: the relationships between students engagement and student performance in sciences particularly in Biology	26
Table 8: The teacher is required to facilitate learning by involving students in learning activities	28
Table 9: Student of here explained course material to another students	29
Table 10: the contributions of the students' engagement and student performance in sciences particularly in Biology	30
Table 11: Biology National examination Results at G.S.Gitaburaza in 2019, 2020, 2021 for O'level	33
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LISTE OF ABBREVIATION AND ACRONYMES

CBC: Competence Based Curriculum

CP: Critical perspective

DOS: Dean of Studies

G.S: Group Scolaire

HSLs: High School Longitudinal Study

LCT: Learner centered technique

VFTs: Virtual fieldtrips

EFA: Education for All

STEM: Science, technology, engineering, and mathematics

CHAPTER ONE: GENERAL INTRODUCTION

1.0 Introduction

This chapter contains the general background of the study which deals with the justification for the research selection. It also presents the problem statement, research questions, objectives of the study, research question scope of the study, and significance of the study.

1.1. Background of the study

Increasing student engagement in classrooms is a high priority yet ambiguous goal atop many education policy agendas. While the idea of engaging students in learning is desirable and often elicits images of eager students on the edge of their seats with hands raised, or a group of students working together to build a model that demonstrates their understanding of a new science idea the physical manifestations of engagement may look different for each student, teacher, classroom, and subject. The experience of engagement may also vary depending on a number of contextual factors that comprise daily activities, such as the company one is with, or the value of the activity in relation to one's future goals. Research demonstrates that high student engagement is an important condition that can contribute to multiple student outcomes, including improved classroom behavior, increased student achievement, reduced likelihood of dropping out, increased high school completion, and college matriculation, (Kelley, T, 1927).

Secondary schools have an even greater challenge than elementary schools in engaging students because as students progress from elementary to their middle and high schools, general attitudes and interests in academics decline (Gonzales et al., 2008) and schools grapple with effective ways to provide meaningful and motivational experiences for students who often see themselves as passive participants in a large anonymous mass (Larson & Richards, 1991) where students and teachers may just be "passing time" (Eccles, J.S. & Wang, 2012). High school science classrooms are of particular importance given the increased number of advanced courses needed to earn a diploma (Schiller & Muller, 2003) and the increased demand for individuals to either pursue postsecondary education or a career in the fields of science, technology, engineering, and mathematics (STEM) (National Academies, 2010; National Science Board, 2010). As educational policy continues to pursue higher standards and demand high quality teaching,

understanding the relationship between teacher instruction and student engagement is a critical component in the evaluation of these reforms, (Kelley, T, 1927).

This study provides a diverse set of analyses of student engagement and is designed to understand how student engagement varies, particularly in science classrooms, as well as analyze the relationship of student engagement to long-term outcomes. These analyses use data from two different datasets to gain a more comprehensive understanding of student engagement that not only includes the outcomes associated with these engagement measures, but also discusses how the use of different measures of engagement impact the outcomes of interest, (Turner & Meyer, 2000).

This study examines student engagement using data from the High School Longitudinal Study of 2009 (HSLs:2009), and a unique dataset constructed using the Experience Sampling Method (ESM). This mixed-dataset study allows for the analysis of student interests and behaviors in high school while considering additional factors related to their experiences in high school, including their teachers, the types and frequency of instruction they are exposed to, and characteristics of their classroom and school, that contribute to the daily contextual environment in which engagement occurs. The contextual environment can include the beliefs, goals, values, perceptions, behaviors, classroom management, social relations, physical space, and social-emotional space, (Turner & Meyer, 2000). The ESM data enhance the ability to look more closely within the classroom and these contextual characteristics, thus complementing the HSLs: 2009 analysis by supporting the exploration of the preconditions of engagement, which can provide information for teachers on how to develop and sustain science engagement for adolescents. While the field on student engagement is rich, diverse, and expanding, there are a limited number of studies that consider the *dimensionality* of engagement across multiple contexts as they contribute to the variation in learning moments. For example, are similar classroom tasks related to similar engagement experiences? Are there differences between boys and girls? Additionally, this research also examines the relationship of engagement and the different ways it is defined to outcomes such as increased interest in science and taking additional courses in science, (Turner & Meyer, 2000).

1.2. Statement of the problem

Students' engagement has been one of the problems facing the educational system in Rwanda in general and Gatsibo District in particular especially in secondary school. In other places the research done by (Barongo , 2007) to assess the problem of learners' negative engagement which causes many problems at school such as absenteeism, truancy, dropout, indiscipline, drug abuse, alcoholism, and stereotype (Barongo , 2007). However, some contributions have been done on the part of parents to encourage students' engagement in secondary school especially in Eastern Province particularly Gatsibo District even though there are still some pejoratives, marginalized, segregation, isolating words addressed to these public schools called secondary school, (Trumper, R, 2006).

Learner-content engagement is at the heart of any instructional activity and there cannot be education if the learner does not interact with the subject of study, (Moore, 1989). The second type of engagement described by Moore points to the interaction established between the learner and the expert who prepared the learning material or any other person who acts as an instructor. Despite the increasing use of technologies in teaching and learning, the role of the teacher is as important as ever. Technology was hardly replace a teacher because, as (Moore, 1989) put it, technologies are just tools and they can only be valuable when a "human intelligence" uses them productively. In the classroom, the human in question is the teacher. The third type of student engagement in online learning appertains to the interaction between learners. This "inter-learner" interaction, argues (Trumper, R, 2006), can take place between one learner and other learners, alone or in group settings, with or without the teacher's synchronous or asynchronous presence.

The researcher assessed whether parents are engaged to encourage the students enroll and participate in secondary school as in other secondary schools such as boarding schools and colleges of in Gatsibo district Rwanda.

1.3.PURPOSE OF THE STUDY

1.3.1. General objective

This study, exploring the relationship between students engagement and student performance in Biology, case study G.S Gitaburaza (2019-2021).

1.3.2. Specific Objectives of study

1. To identify the contribution of the students engagement on student performance in Biology.
2. To find out the relationship between students engagement on student performance in Biology.
3. To examine the challenges faced by students engagement on student performance in Biology.

1.4. Research questions

1. What are the contributions of the students' engagement on student performance in Biology?
2. What are the relationships between students engagement on student performance in Biology?
3. Outline the challenge faced by students engagement on student performance in Biology?

1.5. Significance of the study

1.5.1 Individual interest

As a Rwandese, this study was helping the researchers not only to get a Bachelors' degree but also to know how well the relationships between students engagement and student performance in Biology in secondary schools.

1.5.2 Social interest

The results of this study was facilitating government and many policy makers especially those in charge of learners to improve the way of student performance especially in secondary school as well as teachers and other related government institution.

1.5.3 Scientific interest

The result of this study was also lay foundation of the future of further research for next generation; it was informed also future academic researchers of the finding so as to help to set up the relevant and adopted programs related to the relationships between students engagement and student performance in Biology.

1.6 Scope of the study

1.6.1. Content Scope

This study specifically covers the relationships between students engagement and student performance in Biology.

1.6.2. Geographical Scope

G.S Gitaburaza is located Murambi sector, Gatsibo district, Eastern province.

1.6.3. Time scope

The study was covering the period between 2019-2021. This period was helping the researchers to get the necessary information needed to the topic.

1.7. ORGANISATION OF THE STUDY

The research is organized into three chapters with the General introduction as the first chapter which include statement of the problem, objectives of the study, research questions, scope of the study and the significance of the study and structure of the study.

Chapter two is the literature review; it presents the view of other researchers and authors on topic and the definition of the concepts in the topic was analyzed. Research methodology and design as three chapters of the study.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter reviews key issues in the existing literature or knowledge related to the relationship between students engagement and student performance in Biology, case study G.S Gitaburaza (2019-2021). The study has also attempted to look at the findings of scholars on student engagement and student performance in biology and the definitions of the keys terms which are in the topic, and the findings related to the student performance.

2.1 Definitions of key concepts

2.1.1. Students engagement

Student engagement occurs when "students make a psychological investment in learning. They try hard to learn what school offers. They take pride not simply in earning the formal indicators of success, but in understanding the material and incorporating or internalizing it in their lives, (Schommer-Aikins, 2005).

2.1.2. Student performance

Students performance is the extent to which a student, teacher or institution has attained their short or long-term educational goals. Completion of educational benchmarks such as secondary school diplomas and bachelor's degrees represent academic achievement, (Schreiber, J. B, 2002).

2.2. Theoretical Framework

The conceptualization of student engagement is diverse and often understood using a multi-disciplinary perspective. The variety of ways in which engagement is defined and subsequently measured can create a *jingle fallacy* (Thorndike, 1904) or *jangle fallacy* (Kelley, 1927). In a jingle fallacy, an identical term can be used to identify several situations (e.g. using “engagement” to describe several different phenomena). In a jangle fallacy, there are similar situations that are defined by different labels (e.g. using engagement, motivation, or interest to describe the same outcome). Theoretical reviews about different definitions suggest that research be clear about the specific components included and excluded in the definition, and that

studies align their theory and measurement fit, meaning, the applied measures should assess the components that are relevant for the research questions and conclusions, (Fredricks, J. A, 2004).

Engagement is often described as an "in the moment" experience, but it is hardly ever measured in the moment in which it occurs (Fredricks et al., 2012). Despite the reviews of theories and the recognition of the need for a consistent understanding of how engagement is studied, there are still many ambiguous methods being used to examine academic engagement, thus leading to inconsistencies in the research. Understanding the academic context is also an important factor in ascertaining how students may engage in learning differently. Turner and Meyer (2000) offer three explanations for considering classroom context when studying learning: (1) teaching and effective instruction often varies with context (Good & Brophy, 2003); (2) teaching and learning vary by content area, (Stodolsky, 1988); and (3) theoretical frameworks should include an interpretative structure for considering the role of contexts. With this in mind, when examining engagement, research questions and instruments should be sensitive to the different contexts in which they are operating, and include measures that capture the context and assess subject-specific aspects of engagement.

In an earlier review of the literature, Fredricks, Blumenfeld, and Paris (2004) operationalize engagement in three ways: (1) behavioral engagement, which is the action or engagement of the individual in academic or social activities; (2) emotional engagement, which includes the positive and negative reactions to teachers and peers as well as an individual's willingness to work; and (3) cognitive engagement, which includes the investment of an individual to comprehend new ideas and master challenging skills. While engagement can be described using these paradigms, engagement types can also overlap. For example, behavioral engagement can entail student conduct and completing tasks, (Finn, J.D, 1993). There are several ways of studying cognitive engagement that examine students' investment in learning, such as self-regulation and enjoying a challenge, (Gonzales, P, and Kastberg, D., & Brenwald, 2008).

2.3. Literature related to the objectives

2.3.1. Literature related to the contribution of the students engagement on student performance in Biology.

Students' engagement is a decisive prerequisite for effective teaching and learning. Yet, the discussion on students' engagement in teaching and learning environment is still very limited

(Lazareva, 2018). Scholars (Dunbar, 2004; Roddy et al., 2018) who are mainly concerned with discovering the best tools to utilize for effective online teaching and learning, argued that student practical and non-academic skills are behind their success in online teaching and learning. As teaching and learning become common, especially since the COVID-19 outbreak, factors affecting student engagement in online teaching and learning should be paid more attention to determine and examine all students' experiences and problems during online teaching and learning, (Singh, K., Granville, 2002). The existing literature outlined a variety of factors affecting student engagement in teaching and learning. DeVito (2016) conducted a case study to portray the aspects of learning experiences related to student engagement. Employing survey, focus group interview, and observations as tools for collecting data, the study indicated that students were actively engaged in online teaching and learning if the instructors focused on (a) initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities, (b) enriching students' educational experiences by increasing the level of academic challenges, and (c) fostering a positive climate among students by maintaining a supportive classroom and family environment.

(Lazareva, 2018) conducted a case study in the context of Uganda, gathering data from a group interview with 14 participants. The author referred to scaffolding from eligible peers and assistance of co-located peers as the most important factors determining online students' engagement. Apart from this core factor, the study emphasized the importance of the following factors: (a) students' knowledge and skills, as well as prior experience and familiarity with using technology, (b) the quality of internet connections, (c) informal online learning groups in which online students can seek help from more experienced peers to "stay on board," and (d) collaborative learning mode in which students can interact respectively. (Sengsouliya et al, 2020) conducted a convergent parallel study entitled "An Investigation on Predictors of Student Academic Engagement." Research data were collected using questionnaires (quantitative research approach) and interviews and observations (qualitative research approach), (Lazareva, 2018).

According to the study, the most powerful factors influencing students' academic engagement are a teacher and peer communication. Most students regarded a teacher's friendliness and kindness as critical factors in their academic engagement. Furthermore, students in the sample

specified that they would be more engaged in learning if teachers provided opportunities for peer communications. Since this study was dedicated to disclosing factors affecting student engagement in teaching and learning offered at Musamus University, Indonesia, we only focus on the factors for online success proposed by (Shernoff, D. J., & Csikszentmihalyi, 2009). In their study entitled “Dimensions and Strategies for Success: Voices from Experienced Educators,” researchers attempted to categorize the characteristics of effective online students by examining primary screening documents and mapping them to literature-based models. Using a survey as a data collection instrument, all the surveyed educators were asked to assess the dimensions and suggest strategies for ensuring students’ success. As a result, seven aspects were effectively identified and confirmed as significant: access to tools, technology experience, learning preferences, learning habits and skills, learning goals, lifestyle factors, and personal traits. The study suggested that the following teaching and learning practices improve student academic achievement: (a) students’ posting profiles, (b) regular communication, (c) collaboration, (d) participation norms, (e) question and answer forums, (Osborne, J., Simon, 2003)

2.3.2. Literature related to the relationship between students engagement on student performance in Biology.

The relationship between student engagement and academic performance has been well investigated. Results from, (Perry, W. G, 1970) 20-year research study on undergraduate students were unequivocal: "the more engaged students are" with teachers, peers and subject matter "the more likely they are to learn and keep a sustained focus and efforts on their studies and realize their learning goals. In the same vein, Li et al. (2008) found out that student engagement was associated with better grades while (GUNUC,2014) demonstrated significant relationships between student engagement and the student’ s academic achievement. In a study that involved 1,058 college and university students, examined the association between student engagement and various measures of academic performance and found out that student engagement was positively linked with targeted learning, (Perry, W. G, 1970).

Outcomes and grades. In general, strong relationships have been found between students’ time investment, interest, and effort in various educational activities and increased performance, persistence as well as satisfaction on academic task, (Trowler and Kuh, 2009) concluded that:

"students gained more from their studies and other aspects of the college experience when they devoted more time and energy to certain tasks that required more effort than others". Research studies on the relationship between student engagement and performance have focused on traditional (face-to-face) as well as online educational settings. The results from Rodgers (2008)'s study that examined the impact of the student engagement in online learning process on their end-of year examination results, showed that greater interaction in online learning has a positive and statistically significant impact on academic performance (see also Wong, 2013). Johnson-Smith (2014) compared associations between learner's engagement and academic performance in technology enhanced and traditional (face-to-face) learning environments, and found out a significant difference between students' grades in those two learning environments. He concluded that multiple factors, coupled with the use of technology, led to an increased students' involvement in technology enhanced learning environment compared to the traditional one. Several other research studies concurred with these findings. Student engagement in online learning activities can be used as indicator of online learning experience and academic performance; learners who are actively engaged score higher grades compared to less engaged learners (Kumar, D, 1991), and strong association was established between performance in midterm exams and a deliberate practicing and problem-solving activities using online interactive spreadsheets files, (Kumar, D, 1991).

2.3.3. Literature related to the challenges faced by students' engagement on student performance in Biology.

Student engagement is a persistent challenge: it ranked as practitioners' number three priority challenge in 2019, and ranks as practitioners' number one priority challenge in 2020.

Educators view student engagement as fundamental for learning new skills and concepts, but with remote learning, they report less student engagement and participation. Teachers expressed that the lack of clear expectations and accountability around remote learning from their districts is partially contributing to low student engagement.

Teachers acknowledge that not all students have access to the technology and/or connectivity needed for powerful digital learning. However, even with the appropriate technology, not every student is logging online to learn. Teachers report that students are not as engaged in remote

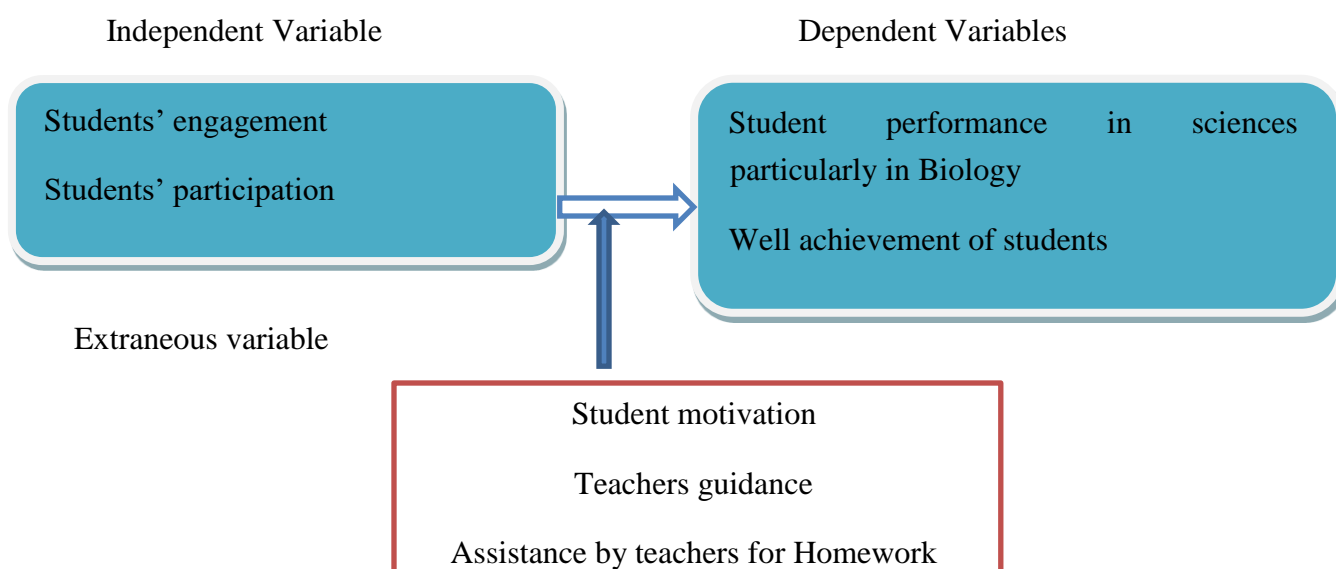
learning because much of it is “void of social interactions” or opportunities for peer learning. Many students are bored and uninterested in the content of planned activities.

Additionally, teachers say the challenge to fully engage students is also due to their inability to work one-on-one with students remotely. This lack of a timely connection with their teachers may impact students’ motivation to complete online assignments and points to another source of inequity for students less able to self-regulate learning. For educators, the COVID-19 pandemic has underlined the importance of building and maintaining relationships with individual students. Thus, teachers have prioritized students’ personal well-being and safety by checking in with students more often.

Remote learning also puts a great deal of responsibility on families, whose circumstances might impact how involved they are in their children’s learning. Teachers report that families’ involvement is important in helping students stay engaged in learning. However, they also understand that some families might not have the time, resources, or experience to support their children in the learning process in the ways their teachers would. Some families are not able to replicate classroom structures and processes at home, and students may struggle to transfer the routines learned in school to the home environment. To address these challenges, some teachers are in daily communication with families, sharing lesson plans and resources to reinforce learning and engagement.

2.4. Conceptual framework

A conceptual framework is an analytical tool with several variations and contexts. It can be applied in different categories of work where an overall picture is needed. It is used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply.



The conceptual framework relates the independent variable indicators: include student engagement, student participation and cooperation to the dependent variables: Students performance in sciences, well achievement and particularly in Biology. In this study, the researcher would like to assess the contribution of parents' engagement and students' participation of Gatsibo. The researcher also brings in the intervening variables which are student motivation, teacher guidance, and assistance by teachers Homework and affect very much the dependent variable which is the performance in sciences particularly in Biology.

Conceptual frameworks are particularly useful as organizing devices in empirical research. One set of scholars has applied the notion of conceptual framework to deductive, empirical research at the micro- or individual study level. They employ American football plays as a useful metaphor to clarify the meaning of conceptual framework (used in the context of a deductive empirical study). Likewise, conceptual frameworks are abstract representations, connected to the research project's goal that directs the collection and analysis of data (on the plane of observation the ground). Critically, a football play is a "plan of action" tied to a particular, timely, purpose, usually summarized as long or short yardage. (Shields and Rangarajan, 2013) argue that it is this tie to "purpose" that make American football plays such a good metaphor. They define a conceptual framework as "the way ideas are organized to achieve a research project's purpose". Like football plays, conceptual frameworks are connected to a research purpose or aim. Explanation is the most common type of research purpose employed in empirical research. The formal hypothesis of a scientific investigation is the framework associated with explanation.

2.6. Research gap

Despite the fact that only few studies have attempted to address relationship between students engagement and student performance in sciences particularly in Biology, case study G.S Gitaburaza (2019-2021).

(Lazareva, 2018) conducted a case study in the context of Uganda, gathering data from a group interview with 14 participants. The author referred to scaffolding from eligible peers and assistance of co-located peers as the most important factors determining online students' engagement. Apart from this core factor, the study emphasized the importance of the following factors: (a) students' knowledge and skills, as well as prior experience and familiarity with using technology, (b) the quality of internet connections, (c) informal online learning groups in which online students can seek help from more experienced peers to "stay on board," and (d) collaborative learning mode in which students can interact respectively.

(Fredricks et al., 2012). Despite the reviews of theories and the recognition of the need for a consistent understanding of how engagement is studied, there are still many ambiguous methods being used to examine academic engagement, thus leading to inconsistencies in the research. All the author describe the role, the influence of the student engagement so we need to bring the gap on the study of the relationship between students engagement and student performance in sciences particularly in Biology, case study G.S Gitaburaza (2019-2021).

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0. Introduction

This third chapter deals with the research design and methods that the research was used at the field while collecting the data. From this chapter, research approach; target population, sampling procedures, sample size, research instruments for data collection, data collection procedures, ethical issues, data analysis and finally the reliability and validity measures were discussed.

3.1. Research design

This study was adopted a descriptive survey research design. According to Mugenda and Mugenda (2003) descriptive survey design entails a systematic and empirical inquiry in which the researcher does not have a direct control of independent variables as their manifestation has already occurred. The main rationale for using this design is that it allows in-depth study of the subject matter and it is suitable to describe attitudes, views or opinions and behavior patterns of people. Descriptive survey design also allows the researcher to study how the independent variable affects the dependent variable, (Umalele, 1976). Moreover, the qualitative method was used to analyze the relationship between students engagement and student performance in sciences particularly in Biology, case study G.S Gitaburaza (2019-2021).

3.2 Target population

The researchers were meeting the populations who meet the criteria that they are either students, teachers and staffs. The population of this research is made of, students, teachers and staff of G.S.Gitaburaza.

Target population

Categories	N ^o of population	Male	Female
Staff	5	3	2
Teachers	15	10	5
Students	652	304	348
Total	672	321	358

Source: Primary Data May 2022

3.3 Sampling procedures

That is the method which was allowed the researchers to meet the exact respondents who was allowed him /her to achieve his/her goals. The researchers were met the respondents who meet the criteria that they are students, teachers and staffs.

3.3.1. Simple random sampling

The research was picked some respondents randomly without considering the favors, so they have had equal chance to be selected, the purposive or judgment sampling was also used for not excluding some important respondents.

3.3.2. Purposive sampling method

This study was used purposive sampling (judgmental) which a purposive sampling technique is. The researcher decided to select a sample in this research study because all students were taken as sample without forgetting the staff and teachers therefore staffs and teachers were used as purposive sampling. The convenient for the researchers to access all the relevant data for the study at limited costs with our case study.

3.4 Sample size

According to (Grinnell, Jr, and William., 1990) The sample is defined as” a small of cases drawn from and used to represent some large group “it is a subset from a larger population to obtain good quality of data and ensure that there was no bias in the data collection , the researchers were used the formula (Yamane, 1986) in sampling proportions.

$$N = \frac{n}{1 + n(e)^2} \quad \text{Where: } n = \text{sample } N = \text{Population } e = \text{level of precision (error)}$$

In this research the total population in this study was included: Teachers, Students, and Staff of the G.S.Gitaburaza and level of precision is 0.1 confidential intervals . The calculation of the sample size is as follows:

$$N = \frac{n}{1 + n(e)^2} \quad e = 0.1$$

$$N = \frac{652}{1 + 652(0.1)^2} = 86.7 \text{ that is to say that the researchers were met 87 respondents.}$$

The formula above shows the samples size of the study where include the populations who are in G.S.Gitaburaza.

Table 1: Sample distribution

Category of population	Total of respondents	Sample to select	Sample technique
Student senior one	N1= 243	$N1 = \frac{87 \times 243}{652} = 32$	Stratifies sampling was used
Student senior two	N2= 203	$N2 = \frac{87 \times 203}{652} = 27$	Stratifies sampling was used
Student senior three	N3=206	$N3 = \frac{87 \times 206}{652} = 28$	Stratifies sampling was used
Teachers	N4=15	15	Purposive sample was used
Staff	N5= 5	5	Purposive sample was used
Total	672	107	

Source: Primary Data May 2022

The table 1 illustrates the population and the sample size of the study where 107 respondents were selected from G.S.Gitaburaza.

3.5 Research instruments for data collection

The research instruments are measurement tools (for example, questionnaires) were designed to obtain data on a topic of interest from research subjects. The instruments were used to collect data from the questionnaires and review of documents.

3.5.1. Questionnaire

It was translate to use for questionnaire for all respondent because using questionnaire. In addition, the respondents feel free to answer without any pressure from anywhere, (Nachmias and Nachmias,, 1987). The questionnaires were made of open and closed ended question. In closed ended question, the respondent was respond in short and was limit number of ways such as eyes or no. On other hand open ended question brought the free responses from the

respondents using their own idea. They were give freedom to express their views as much as they could. All questionnaires were based on the research objectives. Research questions were written in English to facilitate every respondent to get the meaning of what was asked. Questionnaire was addressed to the student of G.S.Gitaburaza.

3.5.2. Interview guide

This is a mode of data collection commonly used in collecting information from people. A form of person-to-person interaction between a researcher and the interviewed. However it is a direct technique used to interview people individually or in groups in certain cases, thus enabling to point out observations and comments in a richer way than a survey or questionnaire.

According to *Grawitz (1979:310)* research interview is a procedure of scientific investigation using a verbal communication process in order to the set objective, which constitutes the collaboration of research or the rejection of a research hypothesis. In this research, researcher was separately use discussion procedure with the staff of G.S Kitaburaza.

3.6. Data processing

Normally data collected from respondents are in a raw form, which is not easy to interpret and analyze with the purpose of decision making. Data processing refers to the transformation of respondents' views into a meaningful text or information.

Therefore, there was a need of data processing before proper analysis to done and processing was consisted by editing, coding and tabulating.

3.6.1. Editing

The process of editing the data involved correcting errors that was crop up during the course of field research and in data collection. This was to ensure accuracy, completeness, consistency and uniformity of gathered information.

3.6.2. Coding

The main reason of why coding was used in this research, is to summarize the data by classifying the different responses into different levels for easy manipulation, and software such as Microsoft excel was used.

3.6.3. Tabulation

Tables make it possible the analyst to present a huge mass of data in a detailed orderly manner within minimum of space. Because of this, tabular presentation is the cornerstone of statistical reporting. Therefore, some findings were put into tables to make them understandable.

3.7. Ethical issues

In this research, all the ethical issues were considered. Let firstly mention the anonymity where there was no respondent who were asked to mention his/her name on the questionnaire. The data from the research was only used for the research purpose .As far as confidentiality was concern; the researchers had an introductory letter from KP administration to allow conducting the research from the field. The researchers presented it to the field where the data were collected. At the field while collecting the data; the researchers was conduct the research; this to say that the researchers were distributed the questionnaires to the respondents and it is wise to make sure that those whose was supposed to respond the questions were really the ones to respond to them.

3.8. Data analysis

After filling up questionnaire the collected data were analyzed, using percentages and results were recorded in the tables (tabulation method). This analysis was base on percentages that was obtained to show the relationship between the study variables. The information was summarizing according to the objectives of the study (Fraenkel, J.R et al, 1993). Documentation also is another method we used to collect data. This was done through reading some piece of papers containing official information the use of internet was also important.

3.9 Reliability and validity measures

validity

(Lehmann, 1979) Defines reliability as the consistency of a measure. The broad outcomes was the full confidence of the concerned parties such as, students, teachers and staff while validity refers to the degree to which a research was capable of achieving certain objectives. Thus, during this research we expected to use close-end questions whereby respondents were expect to choose one answer on the list and this was facilitate the researchers to analyze and take conclusion on the findings.

Reliability

As for reliability,(kathali,2004)said that, a measurement instrument is reliable if it provides consistent result ‘’accuracy or consistency of measurement .that is, the extent to which the result remain similar over different forms of the same instrument. Reliability is the level of internal consistency or stability of measuring device overtime. ’in this study ,reliability is on how the result/finding were consistent and stable.

SUMMARY OF THIRD CHAPTER

The aim of this chapter will be to demonstrate the procedures that were adopted to examine the Influence of student engagement on student academic performance of secondary schools, Case study: G.S.Gitaburaza (2019-2021). In achieving this, the research design together with data gathering, analysis and methodologies were discussed to explain whether there is a significant positive students engagement and student performance in sciences particularly in Biology, case study G.S Gitaburaza (2019-2021).

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRETATION OF FINDINGS

4.0. INTRODUCTION

This chapter deals with the presentation, analysis and interpretation of the data collected from the various categories of respondents in relation to the objectives of study. Simple statistical percentages were tabulated during the data analysis and interpretation, graphs and diagram were used to make easy the findings; some statistical tests were also used to test significance of findings and dependence of variables. The chapter starts with a brief introduction to the study and demographic information about the respondents and the area of study such as gender age of respondents.

4. 1.DATA PRESENTATIONAND ANALYSIS

4.1.1. Identification of the population (respondents)

The population of this research is made of, students, teachers and staff of G.S.Gitaburaza. Among them a sample size was determined as in the next point and sampling technique was applied for getting relevant information the number of all these is 672 population includes: staff, teachers, and student of G.S.Gitaburaza. The sample size is equal to sample size of the study where 107 respondents were selected from G.S.Gitaburaza. In such a case the information from the sample was estimated to the whole population. Identification of respondent was very important exercise in this study to enable the researcher to have a real picture of the studied population about the education level of the respondent and their gender. The profiles of the respondent are summarized in the table below:

Table 2: Education of the respondents

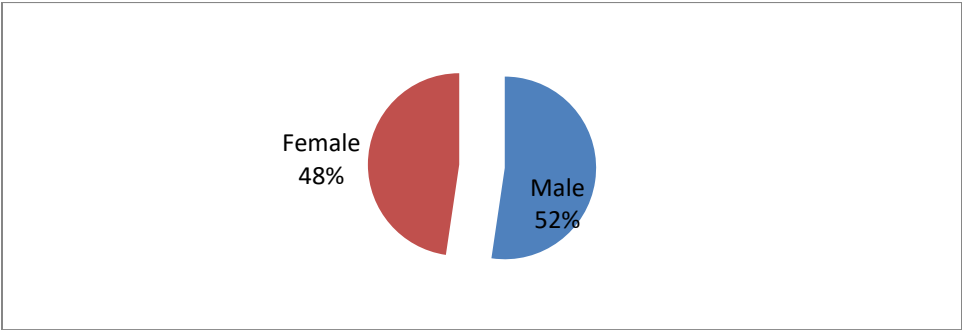
Educational level	Frequency	Percentage
O' level	87	81.3
A ₂ Degree	4	3.7
A ₁ Diploma of University	3	2.8
A ₀ Bachelors	13	12
Masters	0	0

Total	107	100%
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Source: Primary Data July 2022

From the table 3 it is clearly evident that the majority of the respondents where the majority of the respondents are in O’level with 81% of the respondents this means that the majority of the respondents were the students. The other equivalents from 12% were university diploma holders Bachelors. A₁ diploma of university with 3% of the respondents and 4% were in A2 certificate of the respondents. This mean that the participant of the research have the necessity for respondent well the questions of the research.

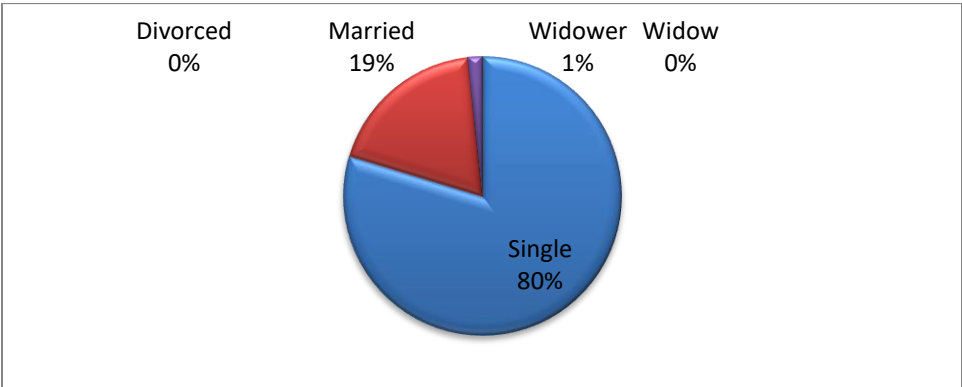
Figure 1: Gender of the respondents



Source: Primary Data July 2022

From the Figure 1 you can note that 52% were male while female were 48% in this research. This proves that the data collected were not the idea of only one gender. As gender difference may affect in participating in the study.

Figure 2: Marital status:



Source: Primary Data July 2022

The Figure 2 indicate the distribution of respondents in relation with their marital status. Among 107 respondents, the 80% from total respondents were single persons. The 19% of respondents were married people. The 0 or 0% of respondents is divorced people. The 1 or 1% of respondents is also the widow(er) people. The majority of our respondents are the single and married and the minority of divorce and widow.

Table 3: Age Of respondents

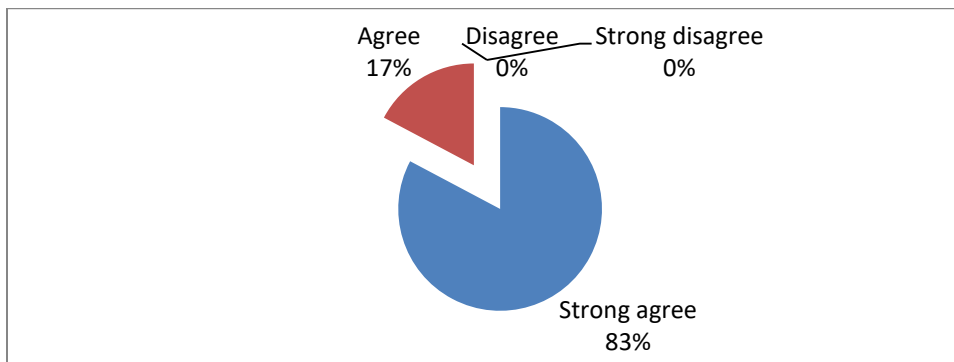
Interval of years	Frequency	percentage
Between 18-28 years old	87	81
Between 28 and 38 years old	15	14
Between 38 and 48 years	5	5
48 and above	0	0
Total	107	100%

Source: Primary Data July 2019

The table three describe the classification of the respondents where the majority of the respondents are Between 18-28 years old are represent 81% the between 28 and 38 years old with 14% of the respondents and of the all respondents and between 38-48 years old are 5% of the respondents.

4.1.2. Findings related to the topic of the study via it objective for student

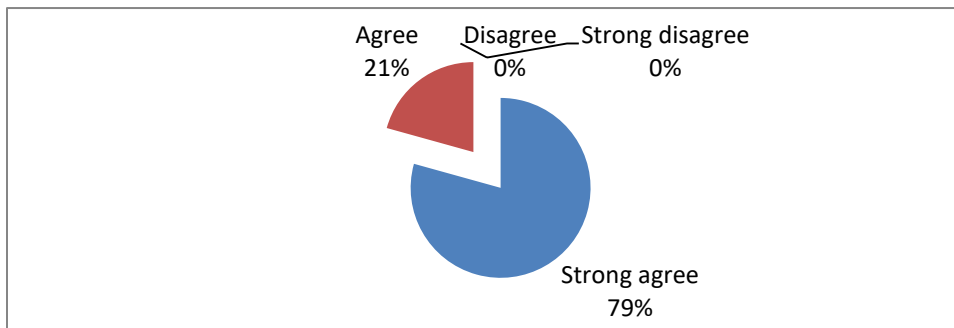
Figure 3: The students raise the hand in class



Source: Primary Data July 2022

The Figure numbered three describe the student raise the hand in class the following are the findings; strong agree with 83% of the respondent, agree with 17% of the respondent, disagree with 0% of the respondent, strong disagree with 0% of the respondent. This means that the most of the students raise the hand in class as the sign of good participation and engaged of the student in general.

Figure 4: The student participating in or small group discussions



Source: Primary Data July 2022

The Figure numbered four describe the student participating in or small group discussions the following are the findings; strong agree with % of the respondent, agree with % of the respondent, disagree with % of the respondent, strong disagree with % of the respondent. This means that the most of the student participate in or small group discussions in the classroom while learning.

Table 4: The student attend class every day

Area	No of respondents	Percentage
Strong agree	80	92
Agree	7	8
Disagree	0	0
Strong disagree	0	0
Total	87	100%

Source: Primary Data July 2022

The table numbered four describe the student attend class every day the following are the findings; strong agree with % of the respondent, agree with % of the respondent, disagree with % of the respondent, strong disagree with % of the respondent. This means that the student attend class every day.

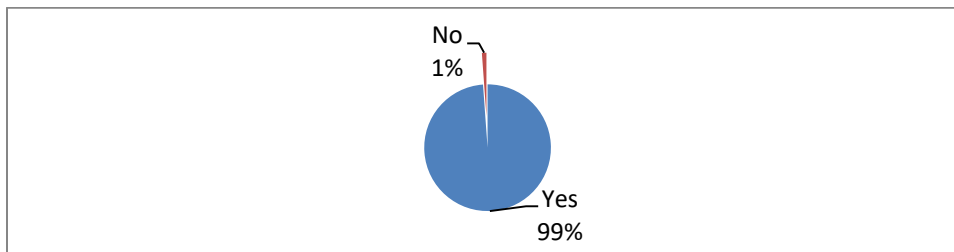
Table 5: The student are satisfied that you study here

Area	No of respondents	Percentage
Yes	87	100
No	0	0
Total	87	100%

Source: Primary Data July 2022

The table above numbered five describe the student are satisfied that you study here the following are the findings; yes with % of the respondents, no with % of the respondents. This means that the students are satisfied that their study in this school.

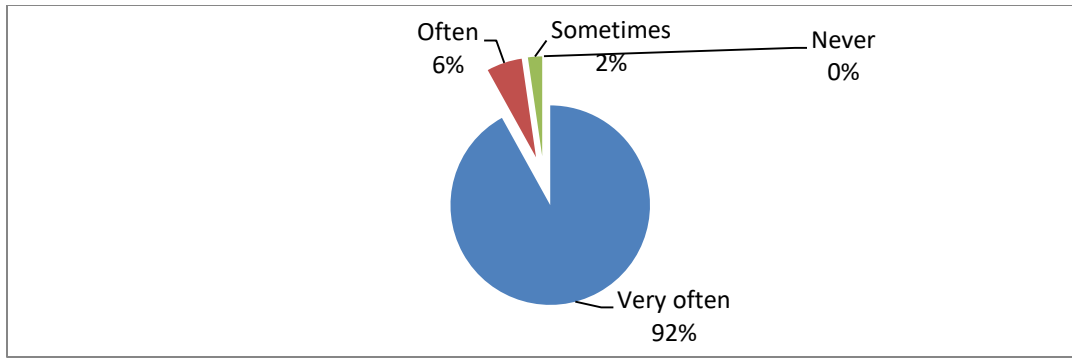
Figure 5: The student are communicate with the representatives of the school



Source: Primary Data July 2022

The Figure numbered five describe the student are communicate with the representatives of the school the following are the findings; Yes with 99% of the respondents, No with 1% of the respondents. This means that there are good communications among the student. This means that the students are communicate with the representatives of the school.

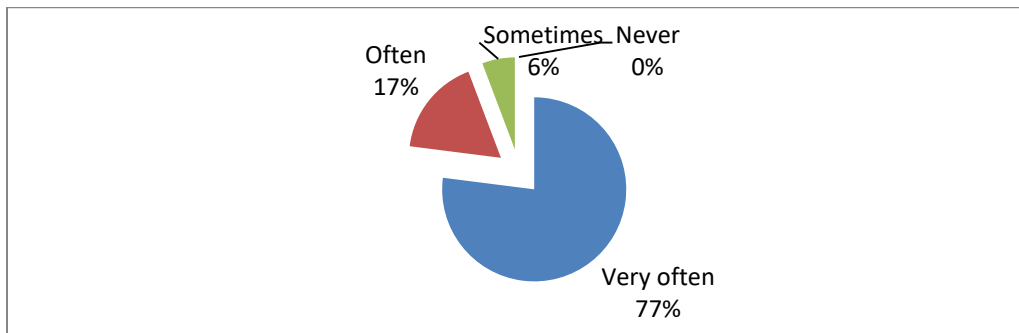
Figure 6: The worked with other students on the course projects and/or tasks



Source: Primary Data July 2022

The Figure numbered six describe the worked with other students on the course projects and/or tasks the findings includes; Very often with 92% of the respondents, Often with 6% of the respondents, Sometimes with 2% of the respondents, Never with 0% of the respondents. This means that most of the students worked with other students on the course projects and/or tasks.

Figure 7: Attended sports or any other extracurricular activities



Source: Primary Data July 2022

The Figure numbered seven describe the attended sports, museum, exhibit, play, dancing, or any other extracurricular activities the answer includes; Very often with 77% of the respondents, Often with 17% of the respondents, Sometimes with 6% of the respondents, Never with 0% of the respondents. This means that the most of the student attended sports, museum, exhibit, play, dancing, or any other extracurricular activities.

Table 6: The contributions of the students' engagement and student performance in sciences particularly in Biology

Area	No of respondents	Percentage
The study indicated that students were actively engaged in online teaching and learning if the instructors focused on	12	14%
Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities,	28	32%
Enriching students' educational experiences by increasing the level of academic performance	22	25%
Fostering a positive climate among students by maintaining a supportive classroom and family environment	10	12%
All above	15	17%
Total	87	100%

Source: Primary Data July 2022

The table above numbered six describe the contributions of the students' engagement and student performance in sciences particularly in Biology includes the followings: The study indicated that students were actively engaged in online teaching and learning if the instructors focused on with 14% of the respondents, Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities, with 32% of the respondents, Enriching students' educational experiences by increasing the level of academic performance with 25% of the respondents, Fostering a positive climate among students by maintaining a supportive classroom and family environment with 12% of the respondents, All above with 17% of the respondents. This means that there are the contributions of the students' engagement and student performance in sciences particularly in Biology like the Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities and Fostering a positive climate among students by maintaining a supportive classroom and family environment.

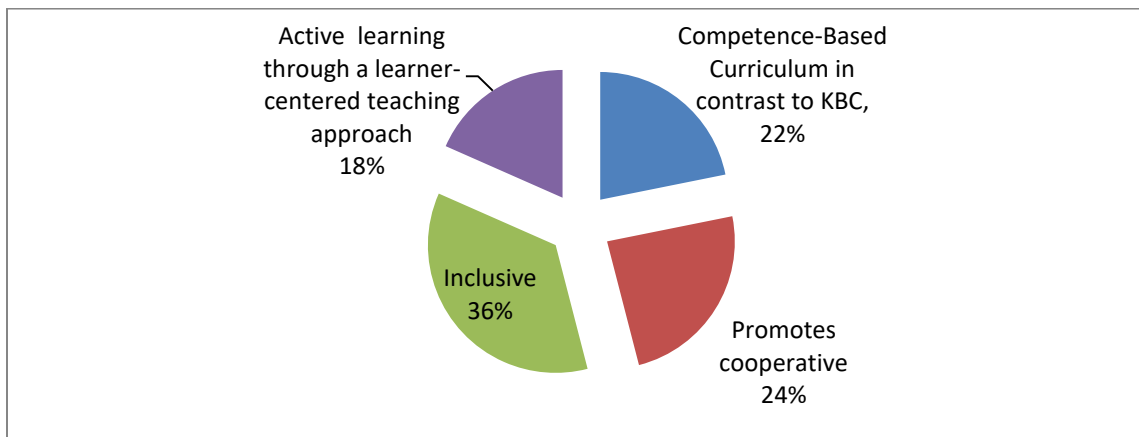
Table 7: The relationships between students engagement and student performance in sciences particularly in Biology

Area	No of respondents	Percentage
Strong agree	62	71
Agree	25	29
Disagree	0	0
Strong disagree	0	0
Total	87	100%

Source: Primary Data July 2022

The table numbered seven describe the relationships between students engagement and student performance in sciences particularly in Biology the following are the findings; strong agree with 71% of the respondent, agree with 29% of the respondent, disagree with 0% of the respondent, strong disagree with 0% of the respondent. This means that there are the relationships between students engagement and student performance in sciences particularly in Biology.

Figure 8: The factors influencing student performance in sciences particularly biology



Source: Primary Data July 2022

The Figure numbered eight describe the factors influencing student performance in sciences particularly biology includes the following Competence-Based Curriculum in contrast to KBC, with 22% of the respondents, promotes cooperative, with 24% of the respondents, inclusive, with 36% of the respondents and active learning through a learner-centered teaching approach with 18% of the respondents. This means that the most factors influencing student performance in sciences particularly biology are promotes cooperative, active learning through a learner-centered teaching approach and Competence-Based Curriculum in contrast to KBC.

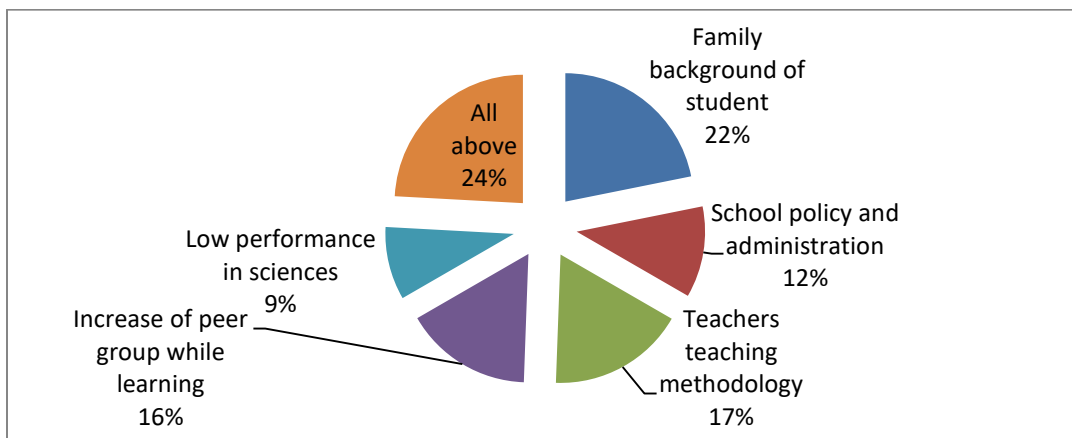
Table 8: The teacher is required to facilitate learning by involving students in learning activities

Area	No of respondents	Percentage
Promote the development of critical thinking and other twenty-first-century skills like problem-solving skills,	23	26
Communication and collaboration.	35	40
Students are encouraged to actively engage in learning activities	29	33
Total	87	100%

Source: Primary Data July 2022

The table numbered eight describe the teacher is required to facilitate learning by involving students in learning activities which shown by the Promote the development of critical thinking and other twenty-first-century skills like problem-solving skills, with 26% of the respondent, Communication and collaboration with 40% of the respondent, Students are encouraged to actively engage in learning activities with 33% of the respondent. This means that there is the facilitation on learning by involving students in learning activities.

Figure 9: The challenges faced by students' engagement and student performance in sciences particularly in Biology



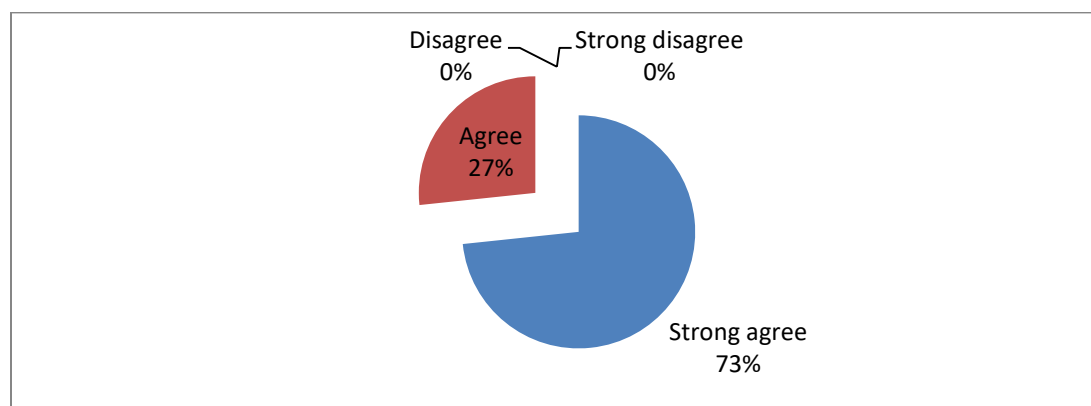
Source: Primary Data July 2022

The Figure numbered nine describe the challenge faced by students' engagement and student performance in sciences particularly in Biology the following are the findings: Family

background of student with 22% of the respondent, School policy and administration with 12% of the respondent, Teachers teaching methodology with 17% of the respondent, Increase of peer group while learning with 16% of the respondent, Low performance in sciences with 9% of the respondent, All above with 24% of the respondents. This means that there are the challenge faced by students' engagement and student performance in sciences particularly in Biology which includes; Family background of student, Teachers teaching methodology and low performance in sciences.

4.1.3. Findings related to the topic for teachers

Figure 10: The student of G.S.Gitaburaza are engaged while you are teaching



Source: Primary Data July 2022

The Figure numbered ten describe the student of G.S.Gitaburaza are engaged while you are teaching this means that the student of this school have replied strong agree with 73% of the respondents, agree with 27% of the respondents, disagree with 0% of the respondents. This means that student of G.S.Gitaburaza are engaged in studying sciences.

Table 9: Student of here explained course material to another students

Area	No of respondents	Percentage
Yes	15	100
No	0	0
Total	15	100%

Source: Primary Data July 2022

The table above numbered nine describe the student of here explained course material to another students most of the respondent respond with yes of 100% of the respondents, No with 0% of the respondents, which means that the student of here in this school used to teach each other as the sign of success among the students.

Table 10: the contributions of the students' engagement and student performance in sciences particularly in Biology

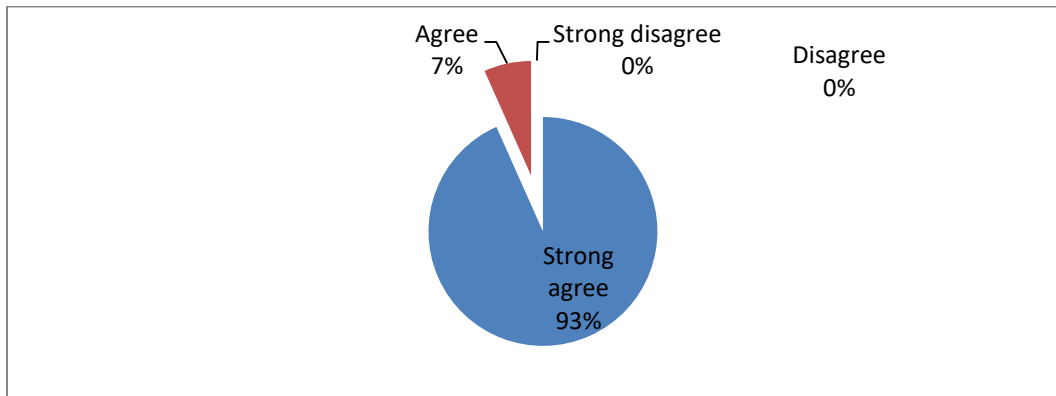
Area	No of respondents	Percentage
The study indicated that students were actively engaged in online teaching and learning if the instructors focused on	5	33.3
Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities,	2	13.3
Enriching students' educational experiences by increasing the level of academic performance	2	13.3
Fostering a positive climate among students by maintaining a supportive classroom and family environment	3	20
All above	4	26.6
Total	15	100%

Source: Primary Data July 2022

The table above numbered ten describe the contributions of the students' engagement and student performance in sciences particularly in Biology includes the following; the study indicated that students were actively engaged in online teaching and learning if the instructors focused on with 33.3% of the respondents, Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities, with 13.3% of the respondents, Enriching students' educational experiences by increasing the level of academic performance with 13.3% of the respondents, Fostering a positive climate among students by maintaining a supportive classroom and family environment with 20% of the respondents, All above with 26.6% of the respondents. This means that student engagement and student performance in sciences particularly in Biology depends on the initiating good

interaction, communication, and collaboration with students by involving themselves actively in the learning activities.

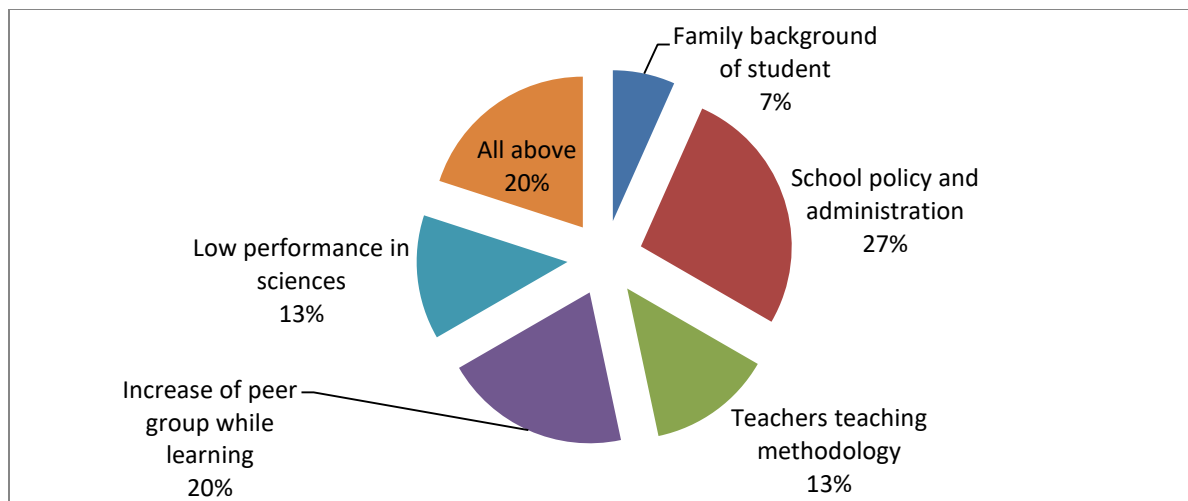
Figure 11: Describe the relationships between students engagement and student performance in sciences particularly in Biology



Source: Primary Data July 2022

The Figure numbered eleven describe the relationships between students engagement and student performance in sciences particularly in Biology where the most of the respondent respond with strong agree with 93% of the respondents, Agree with 7% of the respondents, Disagree with 0% of the respondents, Strong disagree with 0% of the respondents. This means that there is the relationships between students engagement and student performance in sciences particularly in Biology as confirmed by the most of the teachers respondent.

Figure 12: The challenge faced by students' engagement and student performance in sciences particularly in Biology



Source: Primary Data July 2022

The Figure numbered twelve describe the challenge faced by students' engagement and student performance in sciences particularly in Biology which include the following: Family background of student with 7% of the respondents, School policy and administration with 27% of the respondents, Teachers teaching methodology with 13% of the respondents, Increase of peer group while learning with 20% of the respondents, Low performance in sciences with 13% of the respondents, All above with 20% of the respondents this means that there are the challenge faced by students' engagement and student performance in sciences particularly in Biology like, Family background of student, Teachers teaching methodology and Increase of peer group while learning.

4.1.4. Interview for staff of G.S Gitaburaza

Interview has been given to teachers and staff of G.S Gitaburaza. The questions asked were open questions. The findings are the following: when asked where the teachers living most of them confirm that some teachers live near of school and other are come from far of school so some are within school compound or outside school compound. When asked to plan in provision of houses for the teachers most of them confirm that there budget in this year to do these activities. When asked if the student of G.S.Gitaburaza are engaged while they are studying the staff replied that are engaged on the 97% of the student in class, even though there is a still a things to achieve but before the student engagement were down. How is the student attendance in this school most of the staff confirm that there is attendance improvement toward

the student at G.S.Gitaburaza. As school leader the contributions of the students' engagement and student performance in Biology includes; teachers' motivation, student well performance, achieve well school performance in the areas school located. The challenges faced by students' engagement and student performance in Biology in this school, includes; Low performance in sciences. The leader thinks that teacher play a role in students' engagement in this school because when teachers are engaged and motivate the students the student also engaged. What can the school do to make more engaged in learning and performance of student the leader replied that school is doing everything possible for keeping the student engaged and also converse with parents for any clarification and explain the importance of student engagement.

Table 11: Biology National examination Results at G.S.Gitaburaza in 2019, 2020, 2021 for O'level

SUMMARY 2019							
Grade	A	B	C	D	E	F	Total
N ^o of student	1	2	8	14	19	16	60
SUMMARY 2020							
Grade	A	B	C	D	E	F	Total
N ^o of student	0	7	4	9	15	20	55
SUMMARY 2021							
Grade	A	B	C	D	E	F	Total
N ^o of student	3	10	7	9	15	20	64

Source: Secondary data from G.S.Gitaburaza, 2019, 2020 and 2021

The table number eleven shows well the chemistry performance in National exams for advanced level where the most of the student are in the class F and E which means low performance in biology and the medium number are in the category D, C, B as medium performance at G.S.Gitaburaza. The researchers are confident that there is a low performance of Biology at G.S.Gitaburaza.

4.2. DISCUSSIONS OF FINDINGS

On the table 12, findings indicated that the contributions of the students' engagement and student performance in sciences particularly in Biology includes the followings: The study indicated that students were actively engaged in online teaching and learning if the instructors focused on with 14% of the respondents, Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities, with 32% of the respondents, Enriching students' educational experiences by increasing the level of academic performance with 25% of the respondents, Fostering a positive climate among students by maintaining a supportive classroom and family environment with 12% of the respondents, All above with 17% of the respondents. This means that there are the contributions of the students' engagement and student performance in sciences particularly in Biology like the Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities and Fostering a positive climate among students by maintaining a supportive classroom and family environment. According to (Richardson and Swan, 2003) concluded that students engagement with high overall perceptions of social presence scored high in terms of perceived learning and perceived satisfaction with the instructor through the performance in given courses. They suggested that it is important to focus on the interaction that takes place between students engagement and the performance of student. Thus, active learning and student engagement is imperative for increased student learning and ultimately retention.

And also, on the table 13, finding indicates that ,the relationships between students engagement and student performance in sciences particularly in Biology the following are the findings; strong agree with 71% of the respondent, agree with 29% of the respondent, disagree with 0% of the respondent, strong disagree with 0% of the respondent. This means that there are the relationships between students engagement and student performance in sciences particularly in Biology where the most of the respondent respond with strong agree of 100% of students. These findings found support from the following studies: Urquijo and Extremera (2017), concluded that the more engaged students demonstrated higher academic achievement; Casuso-Holgado, et. al, (2013) hypothesized that the more engaged students would be more likely to have the best academic achievement; Gunuc (2014), where he found that cognitive, behavioral and emotional engagements predicted academic achievement and explained it with a rate of 10%; Roberts and McNeeze, (2007) discovered that as levels of student involvement/engagement increases, so

does student retention in higher education; and Sbrocco (2009) where he was concluded that the student academic engagement can predict student academic achievement and added that the more engaged students demonstrated higher academic achievement.

Without forget that ,on the table 16 finding indicates the challenge faced by students' engagement and student performance in sciences particularly in Biology include:Family background of student with 22% of the respondent, School policy and administration with 12% of the respondent, Teachers teaching methodology with 17% of the respondent, Increase of peer group while learning with 16% of the respondent, Low performance in sciences with 9% of the respondent, All above with 24% of the respondents. This means that there are the challenge faced by students' engagement and student performance in sciences particularly in Biology which includes; Family background of student, Teachers teaching methodology and low performance in sciences.

SUMMARY OF FINDINGS

In immediate, the contribution of the students' engagement and student performance in Biology the findings from the student indicate that Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities and Fostering a positive climate among students by maintaining a supportive classroom and family environment are the main contribution of the student engagement. The findings from the teachers also indicate that student engagement and student performance in sciences particularly in Biology depends on the initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities.

Not only that but also, the relationship between students engagement and student performance in Biology, the findings from the student indicate that there are the relationships between students engagement and student performance in sciences particularly in Biology where the most of the respondent respond with strong agree of 100% of students. The findings also from the teachers indicate that there is the relationships between students engagement and student performance in sciences particularly in Biology as confirmed by the most of the teachers respondent with 100% of teacher strong agree. Thus both confirm that there are the relationships between students engagement and student performance in sciences particularly in Biology.

After that I recognize, on the challenges faced by student's engagement and student performance in Biology, the findings from students indicate that the challenge faced by students' engagement and student performance in sciences particularly in Biology which includes; Family background of student, Teachers teaching methodology and low performance in sciences. The findings from the teachers also indicate that challenge faced by students' engagement and student performance in sciences particularly in Biology like, Family background of student, Teachers teaching methodology and Increase of success.

CHAPTER FIVE: GENERAL CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter seeks to draw a conclusion and offer some recommendations to the findings of the study in relation to the objectives. The brief recommendations were guide decision makers, implementers and beneficiaries to understand the importance of the field work and student motivation.

5.1 GENERAL CONCLUSION

Although teachers, students and the staff typically recognize the value of group work for student engagement in classroom learning it still remains rather uncommon. Even though most of the teachers still choose lecturing as their primary instructional strategy, it is now time for a new way of conceiving large-class learning through group which boost the learners engagement. Group learning can be used effectively within adult education classes. This teaching strategy can be used to enhance achievement and socialization among students and contribute to improved attitudes towards learning and working with others, including a better understanding of students from diverse cultural backgrounds. Moreover it is involving and active as it lends variety to learning, encourages participation and leads to active thinking among students. It seems evident that group based learning can be used very effectively in whole courses for motivating the student engagement. Student evaluations of their group learning strongly indicate that they like it. In order to enhance students' performance and achievement secondary teachers should model different teaching strategies.

Group learning calls for the construction of a better educational experience for all students and for a better environment in which teachers can be professionals. There is a need for a change of classroom cultures to support the outcomes of schooling that are congruent with the societal needs of the 21st century and a change in the preparation of all teachers to understand, internalize and implement communication principles while interacting with students. It is necessary to help the students change their behavior from externally controlled to responsible and internally motivated. From a pedagogical standpoint, this study provides teachers with a better understanding of the communicative moves that effectively involve students in classroom activities and successfully transfer responsibility from the teacher to the learner.

Thus the findings indicated that there are the relationships between students engagement and student performance in Biology, case study G.S Gitaburaza (2019-2021).

5.2 RECOMMENDATIONS

This study recommends three aspects based on study findings: Such recommendations are based on policy, practices and further research. In order to improve student's academic performance, it was suggested that there should be more efforts to build new secondary schools in the area of study to match with high population growth.

Based on the foregoing findings of the study, the following recommendations were offered:

1. It is recommended that cooperative learning method should be applied during instruction on selected topics suited to those students who belong to heterogeneous groups for make student well engaged.
2. School Administrators should give attention on remediation programs and planning on instructional intervention to prevent the difficulties of students on cooperative learning method.
3. Teacher should be invigilator during group work by supervising the working progress of the learner's engagement.
4. Overpopulated classroom is the challenges hinder the student engagement and group learning and the government should increase the class.

5.3. SUGGESTION FOR FURTHER RESEARCH

After doing a research there are also the areas for the suggestion for further research

- 1) Contribution of Overpopulated classroom and the performance of student in secondary school
- 2) The role of learner centered method and the students' performance in chemistry
- 3) analysis of the challenges faced when implementing CBC and the student achievement in secondary school

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APPENDIX

QUESTIONNAIRES

Dear Respondent,

We are the undergraduate students conducting a research in partial fulfillment for the degree of Bachelor degree with honors in Education with option Biology and chemistry at Kibogora Polytechnic.

Our research is entitled “*Analyzing the relationship between students engagement and student performance in Biology, case study G.S Gitaburaza (2019-2021).*’ With this regard we would like to benefit from your contribution and humbly request to fill the questionnaire as indicated. We ensure that any information you provide was highly valued and strictly treated confidentially.

Yours truly,

Name: UZABAKIRIHO Aimable Reg. No.: 2100786 and MUCYO Fabiola Reg. No: 2100619,
the students at Kibogora Polytechnic

Signature:

I. Questions related to personal identification of the respondents

1. What are the educational levels of respondent?

- a) Primary education
- b) O’ level
- c) A₂’ level
- d) A₁ Diploma of University
- e) A₀ Degree
- f) No formal education

2. What are the gender of respondent

- a) Male
- b) Female

3. What are the marital statuses of the respondents?

- a) Single
- b) Married
- c) Divorced
- d) Widower
- e) Widow

4. What are the age Of respondents

- a) Between 18-28 years old
- b) Between 28 and 38 years old
- c) Between 38 and 48 years
- d) 48 and above

II. Questions related to the topic for student

Asked questions in class or contributed to class discussion.

1. Do you raising your hand in class?

- a) Strong agree
- b) Agree
- c) Disagree
- d) Strong disagree

2. Do you participating in or small group discussions?

- a) Strong agree
- b) Agree
- c) Disagree
- d) Strong disagree

3. Do you coming to class every day?

- a) Strong agree
- b) Agree
- c) Disagree
- d) Strong disagree

4. Are they satisfied that you study here?

- a) Yes
- b) No

5. Do they communicate with the representatives of the school?

- a) Yes
- b) No

3. Do you worked with other students on the course projects and/or tasks

- a) Very often
- b) Often
- c) Sometimes
- d) Never

4. Attended sports, museum, exhibit, play, dancing, or any other extracurricular activities

- a) Very often
- b) Often
- c) Sometimes
- d) Never

5. What are the contributions of the students' engagement and student performance in sciences particularly in Biology?

- a) The study indicated that students were actively engaged in online teaching and learning if the instructors focused on
- b) Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities,
- c) Enriching students' educational experiences by increasing the level of academic performance
- d) Fostering a positive climate among students by maintaining a supportive classroom and family environment
- e) All above

6. Are there the relationships between students engagement and student performance in sciences particularly in Biology?

- e) Strong agree

- f) Agree
 - g) Disagree
 - h) Strong disagree
7. What are the factors influencing student performance in sciences particularly biology
- a) Competence-Based Curriculum in contrast to KBC,
 - b) promotes cooperative,
 - c) inclusive,
 - d) and active learning through a learner-centered teaching approach
 - e) The teacher is required to facilitate learning by involving students in learning activities
 - f) Promote the development of critical thinking and other twenty-first-century skills like problem-solving skills,
 - g) Communication and collaboration.
 - h) Students are encouraged to actively engage in learning activities
8. Outline the challenge faced by students' engagement and student performance in sciences particularly in Biology?
- a) Family background of student
 - b) School policy and administration
 - c) Teachers teaching methodology
 - d) Increase of peer group while learning
 - e) Low performance in sciences
 - f) All above

THANKS FOR YOUR COOPERATION

Questions related to the topic for teachers

1. The student of G.S.Gitaburaza are engaged while you are teaching
 - a) Strong agree
 - b) Agree
 - c) Disagree
2. Student of here explained course material to another students
 - a) Yes
 - b) No
3. What are the contributions of the students' engagement and student performance in sciences particularly in Biology?
 - f) The study indicated that students were actively engaged in online teaching and learning if the instructors focused on
 - g) Initiating good interaction, communication, and collaboration with students by involving themselves actively in the learning activities,
 - h) Enriching students' educational experiences by increasing the level of academic performance
 - i) Fostering a positive climate among students by maintaining a supportive classroom and family environment
 - j) All above
4. Can you confirm that there are the relationships between students engagement and student performance in sciences particularly in Biology.
 - a) Strong agree
 - b) Agree
 - c) Disagree
 - d) Strong disagree
5. Outline the challenge faced by students' engagement and student performance in sciences particularly in Biology?
 - g) Family background of student
 - h) School policy and administration

- i) Teachers teaching methodology
- j) Increase of peer group while learning
- k) Low performance in sciences
- l) All above

THANKS FOR YOUR COOPERATION

Interview for staff of G.S Gitaburaza

1. The student of G.S.Gitaburaza are engaged while they are studying

.....
.....

2. How is the student attendance in this school

.....
.....

3. As school leader outline the contributions of the students' engagement and student performance in Biology?

.....
.....

4. Outline the challenge faced by students' engagement and student performance in Biology in this school?

.....
.....

5. As leader do you think that teacher play a role in students' engagement in this school

.....
.....

6. What can the school do to make more engaged in learning and performance of student?

.....
.....

7. What can you do as a part of the school's population do to make the student more engaging?

.....
.....

THANKS FOR YOUR COOPERATION

Research letter



KIBOGORA POLYTECHNIC



Email: info@kibop.ac.rw
Phone: +250788742655

RESEARCH LETTER

Date: 23.02.2021

To whom it may concern:

We write this letter to humbly request you to allow:

Ms/Mr. MUCYI Fabrice
Ms/Mr. UBABAKIRYU Aimable

REG N°: 2100619
REG N°: 2100786

to conduct research in your organization/institution/territorial entity.

The above mentioned are bonafide students of Kibogora Polytechnic pursuing Bachelor's degree in Education with Biology and Chemistry.

These Candidates are currently conducting research entitled:

Analyzing the relationship between students' engagement and students' performance in biology Case of G.S. Gitaburaza, Gitaburaza District

We are convinced that your organization/institution/territorial entity will constitute a valuable source of information pertaining to their research. The purpose of this letter is to humbly request you to avail them with the pertinent information they may need. We pledge to ensure that all provided information will be used in the strict academic purpose.

Any assistance rendered to the candidates will be highly appreciated.

Yours,



Dr MUNYENGABE Sylvestre, PhD
Ag Deputy Vice Chancellor
Kibogora Polytechnic

Seen by Headteacher
of GP Gitaburaza

TWAGIRA Edouard

