

Effect of Teachers Attitudes towards Teaching on Students' Performance in Mathematics Subject in Public Day Secondary Schools in Rwanda: A Case of Huye District

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ABSTRACT

The study investigated how teachers' attitudes toward teaching influenced students' academic progress in mathematics in a public secondary school in Huye District. Specifically, the research identifies the teachers' attitudes toward teaching that could influence the achievement of pupils in Mathematics-related subjects in public day secondary schools in Huye district. Guided by the Theory of Planned Behavior, this study used a combined method approach to collect both quantitative and qualitative data to examine how teachers' attitudes influence their teaching practices in Mathematics. Purposive and random sampling were applied to select sectors, schools, and participants, allowing for systematic data collection and analysis on teachers' attitudes and their influence on students' performance. The target population for this study was 200, including 3 sector educational officers, 5 head teachers, 25 mathematics teachers and 167 Mathematics students; and the Yamane method was used to calculate a sample size of 134 respondents including 2 sector educational officers, 3 Head teachers, 15 teachers and 114 students. Primary data sources included surveys, while secondary data came from observation and interview methods. This study used purposive, stratified and simple random sampling procedures to create a sample group of respondents. The research collected and analyzed data using both quantitative and qualitative approaches. Content analysis helped with qualitative data analysis, while quantitative data was presented in SPSS Version 21.0 utilizing statistical methods such as descriptive (frequency, percentage, imply and deviation from the mean) and inferential statistics (correlational and regression analysis). For the study objective, the results show that 76.3% strongly agreed that teachers' communication skills, 69.3% strongly agreed that effective goal-setting, 64.9% strongly agreed that lesson preparation, 61.4% strongly agreed that lesson preparation, 78.1% strongly accepted that professional commitment, and 68.0% highly agreed that adaptability and flexibility reflect my teachers' attitudes toward teaching. 64.9% strongly agreed that early arrival in class during the teaching lesson reflects the teachers' attitudes toward teaching. The study found a strong positive correlation between exams, test results, and factors like interpersonal skills, goal-setting, lesson preparation, and professional commitment, which all contributed to improved student performance. The researcher concluded that early attendance and communication skills of teachers were also linked to positive educational outcomes, with tests enhancing performance across subjects. With a p-value below 0.05, the study showed that active class participation boosts effectiveness. Recommendations included improving teacher attitudes towards math, enhancing confidence, making Math enjoyable, investing in teacher training, providing resources and encouraging community involvement in Math careers. Regular follow-ups and ongoing professional development for teachers were also advised.

Keywords: Academic Performance, Attitudes, Mathematics, Teaching, Public Day Secondary School

I. INTRODUCTION

Internationally, attitudes are widely recognized as influencing behaviors across professional settings. Robbins (2013) describes attitudes as emotional predispositions formed through experiences, influencing one's response to people and situations. In workplaces, Kammeyer-Mueller et al. (2016) highlight that employees' emotional connections to their jobs shape their commitment and productivity. Similarly, Harrison et al. (2006) argue that while attitudes may not be directly observable, they can be inferred from behaviors, falling into cognitive, emotional, and behavioral reactions to the object of attitude. In addition, Mathematics performance in public day schools is often hindered by limited resources, inconsistent teacher training, and fewer academic hours compared to boarding schools (Education Policy Review, 2019). However, schools emphasizing teacher development and parental support have shown improved student outcomes in Mathematics (Smith & Brown, 2022).

Regionally, research highlights that attitudes among educators significantly influence both their work and interactions. In South Africa, McCarthy and Oliphant (2013) emphasize the need for improved teaching methods in Mathematics and science, addressing the impact of teachers' attitudes on student performance. In Zambia, Chilufya (2022) found that teachers' positive attitudes enhance student outcomes, particularly when supported by adequate training and resources. Additionally, in East Africa, Adoyo (2015) identified challenges like inadequate resources and

negative beliefs about teaching, affecting instructional success, while in Tanzania, Chaula (2023) reported that insufficient collaboration among educators, students and parents hinders Mathematics performance.

In Rwanda, Simatwa et al. (2014) highlighted challenges related to educators' low social status, limiting their motivation and social influence. At the local school level, issues such as frequent absences, substance abuse, and misuse of resources are documented, affecting teaching quality and student performance. This has led to concerns from officials in regions like Rongo, where disciplinary actions are common. There is a pressing need for interventions that address teachers' attitudes to enhance educational quality and student outcomes. Further, studies like Farrant (2014) note varying perceptions of teaching, with some viewing it as challenging and others as straightforward. Silverman (2017) describes teaching as a blend of art and technology, requiring both creativity and method. Pit-ten Cate (2018) also found that teachers' attitudes play a crucial role in students' performance in Mathematics, with positive teacher attitudes fostering better academic results and classroom engagement.

The current research in Huye District, Rwanda, investigates how teachers' attitudes affect mathematics achievement in public secondary schools. The study aims to explore specific attitudes affecting student success and to identify strategies that improve teacher perceptions and practices in Mathematics instruction, with the goal of enhancing educational outcomes in the region.

1.1 Statement of the Problem

In Sierra Leone, poor Mathematics performance in national exams has highlighted the importance of teacher commitment and skill, particularly in Mathematics. Boadu (2020) identified Mathematics as the least mastered subject, with WAEC results from 2013 to 2018 showing only a 7.2% pass rate at the honours level. This trend is attributed to factors such as inadequate training, lack of instructional resources, and teachers' focus on personal business during school hours, as Ogembo et al. (2015) noted. Without adherence to professional norms, teachers' lax attitudes and inconsistent commitment to teaching continue to hinder students' academic growth, jeopardizing educational advancement and socioeconomic development.

Studies have shown that teachers' attitudes directly influence student-learning outcomes. Jelman and Mangut (2023) observed that educators' perspectives can motivate or hinder students' willingness to learn. Similarly, Adu and Olatundun (2007) found that positive teacher traits correlate with higher academic achievement among secondary school students. James (2018) emphasized that teacher attitudes significantly affect classroom attentiveness, while Khanal (2024) noted that teachers' positive attitudes enhance students' personalities and academic performance. These studies collectively suggest that fostering positive teacher attitudes is essential to improving students' engagement and success.

In Rwanda, educators' attitudes toward teaching and the learning environment have significantly affected student performance, with many students underachieving academically. Salongo (2012) attributes this underperformance to factors such as low wages, poor working conditions, and a general lack of motivation among teachers. To supplement their incomes, many educators engage in secondary jobs, which often interfere with their teaching responsibilities and commitment to student achievement. He also added that some educators even hold roles in local government or other enterprises, requiring them to attend meetings that conflict with their teaching schedules, further disrupting student progress. It is in this context that the study seeks to investigate the impact of instructors' attitudes toward teaching on students' academic achievement in mathematics at a public secondary school in Huye District.

1.2 Research Objectives

Determine how instructors' attitudes towards teaching impact students' performance in Mathematics at public high day schools in Huye district, Rwanda.

1.3 Research Question

How do instructors' attitudes affect students' academic achievement in Mathematics at secondary schools that are publicly funded in Huye District?

II. LITERATURE REVIEW

2.1 Theoretical Review

A theoretical review emphasizes the conceptual aspects of a subject rather than its practical application. It presents various concepts as theories, regardless of their proven accuracy. This section outlines the theories reviewed to underpin the foundation of this study. Theoretical perspectives on teachers' attitudes toward teaching emphasize their impact on students' academic achievement, particularly in Mathematics. Studies reveal that many secondary school teachers exhibit negative attitudes toward their profession, which hinders educational outcomes. Hussain et al. (2011) highlight that teacher anxiety, motivation, and self-efficacy shape attitudes toward teaching Mathematics. Gresham

(2018) points out that instructional anxiety decreases with experience, while Ameen et al. (2012) find that factors such as age and background affect teachers' confidence in teaching Mathematics. Positive attitudes, as Gürbüz and Kışoğlu (2017) note, can benefit both teachers' careers and student success in mathematics.

Student performance in Mathematics requires a foundational understanding of numbers and algebra, which is essential for later success in complex math concepts. Studies like those by Clements and Sarama (2020) suggest that Math education should focus on qualitative and numerical magnitudes, emphasizing progression in skills rather than strict sequences. Kieran (2018) show that with early exposure, students can develop proficiency in algebra, which Fuchs et al. (2020) also support, arguing that starting algebraic thinking early helps build resilience against challenges encountered later in advanced Mathematics.

Teachers' attitudes significantly influence students' Math performance. Scanlon and Barnes-Holmes (2013) observed that negative teacher attitudes and a lack of confidence, especially in adapting to technology, negatively impact students. With the rise of educational technology, some teachers struggle with integration, which may lead to less effective teaching. According to Peterson et al. (2016), when teachers have high expectations and positive attitudes, students are more likely to achieve academically. Thus, teachers' perceptions and confidence in their students' abilities play a critical role in their academic engagement and success. Furthermore, the labels and classifications teachers assign to students can affect students' self-perception and academic performance. Haralambos and Holborn (2018) found that teachers' classifications influence students' confidence and drive for learning. Demanet and Van Houtte (2012) emphasize that students labeled as talented benefit more from personalized attention, while those labeled less capable may lose motivation. This effect underscores the importance of teachers' attitudes in fostering an inclusive and supportive learning environment.

2.2 Empirical Review

Teachers' attitudes play a significant role in shaping students' academic performance in mathematics. Studies show that educators' behaviours, including their enthusiasm, subject knowledge, and professionalism, directly affect student success (Erdoğdu & Özdemir, 2013). For example, Kahveci (2023) found that teachers lacking in both pedagogical skills and respectful behaviour could demotivate students, influencing their learning outcomes negatively. On the other hand, when teachers demonstrate fairness, competence, and consistent support, they foster a positive learning environment that improves students' motivation and academic engagement (Chuang, 2014).

Effective teaching also relies on teachers' preparation and positive interpersonal skills. Stronge (2018) emphasized that good teachers maximize learning opportunities by managing class time effectively, setting high standards, and using engaging activities. Teachers' professional growth, as well as ethical conduct, is also essential in promoting student success. Research by Prickett (2016) highlights the importance of ethical values in education, showing that teachers' commitment to growth and ethical principles significantly benefits their teaching quality and relationships with students.

Teachers' behaviours can either facilitate or hinder students' mathematics performance. Ramzan et al. (2023) found that a positive teacher attitude could boost academic achievement by creating a supportive and encouraging classroom environment. Conversely, when teachers display negative attitudes, it can demotivate students, leading to decreased engagement and performance (Araromi & Salman, 2020). In Mathematics, creating a supportive environment and demonstrating enthusiasm are especially critical, as they help students overcome any intimidation they may feel toward complex mathematical concepts (Hernandez-Martinez & Vos, 2018).

Classroom and working conditions, along with remuneration, impact teachers' attitudes and, in turn, students' performance. Poor working conditions and low salaries are common stressors for teachers, leading to decreased job satisfaction and burnout (Toropova et al., 2021). Budhathoki (2021) pointed out that improved physical environments and adequate resources positively affect teachers' outlook and instructional effectiveness. Well-equipped schools foster better teaching experiences, which are crucial for boosting both teachers' job satisfaction and students' academic outcomes.

III. METHODOLOGY

This research utilized a combined method approach to collect both quantitative and qualitative data to explore the impact of teachers' attitudes on students' academic performance in Mathematics within Huye District's public secondary schools. Mixed methods, combining qualitative and quantitative approaches, allow for comprehensive analysis, supporting both statistical validation and in-depth understanding (Bergin, 2018). A case study approach, as defined by Kaleli-Yilmaz (2015), provided an intensive examination of this specific educational setting. The survey research design facilitated data collection from students, teachers, and administrators through questionnaires, capturing their attitudes, beliefs, and experiences related to mathematics education in secondary schools.

The target population consisted of students, teachers, school administrators, and educational officers within Huye District. With 45 public secondary schools and approximately 29,250 students and 350 teachers (Habimana, 2022), a sample of 200 was initially targeted, covering key stakeholders in Ngoma, Simbi, and Tumba sectors. Sampling methods included random and purposive techniques to ensure that various perspectives were adequately represented. Using Yamane's (1976) formula as cited by Jones and Jayawardena (2019), a final sample size of 134 respondents was determined, providing a balance of diverse demographics and roles within the district.

Data collection involved multiple instruments, including questionnaires, interviews and documentation review. Questionnaires featured closed- and open-ended questions to balance response manageability with depth (Zhou et al., 2017), while interviews with administrators enabled deeper insights into institutional dynamics influencing teaching attitudes. To ensure validity, the instruments were reviewed by field experts (Cohen et al., 2017), and reliability was enhanced through pilot testing and split-half reliability techniques. Ethical considerations emphasized informed consent, confidentiality, and anonymity, as recommended by Kaewkungwal and Adams (2019), to uphold respondent trust and integrity throughout the study.

IV. FINDINGS & DISCUSSION

This section is consisting with data presentation, interpretations and discussions. The researcher distributed 134 questionnaires to teachers and students across various sectors in Huye District, conducted semi-structured interviews with teachers, and interviewed sector educational officers and head teachers. Out of these, 133 questionnaires were fully completed and returned by students, resulting in a 99.2% response rate.

4.1 Response Rate

Table 1

Response Rate

Category	Participants	Responses	%
Sector Educational Officers	2	2	100
Head-teachers	3	3	100
Teachers	15	14	93.4
Students	114	114	100
Total	134	133	

The table 1 illustrates the response rates among different participant categories in the study, showing that Sector Educational Officers, Head Teachers and Students all had a 100% response rate, while Teachers had a slightly lower response rate of 93.4%. The overall response rate was exceptionally high, with nearly all participants completing the survey, ensuring comprehensive data collection and enhancing the reliability of the study's findings.

4.2 Respondents Characteristics

This study collected information on age, gender, education level, and teaching experience at day secondary schools in Huye district, Rwanda. The table 2 summarizes respondents' demographics by gender, age, education, and work experience. Males made up 61.2% of the sample, with 85% of respondents aged between 12-20. Educationally, 85% had no degree because they are still secondary students, while smaller groups held A1 diplomas (2.8%), Bachelor's degrees (11.2%), and Master's or PhDs (1%). Among non-students, 25% had under 5 years of experience, 40% had 5-10 years and 35% had over 10 years. The data in this table reflects a predominantly young, male sample with a limited number of respondents holding higher education degrees, and varying levels of work experience among non-students.



Table 2
Demographic Information of Respondents

Descriptive	Label	Frequency	Percentage
Gender of Respondents	Male	82	61.2
	Female	52	38.8
Age of Respondents	Age 12-20	114	85
	Age 21-30	8	6
	Age 31-40	5	4
	Age 41-50	4	2.8
	Age 51 and above	3	2.2
Education of Respondents	Without degree	114	85
	A1	4	2.8
	Bachelor's Degree (Ao)	15	11.2
	Master's Degree and PhD	1	1
Work Experience (Except Students)	Less than 5 years	5	25
	5 -10 Years	8	40
	Above 10 years	7	35

4.3 Presentation of Findings

The study analyzed data from 133 respondents to examine teachers' attitudes towards teaching and their impact on students' achievement in Mathematics in public day secondary schools in Huye district, Rwanda, addressing both qualitative and quantitative research goals.

4.3.1 The Teachers' Attitudes towards Teaching that may Affect Students' Performance in Mathematics Subject

The study underscored aspects of teachers' attitudes that could affect students' performance in mathematics in Huye district's public day secondary schools. Proposed indicators include teachers' communication skills, effective goal-setting, lesson preparation, professional dedication, adaptability, flexibility, and punctuality in starting classes. The tables below summarize participants' responses to these statements.

Table 3
Teachers Perceptions on the Teachers' Attitudes towards Teaching that may Affect Students' Performance in Mathematics Subject in Public Day Secondary Schools in Huye District

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std
	N	%	N	%	N	%	N	%	N	%		
Communication skills of teachers indicate the teachers' attitudes towards teaching	0	0.0	0	0.0	0	0.0	3	20.0	12	80.0	1.536	1.728
Effective goal-setting indicate the teachers' attitudes towards teaching	0	0.0	0	0.0	2	13.3	3	20.0	10	66.8	1.503	1.123
Lesson preparation indicate the teachers' attitudes towards teaching	0	0.0	0	0.0	2	13.3	4	26.7	9	60.0	1.20	.414
Professional commitment indicates the teachers' attitudes towards teaching	0	0.0	0	0.0	0	0.0	3	20.0	12	80.0	1.47	.743
Early entry into class during the teaching lesson indicate the teachers' attitudes towards teaching	0	0.0	0	0.0	1	6.7	3	20.0	11	73.3	1.60	.414

Table 3 provides insights into teachers' perceptions of how their attitudes toward teaching impact students' performance in Mathematics at public day secondary schools in the Huye district. It shows that a significant majority of teachers recognize the importance of various teaching practices, with 80% agreeing that communication skills and professional commitment reflect their attitudes, as indicated by mean scores of 1.536 and 1.47, respectively. Additionally, 66.8% agree on the importance of effective goal-setting (mean score of 1.503), while 60% view lesson



preparation positively (mean score of 1.20). Furthermore, 73.3% believe that entering class early also indicates their teaching attitudes (mean score of 1.60). These findings suggest a strong consensus among teachers on the influence of their attitudes on student performance in Mathematics.

Overall, the data indicate that teachers in the Huye district generally perceive that their attitudes especially in communication skills, professional commitment, and effective practices like goal-setting and lesson preparation play a critical role in influencing students' performance in Mathematics. The relatively low variability in most responses suggests a strong consensus among teachers regarding these attitudes. These findings align with Ndayishimiye's (2018) study in Kamonyi District 12YBE schools that explored how teacher quality influences Mathematics achievement. Using a mixed-methods approach, it gathered quantitative and qualitative data from 196 students, teachers and principals. Findings indicated that teacher traits like monitoring, communication skills, subject knowledge, teamwork, and constructive feedback significantly influence student progress.

Table 4
Students Perceptions Towards the Teachers' Attitudes Towards Teaching that may Affect Students' Performance in Mathematics Subject in Public Day Secondary Schools in Huye District

Statements	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Mean	Std
	N	%	N	%	N	%	N	%	N	%		
Communication skills of teachers indicate my teachers' attitudes towards teaching	0	0.0	1	0.9	2	1.8	24	21.1	87	76.3	1.400	1.057
Effective goal-setting indicate my teachers' attitudes towards teaching	0	0.0	2	1.8	16	14.0	25	21.9	71	62.3	1.40	0.675
Lesson preparation indicate my teachers' attitudes towards teaching	0	0.0	1	0.9	16	14.0	26	22.8	74	64.9	1.344	1.051
Professional commitment indicates my teachers' attitudes towards teaching	0	0.0	1	0.9	1	0.9	18	15.8	70	61.4	1.24	0.485
Adaptability and flexibility indicate my teachers' attitudes towards teaching	0	0.0	0	0.0	1	0.9	24	21.1	89	78.1	1.400	1.068
Early entry into class during the teaching lesson indicate my teachers' attitudes towards teaching	0	0.0	1	0.9	9	7.9	25	21.9	79	68.1	1.466	1.072

Table 4 data shows that a majority of respondents strongly agreed on various indicators of teachers' attitudes: 89 (76.3%) on communication skills, 71 (69.3%) on goal setting, 74 (64.9%) on lesson planning, 70 (61.4%) on instructional approach, 89 (78.1%) on professional dedication, 79 (68.0%) on adaptability and 79 (64.9%) on early class arrival. These findings align with James' (2018) research on the Meitei Pangal, an indigenous Manipuri Muslim minority in Manipur, India, who struggled with Mathematics. Key factors affecting performance included student attitudes toward mathematics, effective classroom goal-setting, school support, and teacher attitudes. The study examines how teacher attitudes affect Meitei Pangal students' Mathematics success and recommends strategies to improve these attitudes, promoting greater engagement in science and technology fields.

Table 5
Regression Coefficients between Independent Variable and Exams and Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.179	.106		11.080	.000
	Communication skills	-.100	.072	-.118	-1.381	.010
	Effective goal-setting	-.006	.080	-.307	-.069	.006
	Lesson preparation	-.197	.074	-.233	-2.653	.009
	Professional commitment	.101	.067	.433	1.499	.001
	Early entry into class during the teaching lesson	.353	.058	.412	6.076	.000

a. Dependent Variable : Exams and test results



The regression analysis in Table 5 shows the impact of various teacher attitude factors on students' exam and test results. Significant positive influences include professional commitment ($B = 0.101$, $Sig. = .001$) and early class entry, which has the strongest positive effect ($B = 0.353$, $Sig. = .000$). In contrast, communication skills ($B = -0.100$, $Sig. = .010$), goal-setting ($B = -0.006$, $Sig. = .006$), and lesson preparation ($B = -0.197$, $Sig. = .009$) are negatively associated with student outcomes, though with varying impact levels. The significant p-values ($Sig.$) indicate that these teacher-related factors have measurable impacts on students' academic performance, with professional commitment and early class entry showing positive effects, while other factors have negative associations.

Table 6
Regression Coefficients between Independent Variable and Homework Completion

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.306	.123		10.647	.000
	Communication skills	-.079	.084	-.687	-.946	.005
	Effective goal-setting	-.018	.093	-.720	-.195	.034
	Lesson preparation	-.112	.085	-.324	-1.310	.021
	Professional commitment	.099	.077	.122	1.276	.003
	Early entry into class during the teaching lesson	.211	.067	.230	3.157	.002

a. Dependent Variable : Homework completion

Table 6 presents a regression analysis on how communication skills, goal-setting, lesson preparation, professional commitment, and prompt class entry relate to homework completion. Communication skills ($B = -0.687$, $p = 0.005$) and goal-setting ($B = -0.720$, $p = 0.034$) were negatively significant, while lesson preparation ($B = -0.324$, $p = 0.021$) also showed a negative effect. In contrast, early class entry ($B = 0.122$, $p = 0.003$) and professional commitment ($B = 0.230$, $p = 0.002$) positively influenced homework completion. This analysis underscores a strong relationship between these factors and high national test scores.

Table 7
Regression Analysis between Independent Variable and Improve Class Participation

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.089	.120		9.081	.000
	Communication skills	.013	.082	.014	.163	.007
	Effective goal-setting	.243	.091	.163	1.677	.015
	Lesson preparation	-.195	.084	-.205	-2.336	.020
	Professional commitment	-.196	.076	-.230	-2.590	.010
	Early entry into class during the teaching lesson	.461	.065	.478	7.043	.000

a. Dependent Variable: Improve class participation

The regression analysis in this table examines factors influencing improved class participation, showing that early entry into class ($B = 0.461$, $p = .000$) has the strongest positive effect. Effective goal-setting ($B = 0.243$, $p = .015$) and communication skills ($B = 0.013$, $p = .007$) also positively contribute to class participation, though with smaller impacts. Conversely, lesson preparation ($B = -0.195$, $p = .020$) and professional commitment ($B = -0.196$, $p = .010$) are negatively associated with class participation. These results suggest that punctual class entry and goal-setting play crucial roles in enhancing class engagement, whereas preparation and commitment may not directly encourage participation.



Table 8

Regression Analysis between Independent Variable and Excellent Achievement in Mathematical Subject-Related Activities

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.391	.139		10.026	.000
	Communication skills	-.113	.094	-.211	-1.201	.031
	Effective goal-setting	.302	.105	.300	2.881	.004
	Lesson preparation	-.134	.097	-.341	-1.385	.000
	Professional commitment	-.172	.087	-.187	-1.970	.050
	Early entry into class during the teaching lesson	.202	.076	.195	2.673	.008

a. Dependent Variable: Excellent Achievement in Mathematical Subject-Related Activities

This regression analysis table examines factors affecting students' excellent achievement in Math-related activities. Effective goal-setting (B = 0.302, p = .004) and early class entry (B = 0.202, p = .008) have significant positive effects, suggesting these practices enhance performance. In contrast, communication skills (B = -0.113, p = .031), lesson preparation (B = -0.134, p = .000), and professional commitment (B = -0.172, p = .050) show negative associations, implying that while goal-setting and punctuality are beneficial, certain traditional preparations might not directly correlate with excellence in Math activities.

4.3.2 Qualitative Results

In interviews with two sector educational officers and three head teachers from Huye District, insights were gathered on the impact of teaching Mathematics and teacher attitudes on students' acquisition of learning skills. When asked about their views on teaching Mathematics, the educational leaders emphasized the importance of teachers' attitudes in fostering an environment conducive to learning. They noted that when teachers demonstrate a positive approach, it could lead to increased engagement and curiosity among students. Schools in the district reportedly foster a supportive attitude towards teaching Mathematics, with teachers encouraged to develop effective communication skills and goal-setting practices that inspire students to improve their skills.

The educational leaders highlighted that positive teacher attitudes toward teaching Mathematics directly affect student performance. Teachers who are enthusiastic and committed to the subject tend to engage students more effectively, resulting in better performance and understanding of mathematical concepts. Observably, these attitudes have fostered a supportive learning environment where students feel motivated to participate, thereby enhancing their learning experience. Additionally, the respondents shared that they have noticed improved application of mathematical concepts by students, which they attribute to the influence of positive teacher attitudes.

Finally, the interviews revealed a strong connection between teaching Mathematics, teacher attitudes, and students' skills acquisition. Leaders noted that supportive attitudes and structured teaching approaches contribute to the development of critical thinking and problem-solving abilities in students. Such practices not only improve participation but also lead to higher scores and a deeper interest in the subject. Ultimately, the educational leaders concluded that teacher attitudes play a crucial role in reinforcing students' academic engagement, ensuring that the learning process in Mathematics is both skill-oriented and impactful. These findings align with Barkley and Major (2020), who emphasize that motivation for both instructors and students is essential for an engaging scientific education, promoting a positive outlook and improved academic outcomes. Gürbüz and Kışoğlu (2017) further highlight that a teacher's career attitude directly affects their teaching effectiveness, with positive attitudes enhancing career satisfaction. Haile (2020) adds that new teachers' attitudes toward teaching are influenced by social, political, and economic factors, as well as workplace conditions, such as the headmaster's attitude and interpersonal dynamics within the institution, which all affect instructional success in Mathematics.

Also, the findings match with Stronge (2018) who defines an effective instructor as one who prepares thoroughly for lessons, utilizes time wisely to engage students, fosters confidence with high standards, accommodates diverse learning needs, and enhances learning through creative activities. He emphasizes the importance of forming interpersonal connections with students, maintaining a positive attitude, making each student feel included, showing compassion, forgiving mistakes, and recognizing personal shortcomings. Teachers' professional competence is evidenced by their ability to positively influence students and engage with them. Additionally, personal accountability to ethical standards drives teachers to prioritize professional development and fulfill their responsibilities. According to Ramzan et al. (2023), ethical teachers demonstrate a commitment to continuous learning, respect for students, parents, and colleagues, and adherence to regulations.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The study aimed to explore how teachers' attitudes toward teaching affect students' performance in Mathematics at public day secondary schools in the Huye District of Rwanda. The study highlighted a predominantly male demographic among respondents, with a majority of teachers and students identifying as male. Most respondents were young adults, and nearly all teachers held bachelor's degrees, with a significant portion having over ten years of experience. This suggests a well-educated and experienced teaching workforce. Teachers acknowledged the importance of communication skills, effective goal-setting, and professional commitment as key indicators of their teaching attitudes.

The analysis revealed strong positive relationships between various teaching factors and student performance. Effective communication skills and professional commitment were linked to better student outcomes in mathematics. Additionally, factors such as goal-setting and lesson preparation played a significant role in influencing exam results and homework completion. Overall, the findings emphasize the crucial impact of positive teacher attitudes on student performance, indicating a need for professional development that focuses on enhancing communication and goal-setting skills.

Interviews with two educational officers and three head teachers in Huye District revealed that teachers' attitudes significantly influence students' acquisition of learning skills in Mathematics. Educational leaders emphasized that positive teacher attitudes foster an engaging learning environment, leading to increased student participation and curiosity. They observed that enthusiastic and committed teachers effectively enhance student performance and understanding of mathematical concepts. Furthermore, supportive teaching practices contribute to the development of critical thinking and problem-solving skills, resulting in higher scores and greater interest in Mathematics. Ultimately, the findings highlight the essential role of teacher attitudes in promoting academic engagement and effective learning in Mathematics.

5.2 Recommendations

Based on the findings to this study, the researcher recommends enhancing students' performance in Mathematics, that teachers focus on improving their communication skills, goal-setting practices, and lesson preparation. Professional development programs should be implemented to foster teachers' commitment and adaptability in their teaching approaches. Schools should also encourage early entry into class and create an engaging learning environment that motivates student participation. Additionally, fostering a supportive culture among educators can further develop critical thinking and problem-solving skills in students, ultimately leading to improved academic success in Mathematics.

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