

**FACTORS AFFECTING PERFORMANCE IN BIOLOGY AT TACHASIS GIRLS
SECONDARY SCHOOL, UASIN-GISHU COUNTY,**

KENYA

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DECLARATION

This research project is my original work and has not been presented for a degree or any title in any other university; and shall not be reproduced in part or full, or any format without prior written permission from the author and/or University of Eldoret.

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DEDICATION

I would like to dedicate this research project to my parent Sarah Wanjiru for her overwhelming effort monetarily, spiritually and socially. My special gratitude goes to Dr. Dinah Samikwo my supervisor for her continued guidance towards this project.

ABSTRACT

The purpose of this study was to establish factors associated with poor academic performance amongst learners in biology subject in Tachasis girl's secondary school in Uasin Gishu County, Kenya. This research was guided by four research objectives. Namely: To establish the attitude of learners towards biology subject and how it affects its performance, to determine the attitude of biology teachers towards learners, to establish methodology employed in teaching and to determine the resources employed by the school in delivering biology content. The study employed diagnostic research design where the inception of issue at hand was addressed then diagnosis of the underlying problem lastly strategies to solve the problem are searched. Purposive sampling was used in selecting teachers of biology and data was drawn from them for the study. A sample of 163 students were selected for the study using stratified random sampling technique. The researcher used various methods to obtain data including use of questionnaire, analysis of past results and interviews. The results showed that there is laxity among learners in terms of performing exemplary well in biology performance. The study showed that learners prefer humanities and tend to participate well in classes compared to biology. The study recommends that collaborative teaching experience should be put in place to improve learning methodology. Another recommendation is that the school system should put in place activities such as internal symposiums, biology contests and topical review of questions organized wholly for junior classes that is form 1 and form 2. The results of this study are of benefit to Tachasis girl's secondary school.

Table of Contents

DECLARATION.....	ii
DEDICATION.....	iii
ABSTRACT	iv
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.1 Introduction to Chapter One	1
1.2 Background of the Study	1
1.2 Statement of the Problem	2
1.3 Purpose of the Study.....	3
1.4 Objectives of the Study.....	4
1.4.1 General objective of the study	4
1.4.2 Specific Objective.....	4
1.4.3 Research Questions.....	4
1.5 Scope of the Study	4
1.6 Justification of the Study	5
1.7 Limitation of the study	5
1.8 Assumptions of the study	5
1.10 Significance of the study	6
1.11 Theoretical framework	6
CHAPTER TWO.....	8
LITERATURE REVIEW	8
2.1 Introduction	8
2.2 Learners attitude towards biology and how it affects the performance in the subject	8
2.3 Teacher’s attitude towards biology students.	9
2.4 Resources for teaching and learning of biology	10
2.5 Models/ Approaches for teaching and learning biology.....	10
2.6 Conceptual framework	11
2.6 Chapter Summary	12
CHAPTER THREE.....	13

RESEARCH METHODOLOGY	13
3.1 Introduction	13
3.2 Research Design	13
3.3 Study Area	13
3.3 Target Population	14
3.4 Sample Size and Sampling Technique	15
3.5 Data Collection Instrument.....	15
3.6 Pilot study	16
3.7 Data analysis.....	16
3.8 Ethical considerations.....	16
CHAPTER FOUR	18
DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION	18
4.1 Introduction	18
4.2 Demographic analysis of the respondents.	18
4.3 Students attitude towards biology and how it influences its performance	20
4.4 Teacher’s negative attitude towards biology students.....	23
4.5 Teaching methods used by teachers of biology.....	24
4.6 Teachers have adequate resources to facilitate teaching and learning process	27
4.7 Interviews with the principal and deputy principal.	27
CHAPTER FIVE	29
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMNDATION	29
5.1 Introduction	29
5.2 Summary.....	29
5.3 Conclusions	29
5.4 Recommendations	30
5.5 Areas for Further Research.....	30
References	31
APPENDICES	32
Appendix 1: Questionnaire for biology teachers.....	32
Appendix II: Questionnaire for students	33
Appendix III: Questionnaire for school principal and deputy principal.....	34

Appendix III:Map of the study area 35

CHAPTER ONE

INTRODUCTION

1.1 Introduction to Chapter One

This chapter presents the introduction of the study which states the objectives and research questions that guided this study.

1.2 Background of the Study

Biology is the study of living things, with branches focusing on animals (zoology) and plants (botany). It provides understanding of oneself and the surrounding environment. Knowledge gained from biology is applicable in various fields such as medicine, nursing, pharmacy, dentistry, veterinary, and agriculture. It is widely recognized as a fundamental subject for scientific, technological, and economic advancement. However, despite its importance and prerequisite status for many subjects, there are concerns about poor achievement and lack of interest in biology, particularly in secondary schools and developing countries.

Biology plays a crucial role in mental discipline and logical reasoning, as noted by Ngetich , Wambui , & Kosgei (2018). Despite efforts to improve biology performance, underlying reasons for students' underperformance remain unresolved. Changes in the Kenyan education system, from 7-4-2-3 to 8-4-4, aimed to develop learners and create self-reliant individuals, but implementation without considering available resources and facilities posed challenges (Ngetich , Wambui , & Kosgei , 2018).

Facilities and resources, particularly biology laboratories, significantly impact biology performance. Despite syllabus revisions (KIE, 2017), concerns persist as lower grades continue to be a recurring trend in national examinations (Wachira, 2018). Factors contributing to poor biology performance include attitudes of students and teachers towards the subject, cultural

influences, and the availability of facilities and equipment. Table 1.1 demonstrates the consistent underperformance in biology in national examinations.

Table 1.1 performance in Biology in KCSE (2014-2017)

Year	Candidature	Mean mark	Grade
2018	211,305	33.10	D-
2019	280,420	34.61	D-
2020	287,763	39.01	D-
2021	290,431	37.63	D-
2022	270,641	36.28	D-

Source KNEC 2023

From the table biology performance has been low with a mean grade of D-, this becomes a challenge to the country towards achieving its goals of scientific and technological development.

In Uasin Gishu County the situation is similar.

1.2 Statement of the Problem

Biology is a core subject in secondary school curricular, but many learners do not prioritize it. The perception that biology is complex creates fear and phobia among students. Poor performance in biology can have severe consequences, including dropping out of school or achieving low grades, leading to emotional and psychological issues. In the long run, it can also

limit employment opportunities in Biology related careers such as Biotechnology. From 2013 to 2017, Uasin Gishu county's performance in biology has been consistently lower compared to other counties, as shown in Table 1.2.

Table 1.2 KCSE Biology performance in Uasin Gishu County (2013-2017)

Year	A	B	C	D	Entry	Mean score	Grade
2018	56	152	256	1088	2005	3.17	D
2019	58	160	219	1221	1820	3.01	D
2020	53	230	251	1159	1818	3.03	D
2021	87	252	301	1294	2620	3.21	D
2022	59	193	342	1204	2130	2.72	D-
Total	313	987	1369	5966	10393	15.68	D

Source: SCDE, 2023

From the results, the distribution has a long tail since a lot of students secured a mean grade of D, thus pulling the mean to the right side. This study therefore seeks to establish the causes of poor academic performance of biology in secondary schools in Tachasis secondary school.

1.3 Purpose of the Study

The purpose of the study is to establish the factors influencing poor academic performance in biology in Tachasis secondary school in Uasin Gishu County.

1.4 Objectives of the Study

1.4.1 General objective of the study

The main objective of the study is to establish factors associated with poor performance in biology in Tachasis Girls secondary school in Uasin Gishu County, Kenya.

1.4.2 Specific Objective

1. To determine the effect of attitude of learners towards biology on their performance in the subject.
2. To establish the attitude of teachers towards biology students and how it influences the performance in the subject.
3. To evaluate teaching methods used by teachers of biology in Tachasis girls secondary school.
4. To determine the resources employed in teaching and learning process.

1.4.3 Research Questions

1. What is the attitude of students towards biology in Tachasis girl's secondary school?
2. What is the attitude of biology teachers towards learners in Tachasis secondary school?
3. What is the methodology incorporated in teaching biology subject in Tachasis secondary school?
4. Does Tachasis secondary school have resources for effective teaching of biology?

1.5 Scope of the Study

Tachasis Girls Secondary school is a public mixed boarding secondary school, located near Moiben market, Moiben constituency in Uasin Gishu County, Kenya. It was started in the year 2007 through the efforts of the community with a population of 20 learners currently the population is 300 learners. The respondents for this study are learners, biology teachers, students and school principal.

1.6 Justification of the Study

Despite various effort that have been put in place by the Kenyan government which include SMASSE, TPD AND TPAD meant to improve teacher's skills in content delivery aptitude learners still perform poorly in biology subject.

1.7 Limitation of the study

During the study, several challenges were faced, which were beyond the researcher's control but could impact the study's results. One limitation was that some respondents had a negative attitude towards participating, fearing potential consequences and victimization. This led to their reluctance in freely sharing information. Additionally, the study focused on emotional and cognitive aspects but did not encompass social and value expressions. To address this limitation, the researcher assured learners of complete anonymity throughout the exercise, aiming to create a safe and secure environment for their participation.

1.8 Assumptions of the study

The study was guided by the following assumptions.

- a. All teachers were trained and had good mastery of the content.
- b. Students had similar learning backgrounds in primary schools and any difference in learning was as a result of classroom experience in high school.
- c. The school in question followed biology curriculum provided by KICD.
- d. Respondents gave true and accurate responses in the data collection of instruments.

1.9 Significance of the study

Emmaline Soken (2018) argues that no matter how experienced you are, and how diverse you are socially enriched there are things you don't know and through research the unknown is unlocked. It lets one explore the world from a different perspective and fuels a deeper understanding. The findings of this study are important in a number of ways; the study and recommendations could assist teachers of biology in secondary schools in Kenya to effectively teach using best methods and approach which will result to improved performance in biology in KCSE. This study will be made available for use by future researchers so as to identify research gaps and possible research areas.

1.10 Theoretical framework

Human beings have a tendency to attribute their success or failure to certain factors. This study is guided by attribution theory, as proposed by Bernard Weiner (1979). According to this theory, a person's motivation to attempt a task is influenced by their confidence in achieving a positive outcome. If individuals believe they will be unsuccessful, they are less likely to try, and even if they do, their effort may be compromised.

Attribution theory suggests that a person's attributions for success or failure determine the level of effort they will exert in a task. This theory is particularly relevant in understanding future motivations, as affective reactions to success or failure can influence a learner's perception. For example, a learner who fails may attribute it to lack of preparation. The way individuals explain, justify, or make excuses for themselves or others can significantly impact their motivation to perform a task.

In the context of this study, the researchers found that attribution theory is applicable in explaining the reasons for biology failure among learners. Those who fail biology may attribute their failure to stable factors, such as the perceived difficulty of the subject, leading them to anticipate future failures even if given another opportunity. Additionally, failure in biology may diminish self-esteem, especially when learners attribute it to uncontrollable factors like lack of ability. This demotivates them from working hard or seeking help from others. Teachers may sympathize with such learners, reinforcing their belief that failure is due to uncontrollable causes and further reducing their effort in the subject.

Several factors contribute to failure in biology, including a shortage of staff, negative learner attitudes towards the subject, biology phobia, insufficient teaching and learning resources, and inexperienced teachers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks vividly into other people's studies which are related to the study. It attempts to review different studies which have been undertaken on causes of poor academic performance in biology subject. The literature reviewed were sourced from books, journals,

2.2 Learners attitude towards biology and how it affects the performance in the subject

Many scholars agree that biology is viewed negatively, with the majority of secondary school students finding it the most difficult, abstract, deadly, and boring subject. Armstrong & Abuseji (2019) identifies several factors that contribute to bio phobia, including teachers' methodology, biology knowledge, assessment methods, and the nature of the discipline itself.

Teaching experience also plays a role in poor academic performance in secondary-level biology. Research indicates that unqualified teachers lack the necessary experience and skills to effectively instruct students in biology. Armstrong & Abuseji (2019) study highlights that teachers specializing in the subject they teach or having 26 to 30 years of teaching experience positively influence student performance. Adeyani & Abdulkafi,(2020) study also emphasizes the significance of teaching experience in students' learning outcomes. Thus, a lack of relevant teaching experience may negatively impact students' performance in biology.

Many Americans consider biology a difficult subject. Some individuals perceive the notion of biology's difficulty as a challenge, feeling satisfaction and motivation when successfully solving biology problems. Conversely, failure leads to low self-esteem (Baldacchino, G., & Farrugia, C. J.,2022).

2.3 Teacher's attitude towards biology students.

Numerous studies indicate biology's negative perception as a difficult, masculine subject. Armstrong & Abuseji (2019) highlights its association with solitary work, memory requirements, and clever individuals, which affects academic performance. Pupils lack external encouragement, reinforcing their negative attitude. "Bio phobia" contributes to poor performance, viewed as difficult, abstract, deadly, and boring. Teaching experience impacts secondary-level biology performance (Baldacchino, G., & Farrugia, C. J.,2022).

Armstrong & Abuseji (2019) cites methodology, knowledge, and assessment as contributing factors. Students' and teachers' attitudes, methods, environment, stereotypes, and parental factors influence biology attitudes. Positive teacher attitudes increase interest and understanding. Competency, feedback, and discovery methods improve learning (Baldacchino, G., & Farrugia, C. J.,2022).

Biology involves struggle, problem-solving, and patterns. Prerequisite knowledge and a growth mindset are crucial. Implementing standards requires rigor and real-life application. Teachers' content knowledge and practices must change, emphasizing effective strategies. Encouraging professional development fosters effective teaching Jacqueline (Wanda, & Beryl,2020).

2.4 Resources for teaching and learning of biology

Providing adequate resources is essential for effective biology education. These resources can include well-equipped laboratories, textbooks, teaching aids, computers, time, and human resources(Wanda, & Beryl,2020).

Baldacchino & Farrugia (2022) emphasize that the quality of education is improved not only by making physical resources available but also by how teachers and students utilize them. Teachers should create a supportive learning environment and guide learners in utilizing the resources effectively.

Ngetich , Wambui , & Kosgei (2018) highlight that the Kenyan education syllabus includes topics that aim to develop students' problem-solving abilities. They also note that resources with visual aids can have a positive impact on learners. It is important to provide students with sufficient learning materials and time to understand and develop a genuine interest in biology concepts (Baldacchino, G., & Farrugia, C. J.,2022).

2.5 Models/ Approaches for teaching and learning biology.

Teaching approaches refer to various methods and actions used to achieve specific goals in education (Dean, 2022). These approaches can range from teacher-centered (expository approach) to learner-centered (discovery method) (Wanda, & Beryl,2020).

The way a lesson is presented is crucial for the learners' understanding of the concept. Presenting the lesson from a familiar context to an unfamiliar one enhances learner engagement compared to a lesson without prerequisite knowledge. The organization of the lesson by the teacher can impact students' attention and concentration levels (Baldacchino, G., & Farrugia, C. J.,2022).

Jacqueline,Wanda, & Beryl,(2020) highlighted the importance of applying social justice instructional methods and culturally appropriate approaches to promote meaningful and long-lasting learning and skill acquisition.

2.6 Conceptual framework

This is a graphical representation of the dependent, independent, and intervening variables. Biology performance is influenced by activities that take place in the classroom. This could include students' attitudes toward the subject, educational methods, and the teacher-student interaction. Intervening variables include the teacher-student connection as well as guidance and counselling. All of these elements interact to produce performance in biology.

Independent Variables

- Attitude of learners towards biology on their performance in the subject.
- Attitude of teachers towards biology students and how it influences the performance in the subject.
- Teaching methods used by teachers of biology in Tachasis girls secondary school.
- Resources employed in teaching and learning

Dependent Variable

Factors associated with poor performance in biology in Tachasis Girls secondary school in Uasin Gishu County, Kenya

Figure 1:Conceptual framework

2.6 Chapter Summary

This chapter contains the empirical review of the study objectives. The study objectives are learners' attitude towards biology and how it affects performance, teachers' attitude towards biology students, resources for teaching and learning of biology and the approaches for teaching and learning biology. The studies included in the literature review are from 2018-2022.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter is mainly presents the study area, the study design, population and sample, data sources, the data type and method used in data collection methods and analysis process for the objectives of the study to be achieved

3.2 Research Design

Diagnostic research design is used for this study. It entails trying to investigate the underlying factors of poor academic performance in biology. Diagnostic research design consists of three steps: Inception of the issue, Diagnostic stage and provision of solution to the problem at hand (Mugenda & Mugenda, 2013).

3.3 Study Area

Uasin Gishu County, established under the Kenyan Constitution of 2010, is situated within the Rift Valley region of Kenya, encompassing a total land area of 3,345.2 square kilometers. Its geographical coordinates range from longitudes 34°50' East to 35°37' East and latitudes 00°03' South to 00°55' North.

The county's administrative center, Eldoret town, is approximately 350 kilometers away from Nairobi. Eldoret town is the fifth largest urban center in Kenya is located 313 km North-West of Nairobi City, and approximately 65 km north of the equator. The town's population was estimated at 475,716 by Kenya's 2019 census survey (KNBS, 2019).

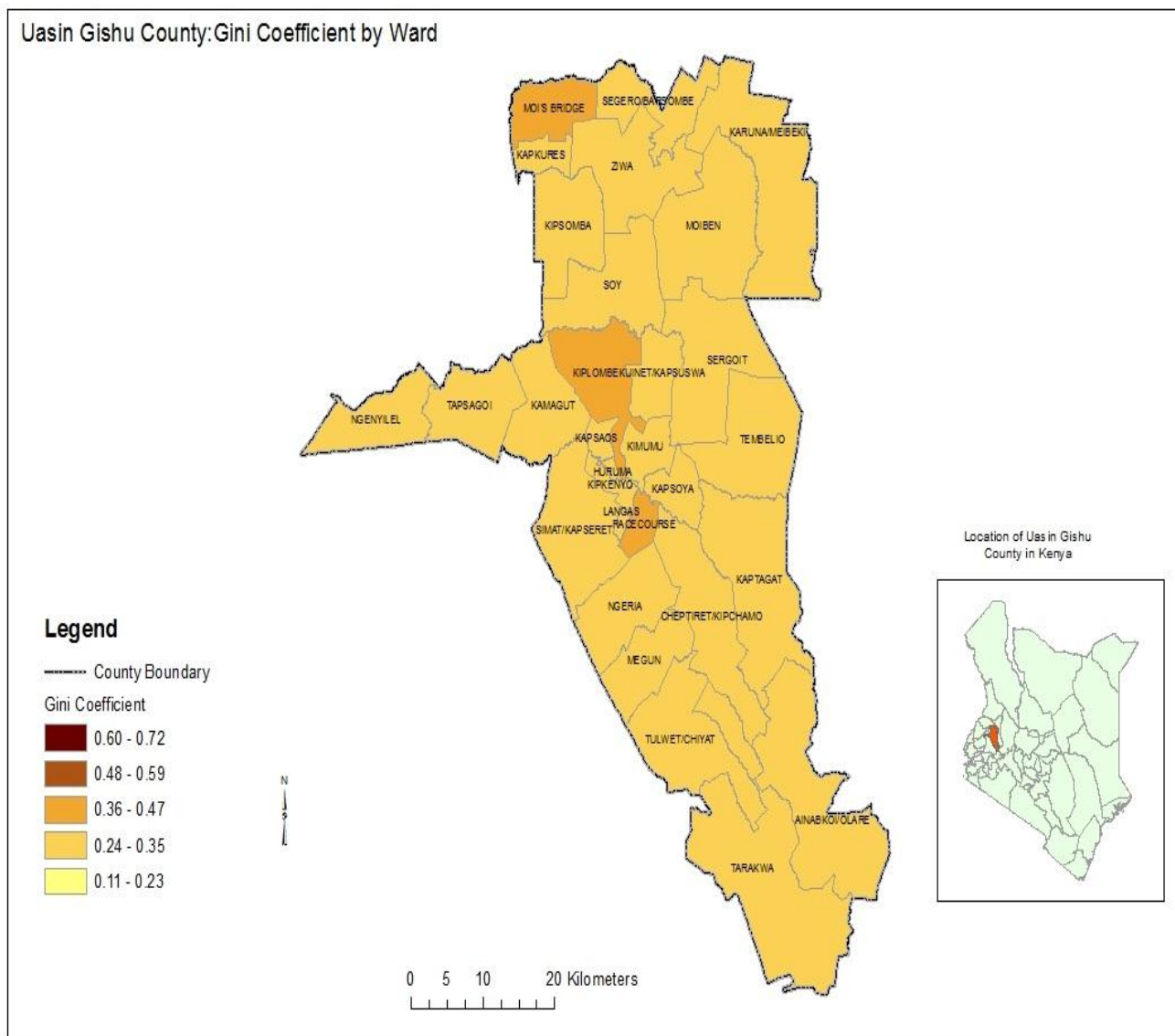


Figure 2: Map of the study area

3.3 Target Population

The study was undertaken in Tachasis girls Secondary school with population of 300 learners, 9 biology teachers, school deputy principal and principal. The school is located in Uasin Gishu

County where the problem of poor academic performance has been recorded over the last ten years.

3.4 Sample Size and Sampling Technique

This study used the following formula to calculate the sample size. A stratified sampling technique was used. Tachasis secondary school is a mixed day- boarding hence the researcher categorized the strata by boarding/day and class levels. Hence using 80% confidence level, a standard deviation of 0.5 and a margin error of +/-5%. From Z- score 80% confidence level is 1.28

$$\text{Sample size} = \frac{(Z\text{-score})^2 \times \text{StdDev}(1 - \text{StdDev})}{(\text{Confidence interval})^2}$$

Sample size = $\frac{(1.28)^2 \times 0.5(1-0.5)}{(0.05)^2} = 163.84$ we truncate it to 163 participants.

163 learners from Tachasis girl's secondary school were selected and their responses used in the study, 9 chemistry teachers, 1 deputy principal and 1 principal selected using purposive sampling technique.

3.5 Data Collection Instrument

3.5.1 Questionnaire for biology teachers.

The instruments selected for this study are related to the study objectives. The instrument contains section A (demographic data) sought to establish background information of the respondent and B (study data) which consisted of closed ended questions meant to establish factors contributing to the poor performance of learners. Section A is made up of one item measuring the gender characteristics of the respondent. Section B is made up of 5 items which

consist of closed ended questionnaires which were posed to biology teachers. The questionnaire was administered by the researcher. The respondents were asked to respond to each item.

3.5.2 Questionnaire for learners

The instrument contained two sections: A and B. Section A contained three questions meant to establish socio-demographic data of learners, section B consisted of four closed ended questions that were meant to establish the factors associated with poor performance in biology. This questionnaire was posted to learners.

3.5.3 Interviews schedule:

The researcher obtained qualitative data by interviewing the school principal and deputy principal.

3.6 Pilot study

The pilot study successfully established the reliability of the results. Questionnaires were tested with class eight pupils from Tachasis Primary School, which was outside the research area. A secondary school would do which is in the neighboring

3.7 Data analysis

The collected data was coded and analyzed using descriptive statistics, which involved presenting the statistical data in the form of frequency distribution tables and percentages. SPSS was used for data analysis and descriptive presentation. The analysis results were utilized to draw conclusions from the data.

3.8 Ethical considerations

Throughout the research process, the researcher prioritized maintaining the anonymity of participants and ensuring the confidentiality of their provided data to encourage their active

participation. Additionally, permission was obtained from the school principal to ensure a smooth and uninterrupted research process.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The purpose of this study was to establish the factors influencing poor academic performance in biology in Tachasis secondary school in Uasin Gishu County. This chapter presents the results and findings from the data analysis.

4.2 Demographic information.

The researcher collected background data on the respondents in order to understand the demographic composition of the respondents such as gender, level of study, day schooler or boarder.

Table 4.1 Age respondents

Age	Frequency	Percent
13-15	95	55.23
16-18	77	44.77
Total	172	100.0

Source: Researcher, 2023

From the study findings, it was found out that majority of the respondents were age between 13 to 15 with 55.23% while 16 to 18 was 44.77%. The findings of junior being majority can be attributed to the fact that the young students progress more in secondary school than the senior counterparts.

4.2.2 Level of study

The researcher wanted to know the respondents were from which level of study.

Table 4.2 learners' level of study

Level of study	Frequency	Percent
Form one	31	19.02
Form two	37	22.70
Form three	50	30.67
Form four	45	27.61
Total	163	100.0

Source: Researcher, 2023

The study findings showed that form three took the highest percentage of 30.67%, followed by form four at 27.70% then form two at 22.70% lastly form one at 19.02%. This showed that form ones have not actually internalize the concept of biology and its importance on day-to-day living.

Form three are the peak of the season and the need to embrace biology concepts wholly.

4.2.3 Day or Boarding

Day /Boarding	Frequency	Percent
Day	102	62.58
Boarding	61	37.42
Total	163	100.0

Source: Researcher, 2023

The results showed that day schoolers had 62.58% while boarders had 37.42%. An indication that most parents/ guardians prefer day schooling to boarding due to insufficient funds to gather for school fees of the learners.

4.3 Students attitude towards biology and how it influences its performance

One of the questions in the questionnaire required learners and teachers to respond by either a “yes” or “no” on whether students have a positive attitude towards biology. The responses were tabulated in table 4.3

Table 4.3: Students' responses on positive attitude towards biology.

Response	Frequency	Percent
Yes	66	38.37
No	106	61.63
Total	172	100.0

Source: Researcher, 2023

The results show 38.37% of respondents had positive attitude towards biology while 61.63% of respondents had negative attitude towards biology subject. The study shows that students had negative attitude towards biology. The findings concur with Wachira (2018) that majority of the learners possessed negative attitude which does not encourage learning and comprehension of biology concepts.

Teachers were also made to respond to the statement that most learners have negative attitude towards biology and the results tabulated as shown in table 4.4

Table 4.4: Learners have negative attitude towards biology.

Response	Frequency	Percentage
Strongly agree	6	66.67
Agree	1	11.11
Undecided	0	0.0
Disagree	1	11.11
Strongly disagree	1	11.11
Total	9	100.0

Source: Researcher, 2023

From teacher's perspective, learners had a negative attitude towards biology as those who strongly agreed and agreed total up to 77.78%. the undecided, disagree and strongly disagree total up to 22.22%. The results show learners have negative attitude towards biology subject. Adeyani & Abdulkafi (2018) concluded that positive attitude leads students towards success in biology.

4.4 Teacher's negative attitude towards biology students

Study findings were recorded in tabular form.

Table 4.5 Teachers have negative attitude towards learners

Response	Frequency	Percentage
Strongly agree	10	6.13
Agree	9	5.52
Undecided	10	6.13
Disagree	21	12.88
Strongly disagree	113	69.33
Total	163	100.0

Source: Researcher, 2023

Teachers negative attitude towards learners was a factor of study to be investigated and from the findings most respondents strongly disagreed and disagreed the percentage totaling to 82.01% while strongly agree attributed to 6.13%, agree 5.52% and undecided being 6.13%.

4.5 Teaching methods used by teachers of biology

4.5.1 Teacher preparedness for the lesson

The findings were recorded in table 4.6 and 4.7 respectively.

Table 4.6 biology teachers are adequately prepared for the lesson

Response	Frequency	Percent
Strongly agree	6	66.67
Agree	2	22.22
Undecided	1	11.11
Disagree	0	0.00
Strongly disagree	0	0.00
Total	9	100.0

Source: Researcher, 2023

The results show teachers are adequately prepared for biology lessons as 8 (88.89%) strongly agreed and agreed to the statement. Only one was undecided. The results established that teachers are good for the task. Lesson preparedness entailed well prepared SOW, a clear lesson plan and availability of up-to-date ROW.

Table 4.7 teachers are adequately prepared for the lesson

Response	Frequency	Percentage
Strongly agree	150	92.02
Agree	10	6.13
Undecided	2	1.23
Disagree	1	0.61
Strongly disagree	1	0.61
Total	163	100.0

Source: Researcher, 2023

The results show teachers are adequately prepared for the lesson, this is supported by the fact that 160 (98.15%) of the respondents gave positive feedback. The findings concur with Ngetich , Wambui , & Kosgei (2018) who pointed out that, the potential of an education system is directly related to the ability of its teachers.

4.5.2 Biology lessons are lively

The study wanted to establish the mood in the classroom. The results of the findings were recorded in table 4.8.

Table 4.8 Biology lessons are lively

Response	Frequency	Percentage
Strongly agree	2	22.22
Agree	4	44.44
Undecided	0	0.00
Disagree	2	22.22
Strongly disagree	1	11.11
Total	9	100.0

Source: Researcher, 2023

From the standpoint of educators, this study examined the vibrancy of biology lessons. A substantial 66.66% of the respondents expressed agreement or strong agreement with this statement, while 33.33% voiced disagreement or strong disagreement.

These results align with the findings presented by Anioke & Chigbuo (2018), emphasizing the significance of creativity and innovative teaching methods in elevating the learning experience in biology. Therefore, it underscores the importance for biology teachers to exercise care in selecting teaching strategies that establish a coherent and seamless connection with the syllabus content.

4.6 Teachers have adequate resources to facilitate teaching and learning process

The study included all the resources and findings recorded in table 4.9

Table 4.9 Teachers have adequate teaching resources

Responses	Frequency	Percentage
Strongly agree	0	0.00
Agree	1	11.11
Undecided	2	22.22
Disagree	4	44.44
Strongly disagree	2	22.22
Total	9	100.0

Source: Researcher, 2023

The study revealed that a mere 11.11% of respondents concurred with the assertion that teachers' resources were insufficient. A significant 22.22% of participants remained neutral or undecided on the matter, while the overwhelming majority, comprising 66.66% of the respondents, expressed strong disagreement or disagreement with this statement.

This outcome contrasts with the perspective presented by Anioke & Chigbuo (2018), which suggested that the effective and purposeful utilization of teaching aids and learning resources could augment and enrich teachers' capabilities and available resources in the classroom.

4.7 Interviews with the principal and deputy principal.

The initial observation derived from the interviews with principals and deputies revealed a concerning issue related to the performance of students in the KCSE examination in the field of biology. The research identified that there was a prevailing negative sentiment among students towards biology. Several interviewees expressed the view that "a significant portion of students experience anxiety and consider biology to be a challenging subject." Furthermore, it was evident that educators exhibited a positive outlook on biology and were actively striving to enhance academic outcomes in this discipline.

Additionally, a notable finding was the inadequacy of biology textbooks within schools. These resources were distributed among students at ratios ranging from 1:2 to 1:4, highlighting a pressing need for more biology textbooks in educational institutions.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter gives a summary of the main findings, conclusions and recommendations.

5.2 Summary

The research revealed that a majority of the participants were of a younger age group, with a significant number enrolled in Form Two. Among the respondents, prevailing sentiments toward biology were predominantly unfavorable.

Additionally, the study explored the attitudes and qualifications of teachers, with the majority of respondents disagreeing with the notion that teachers held negative attitudes. Instead, they believed that the educators were well-trained and suitably prepared for their biology lessons.

The research also uncovered that the lessons were generally perceived as dynamic and focused on active learning by the respondents. However, there was some inconsistency in perceptions regarding teaching resources, as some participants deemed them sufficient, while the principal mentioned a shortage of textbooks.

Furthermore, the study unveiled that students were not frequently subjected to assessments, and a significant number of them struggled to complete extra assignments on time.

5.3 Conclusions

The study aimed to identify the factors contributing to poor performance in biology at Tachasis Girls' Secondary School in Uasin Gishu County. The study findings supported the idea that students' attitude, teachers' attitude and commitment, teaching resources, teaching methods, and assessments are significant factors influencing students' underachievement in secondary-level biology.

5.4 Recommendations

Students expressed a negative attitude towards biology, finding it uninteresting and lacking enjoyment. The researcher provided the following recommendations:

- a. Teachers should cultivate a positive attitude towards biology and utilize modern teaching methods involving ICT to engage students effectively.
- b. Encouraging students to engage in additional work beyond the classroom and providing extra assignments to weaker students can help improve their performance.
- c. Increasing the frequency of assessments will help students stay informed about the expectations of the biology department.
- d. Stakeholders should prioritize the provision of necessary resources for biology education.

5.5 Areas for Further Research

Further research is recommended in the following areas:

- Conducting similar studies in different regions of the country to gather comprehensive information and allow for generalization beyond the specific school in Uasin Gishu County.
- Exploring the attitudes specifically held by girls towards teaching and performance in biology, in addition to their attitudes towards learning as examined in the current study.

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APPENDICES

Appendix I: Questionnaire for biology teachers

I am a student enrolled at the University of Eldoret, conducting research on the factors contributing to subpar performance in the biology subject, with Tachasis Secondary School as the focal point. I kindly invite your participation in this study.

PART A (tick where

appropriate) 1) What is your gender?

Male Female

PART B (tick where appropriate)

1) Do you agree that learners have positive attitude towards biology subject?

Strongly agree

Agree

Undecided

Disagree

Strongly disagree

2) The Below are various sentiments you might hold regarding your students. To convey your level of agreement, employ the following scale:

- Strongly Agree (SA) = 1
- Agree (A) = 2
- Undecided (UD) = 3
- Disagree (DA) = 4
- Strongly Disagree (SDA) = 5

Please mark just one box for each statement.

A	Teachers' feelings about students and biology	1	2	3	4	5
1	Biology lessons are very lively					
2	Teachers are adequately prepared for the lesson					
3	Teachers have adequate teaching and learning resources					

4	Most students have a negative attitude towards biology					
---	--	--	--	--	--	--

Appendix II: Questionnaire for students

You are requested to participate in the study. The information given will be treated as private and confidential. Your name will not be required anywhere in this questionnaire

PART A (tick where

appropriate) 1) What is your age?

13_15 16_18

2) Are you a boarder or day scholar?

Boarder Day scholar

3) Which class are you in?

Form 1 Form 2 Form 3 Form 4

PART B (tick where appropriate)

3) The Below are various sentiments you might hold regarding biology. To convey your level of agreement, employ the following scale:

- Strongly Agree (SA) = 1
- Agree (A) = 2
- Undecided (UD) = 3
- Disagree (DA) = 4
- Strongly Disagree (SDA) = 5

Please mark just one box for each statement.

A	Students' feelings about teachers and biology	1	2	3	4	5
1	Biology lessons are very lively					
2	Teachers are adequately prepared for the lesson					
3	Teachers have adequate teaching and learning resources					

4	Teachers have a negative attitude towards biology students					
---	--	--	--	--	--	--

Appendix III: Questionnaire for school principal and deputy principal

The information given will be treated as private and confidential. Your name will not be required anywhere in this schedule.

- i) How is biology performance in the school relative to other schools?

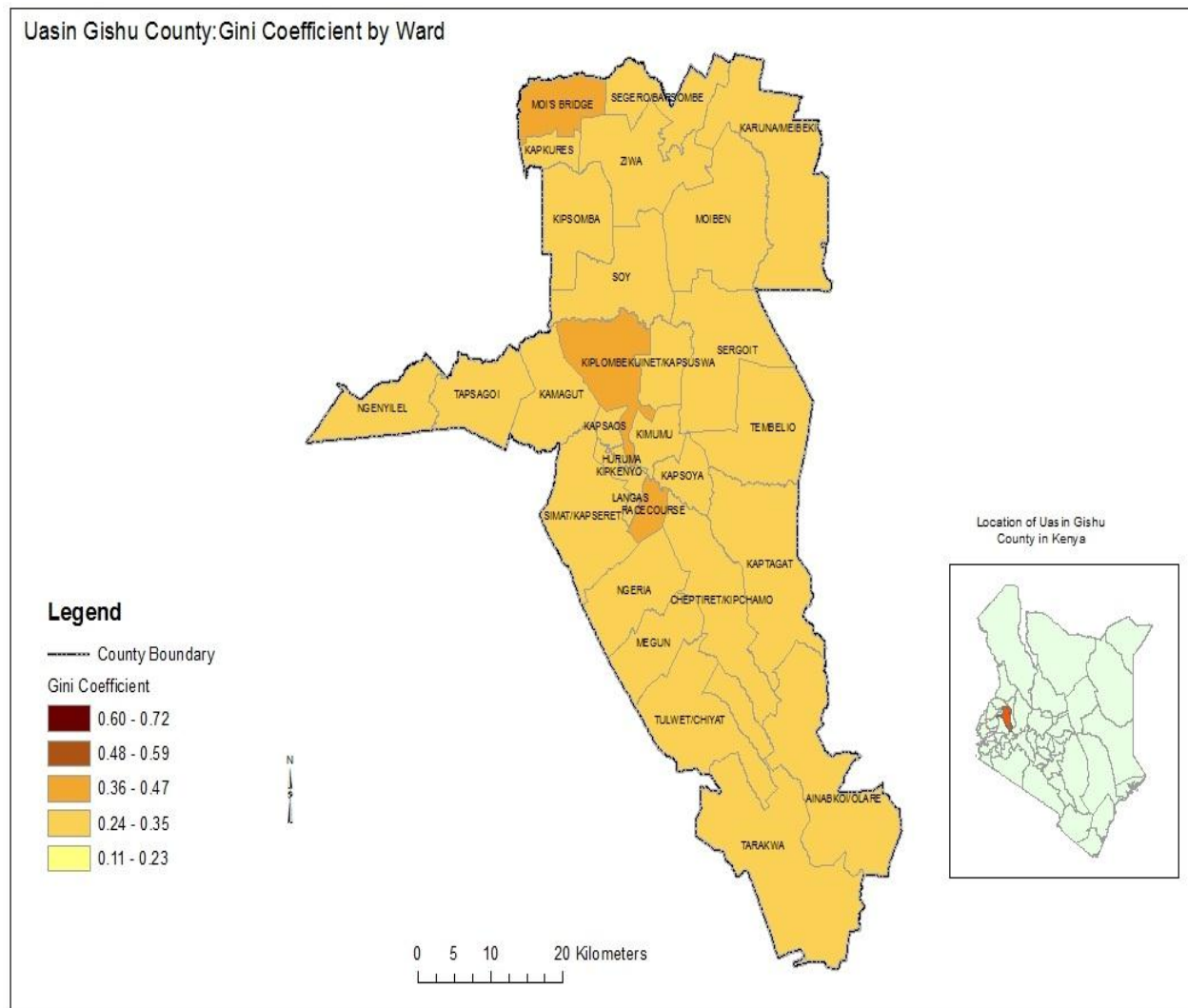
- ii) What is the attitude of the students towards biology in the school?

- iii) What is the attitude of the teachers towards students of biology in the school?

- iv) Are all teachers in the biology department adequately prepare for their lessons?

- v) What advice would you give to school stake holders in order to have enhanced improvement in biology?

Appendix IV: Map of the study area



Appendix V: Similarity Report



The Report is Generated by DrillBit Plagiarism Detection Software

Submission Information

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