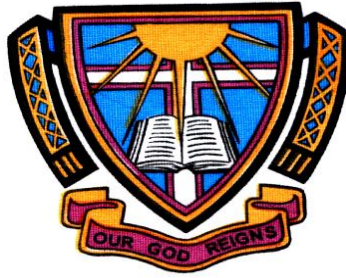


Bishop Stuart University



**Teacher-Student Ratio and Application of Group Work in Teaching and Learning in
Secondary Schools of Bushenyi-Ishaka Municipality,
Bushenyi District**

**By
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22/BSU/MEAP/1769**

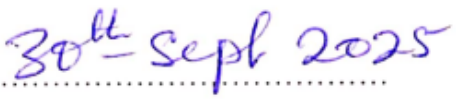
**A Dissertation Submitted to the Directorate of Graduate Studies, Research and
Innovations in Partial Fulfilment of the Requirements for the Award of
Master of Education in Administration and Planning of
Bishop Stuart University**

September 2025

Declaration

I, Ahimbisibwe Duncan, hereby declare that this dissertation titled “teacher-student ratio and application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District” is my original work and has never been submitted to any institution of higher learning before for any award.

Signature 

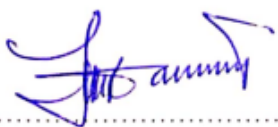
Date 

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Approval

This research dissertation titled “teacher-student ratio and application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District” has been submitted with our approval as university supervisors.

Signature 

Dr. Barigye Enock

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Date 01-10-2025

Signature 

Rev. Dr. Judith Arinaitwe

(Supervisor)

Date 01/10/2025

Dedication

I dedicate this dissertation to my entire family for their unwavering love, care, and moral support throughout my studies. Your encouragement has been a constant source of strength. May God bless you all.

Acknowledgement

I begin by thanking God for His endless grace, guidance, and strength throughout this journey. Without His blessings, this work would not have been possible.

I express my deepest gratitude to my research supervisors Dr. Barigye Enock and Rev. Dr. Judith Arinaitwe for their invaluable guidance, support, and patience. Their insightful feedback and encouragement have been crucial to the successful completion of this dissertation.

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List of Acronyms

AU:	African Union
BSU-REC:	Bishop Stuart University Research Ethics Committee
GOU:	Government of Uganda
OECD:	Organisation for Economic Co-operation and Development
PPE:	Personal Protective Equipment
SPSS:	Statistical Package for the Social Sciences

Abstract

The study examined the influence of teacher-student ratios on the application of group work in secondary schools within Bushenyi-Ishaka Municipality. Objectives included to establish the current teacher-student ratio in secondary schools, to explore the application of group work in teaching and learning in secondary schools and to examine how teacher-student ratios influence the application of group work in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District. A cross-sectional qualitative design was employed, with data collected through questionnaires from 50 teachers, interviews with 5 headteachers, and observations of 50 students across five secondary schools, using purposive and random sampling to select participants, while reliability and validity of instruments were ensured through pre-testing and expert review; data were analyzed thematically to capture perceptions, challenges, and strategies in applying group work under varying class sizes. The results revealed that current teacher-student ratios ranged between 1:50 and 1:80, far above the recommended 1:45, which undermines effective supervision and individualized support, and while group work is practiced, its application remains uneven, favoring practical subjects more than theoretical ones, with overcrowding leading to unequal participation, limited teacher guidance, and diminished collaborative effectiveness, though some teachers mitigate these challenges by forming smaller groups and appointing peer leaders. The study concluded that high teacher-student ratios negatively affect the effective application of group work by restricting engagement, peer interaction, and collaborative problem-solving, yet noted that group work still holds potential to enhance learning if supported by manageable class sizes and adequate teacher facilitation. It is therefore recommended that the Ministry of Education reduce teacher-student ratios through increased recruitment and infrastructure improvement.

Chapter One

Introduction

Introduction

This chapter presents background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, scope of the study, significance of the study and justification of the study.

Background of the Study

The background of the study is presented in four perspectives namely; historical, theoretical, conceptual and contextual perspectives.

Historical Background

Globally, education in ancient civilizations such as Greece and China was often delivered in small groups or one-on-one settings, allowing for personalized attention and close interaction between teachers and students (Papadakis et al., 2018). Such arrangements were considered essential for effective learning and the cultivation of knowledge and skills. During the medieval period in Europe, education was largely administered through religious institutions, including monasteries and cathedral schools. The teacher-student ratio in these settings was relatively small, with teachers instructing a limited number of students, focusing primarily on religious education and moral instruction (Sota, 2015).

The Renaissance and Enlightenment eras introduced formal educational systems, including secondary schools, which increased the number of students per teacher and created larger class sizes. This shift presented new challenges for maintaining individualized instruction and student-teacher interactions (Hejazi, 2020). During the Industrial Era, efforts were made to balance

growing student populations with effective teaching strategies, including the use of group work, student-centered learning, and differentiated instruction to meet individual learning needs (Wright et al., 2019).

In recent decades, global research has emphasized the impact of teacher-student ratios on educational outcomes and the effectiveness of group work in classrooms. Studies show that smaller class sizes and lower teacher-student ratios improve student engagement, allow for personalized instruction, and enhance academic achievement (Malik & Rizvi, 2018; Maxwell et al., 2017). International organizations, including UNESCO and the OECD, have highlighted the importance of optimizing teacher-student ratios to facilitate collaborative learning and effective group work.

In the African context, prior to colonial influence, education was primarily informal and community-based. Elders and community leaders imparted knowledge, values, and practical skills to younger generations, maintaining small teacher-student ratios and personalized guidance (Adebisi, 2016; Hajovsky et al., 2020). Education emphasized practical skills, social cohesion, and meeting community needs.

In Uganda, the colonial era introduced formal education through missionary and religious institutions, which established schools and promoted literacy, moral education, and vocational skills (Van Mol & De Valk, 2016). Teacher-student ratios varied according to available resources, often leading to overcrowded classrooms. After independence, Uganda expanded access to education to accommodate its growing population, but limited resources and infrastructure frequently resulted in high teacher-student ratios and difficulties in implementing effective group work in classrooms (Abrokwaa, 2017).

Despite these challenges, efforts were made through teacher training, curriculum development, and educational reforms to improve the teacher-student ratio and facilitate group-based teaching methods. Recent studies in Africa emphasize the benefits of smaller class sizes for student engagement, collaboration, and academic outcomes, with initiatives by governments and organizations like UNESCO and the African Union aimed at promoting quality group work in secondary schools (Katuu, 2020; Heleta & Bagus, 2021; Shabani et al., 2014).

At the local level, in Bushenyi-Ishaka Municipality and Bushenyi District in Western Uganda, pre-colonial education focused on small, community-based groups with a strong teacher-student connection. During the colonial period, missionary schools expanded education but struggled with limited infrastructure, leading to larger class sizes and challenges in managing group work. Currently, high teacher-student ratios in local secondary schools continue to affect the organization, supervision, and effectiveness of group work, making it difficult to ensure student engagement, collaboration, and learning outcomes, which underscores the need for the present study.

Theoretical Background

Social Learning Theory, also known as Social Interaction Theory, was developed by Albert Bandura (1960). The theory extends behaviorism by emphasizing that individuals learn not only through direct reinforcement or punishment but also through observing, imitating, and interacting with others in social contexts. Bandura demonstrated that social interactions, modeling, and collaborative engagement are critical for the development of behavior, cognition, and learning. This theory has profoundly influenced education, psychology, and social sciences by highlighting the importance of social environments in shaping learning outcomes.

In the context of this study on teacher-student ratio and the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District, Social Learning Theory provides a framework for understanding how classroom interactions facilitate learning. The theory posits that meaningful learning occurs through collaboration, observation, and shared experiences. When the teacher-student ratio is lower, teachers can devote more time to supervising and guiding group activities, ensuring that each student participates actively, observes peer strategies, and receives immediate feedback. This creates an environment conducive to group work, where students can learn from each other and from teacher modeling, enhancing engagement, motivation, and academic performance (Howe et al., 2019).

Group work, in this study, is conceptualized as an instructional strategy where students collaborate in small groups to accomplish learning tasks, solve problems, and develop social and cognitive skills. Its effectiveness depends on the quality of teacher facilitation, peer interactions, and opportunities for observational learning, all of which are influenced by the teacher-student ratio. A high teacher-student ratio limits the teacher's ability to monitor, guide, and provide feedback during group activities, leading to unequal participation, reduced collaboration, and lower learning outcomes. Conversely, a lower teacher-student ratio allows teachers to structure group work effectively, assign roles, observe interactions, and support students' learning needs, in line with Bandura's principles of learning through social interaction, modeling, and reinforcement (Richmond et al., 2018).

Thus, Social Learning Theory underpins the influence of teacher-student ratio on application of group work in Teaching and Learning in Secondary Schools by explaining how teacher availability and classroom size influence the quality of social interactions, peer learning, and collaborative experiences. The theory provides a lens to understand how optimizing teacher-

student ratios can enhance group work, facilitate active participation, and improve learning outcomes in secondary schools of Bushenyi-Ishaka Municipality.

Conceptual Background

The teacher-student ratio refers to the numerical relationship between the number of teachers and the number of students in a classroom or educational institution (Ajani & Akinyele, 2014). It reflects the extent of individualized attention and interaction that can occur between teachers and students. A lower teacher-student ratio suggests a smaller number of students per teacher, potentially allowing for more personalized instruction, increased student engagement, and better monitoring of student progress. On the other hand, a higher teacher-student ratio may result in less individual attention, reduced opportunities for interaction, and challenges in meeting the diverse needs of students.

On the other hand, group work in teaching and learning refers to a pedagogical approach that involves students working together in small groups to achieve specific learning objectives. It is a widely used and effective instructional strategy in various educational settings, from primary schools to higher education and professional training (Wang & Degol, 2016). Group work is also a valuable learning experience for students, but it is important to note that not all group work is created equal. The application of group work will be conceptualized as; group formation, tasks assigned to groups, Physical layout of the classroom.

Contextual Background

This study focuses on the relationship between teacher-student ratio and the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District. Teacher-student ratio is a critical determinant of teaching effectiveness, student engagement, and learning outcomes. In Bushenyi-Ishaka Municipality, many secondary schools

face high teacher-student ratios, which pose significant challenges to effective classroom instruction and the implementation of innovative teaching strategies such as group work.

Bushenyi District, located in Western Uganda, has a unique educational landscape shaped by historical, cultural, and socio-economic factors (Bushenyi District Education Officer's Report, 2021/2022). The district includes Bushenyi-Ishaka Municipality, a central hub for education that hosts numerous secondary schools. Despite efforts to expand and improve educational provision, limited human resources, inadequate infrastructure, and overcrowded classrooms have persisted. These constraints have led to teacher-student ratios that exceed the Ministry of Education and Sports' recommended standard of 1:45, with some schools reporting ratios of 1:50 to 1:80.

High teacher-student ratios in the municipality create multiple problems. Teachers are often unable to give individualized attention, effectively manage classrooms, or provide timely feedback to students. Large class sizes also hinder the application of group work, as organizing and monitoring student groups becomes more complex, time-consuming, and less effective. Some students may dominate group activities, while others remain passive, limiting participation, collaboration, and the development of critical thinking skills. Additionally, overcrowding contributes to teacher stress, burnout, and diminished motivation, which further affects the quality of teaching and learning.

The application of group work in this context is particularly affected by these challenges. Successful group work requires careful planning, small and manageable group sizes, active teacher supervision, and clearly defined roles. However, in Bushenyi-Ishaka Municipality, these conditions are often compromised due to high student numbers, limited teacher availability, and

scarce learning resources. Despite these constraints, group work remains an essential strategy for fostering peer learning, collaboration, creativity, and problem-solving skills among students.

This study therefore sought to investigate how teacher-student ratios influence the use and effectiveness of group work in secondary schools. By understanding this relationship, the study aims to identify strategies that teachers adopt to overcome challenges, enhance student engagement, and improve learning outcomes even in large and crowded classes. The findings would provide insights into how schools in Bushenyi-Ishaka Municipality can optimize teaching strategies and improve classroom learning environments despite the challenges posed by high teacher-student ratios.

Problem Statement

The Ministry of Education and Sports (MoES) in Uganda recommends a teacher-student ratio of 1:45 to ensure effective teaching and learning (MoES, 2018). However, since the implementation of the Universal Secondary Education (USE) policy in 2007, many secondary school classrooms have become overcrowded, often with fewer teachers than required, leading to a significant deviation from the recommended ratio (GOU, 2008).

In Bushenyi-Ishaka Municipality, Bushenyi District, this problem is particularly pronounced. Many secondary schools operate with teacher-student ratios ranging from 1:50 to 1:80, far exceeding the MoES standard (Bushenyi District Education Officer's Report, 2021/2022). The overcrowding limits teachers' ability to provide individualized attention, manage classrooms effectively, and implement group work strategies that enhance student engagement, collaboration, and learning outcomes. Large class sizes result in unequal participation during group activities, reduced supervision, and diminished opportunities for peer learning.

Group work should be structured, purposeful, and inclusive. Teachers are expected to divide students into small, manageable groups of 4–8 learners where every member has a clear role and responsibility. Each group should work collaboratively toward a common task or problem, with teachers circulating to guide, monitor, and provide feedback. Effective group work also requires that teachers ensure equal participation, promote critical dialogue among students, and use assessment methods that value both individual and group contributions (Johnson & Johnson, 2009; Donohoo, 2018). When applied effectively, group work fosters peer-to-peer learning, improves communication and problem-solving skills, and enhances academic performance.

Although group work has the potential to mitigate some challenges posed by high teacher-student ratios by fostering peer learning and shared responsibility, its effective application is constrained by current classroom conditions in Bushenyi-Ishaka Municipality. The insufficient teacher-student ratio undermines the potential benefits of group work, limiting opportunities for students to develop critical thinking, collaboration, and problem-solving skills.

Given these challenges, there is a critical need to investigate how the teacher-student ratio affects the application of group work in secondary schools within the municipality. Understanding this relationship will provide insights into strategies that can optimize group work practices, improve teacher facilitation, and enhance learning outcomes despite high student numbers. Therefore, this study aimed to assess the influence of teacher-student ratio on the application of group work in teaching and learning within secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District.

Purpose of the study

The purpose of this study was to examine the effect of teacher-student ratio on the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka

Municipality, Bushenyi District. Although general information existed about high teacher-student ratios and their challenges, there was limited evidence on how these ratios specifically affected the organization, supervision, and effectiveness of group work in this local context. This study sought to fill that gap by providing insights into how teachers managed group activities in large classes and how these practices influenced student participation, collaboration, and learning outcomes, thereby informing strategies to improve teaching and learning in overcrowded classrooms.

Objectives of the study

- (i) To establish the current teacher-student ratio in secondary schools within Bushenyi-Ishaka Municipality, Bushenyi District.
- (ii) To explore the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District.
- (iii) To examine how teacher-student ratios influence the application of group work in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District.

Research Questions

- (i) What is the current teacher-student ratio in secondary schools within Bushenyi-Ishaka Municipality, Bushenyi District?
- (ii) What is the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District?
- (iii) How do teacher-student ratios influence the application of group work in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District?

Scope of the study**Content scope**

The study established the effect of teacher-student ratio on the application of group work in teaching and learning in secondary schools. Therefore, the content scope covered the objectives of the study; the current teacher-student ratio in secondary schools, the application of group work in teaching and learning in secondary schools and how teacher-student ratios influence the application of group work in secondary schools. These provided a comprehensive analysis of the teacher-student ratio and its impact on the application of group work in teaching and learning in secondary schools.

Geographical scope

The study was carried out in Bushenyi-Ishaka Municipality, Bushenyi District. Bushenyi-Ishaka Municipality is a local government administrative unit located in Bushenyi District, Uganda. It serves as the main urban center and commercial hub within the district. Bushenyi District itself is located in the Western Region of Uganda and is bordered by the districts of Mitooma, Rubirizi, Sheema, Buhweju and Ntungamo. Bushenyi-Ishaka Municipality is situated approximately 350 kilometers southwest of Uganda's capital city, Kampala. It covers an area that includes both urban and peri-urban areas, with a mix of residential, commercial, and institutional establishments. The municipality is known for its cultural diversity, with residents representing different ethnic groups and cultural traditions. It showcases the rich cultural heritage of the Ankole region, including traditional music, dance, and folklore. The people of Bushenyi-Ishaka Municipality engage in various economic activities such as agriculture, trade, small-scale industries, and services.

Time Scope

The study considered the time scope of the last 5 years, from 2018 to 2023. By focusing on this period, the study captured a significant span of time that was relevant for understanding the teacher-student ratio and the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District.

Population Scope

The population scope included 150 teachers, 5 headteachers and 225 O' Level students.

Significance of the study

The study findings would inform policymakers and education authorities in formulating evidence-based policies and strategies to improve the quality of education.

The study findings would provide empirical evidence regarding the impact of the teacher-student ratio on the application of group work in teaching and learning, this will empower policy makers to prioritize resources and design initiatives that enhance the overall educational experience for secondary school students.

Various stakeholders, including school administrators, teachers, parents, and education organizations, have a vested interest in improving the application of group work in teaching and learning. The study findings would provide stakeholders with a comprehensive understanding of the relationship between the teacher-student ratio and the application of group work in teaching and learning.

The study findings would help head teachers to identify specific challenges and areas that require improvement. The study findings would empower head teachers to take targeted actions to optimize the application of group work in teaching and learning within their schools.

The study would serve as a valuable resource and reference point for conducting further research on the teacher-student ratio and its impact on the application of group work in teaching and learning.

The study findings would enable the researcher to obtain his academic award of Master of Education in Administration and Planning of Bishop Stuart University since it is one of the requirements for the award.

Chapter Two

Literature Review

Introduction

This chapter presents related literature review to the study as it was given by other scholars and researchers. The related literature reviews is presented according to objectives of the study.

The current teacher-student ratio in secondary schools

The teacher-student ratio refers to the number of students assigned to a single teacher in a classroom, which is widely recognized as a key determinant of teaching quality, student engagement, and learning outcomes (MoES, 2018). In the context of secondary schools, maintaining an optimal ratio is critical for effective instruction, personalized support, and the implementation of innovative teaching strategies such as group work (Richmond et al., 2018).

Globally, research indicates that lower teacher-student ratios positively influence academic outcomes. For instance, Jadoon et al., (2022) found that secondary schools with smaller class sizes exhibited higher student achievement levels, suggesting that individualized attention and reduced classroom congestion enhance learning. Similarly, Larson et al., (2021) reported that larger class sizes were associated with increased disciplinary issues and lower student engagement, highlighting how high teacher-student ratios impede classroom management and participation. These studies collectively emphasize that the quantity of students per teacher directly affects the quality of teaching and learning experiences.

Beyond academic performance, teacher-student ratios also influence student well-being and socio-emotional development. Kidger et al., (2021) observed that higher ratios were linked to elevated stress and anxiety among students, underscoring the mental health implications of overcrowded classrooms. Similarly, Braun et al., (2019) found that smaller class sizes promoted

better student mental health and overall well-being, suggesting that teacher availability not only affects learning but also students' psychological development.

The relationship between teacher-student ratio and individualized instruction has also been emphasized in literature. Alexandre and Enslin (2017) demonstrated that schools with lower ratios were more effective in providing tailored instruction to students, facilitating differentiated learning strategies, and meeting diverse learning needs. Borup and Stevens (2017) similarly reported that personalized support in smaller classes improved both academic performance and student satisfaction. Longitudinal evidence by Ettekal and Shi (2020) further indicated that students who experienced smaller class sizes during secondary education had higher rates of college enrollment and graduation, illustrating the long-term benefits of optimal teacher-student ratios on educational trajectories.

While these studies provide compelling evidence on the general importance of teacher-student ratios, several gaps remain. First, most studies are conducted in global or non-Ugandan contexts, limiting their applicability to Bushenyi-Ishaka Municipality, where high ratios and overcrowded classrooms are persistent challenges. Second, few studies critically examine how teacher-student ratios affect specific teaching strategies such as group work, which is central to collaborative and student-centered learning. Third, while Social Learning Theory highlights the importance of interaction and modeling in learning, existing literature seldom links teacher-student ratios to the facilitation of group-based learning, leaving a theoretical gap that the present study seeks to address.

Therefore, the current study critically investigated how the prevailing teacher-student ratios in secondary schools of Bushenyi-Ishaka Municipality influence the implementation and effectiveness of group work in teaching and learning. By focusing on the local context and

integrating Social Learning Theory, the study aims to provide actionable insights for improving both teacher facilitation and student engagement in collaborative learning activities.

The application of group work in teaching and learning in secondary schools

Group work, in the context of teaching and learning, refers to an instructional strategy where students collaborate in small groups to accomplish tasks, solve problems, and develop both cognitive and social skills (Johnson & Johnson, 2009). Effective group work promotes peer-to-peer learning, collaboration, critical thinking, and student engagement, aligning with the principles of Social Learning Theory, which emphasizes learning through observation, modeling, and social interaction (Bandura, 1960).

Globally, numerous studies have demonstrated the positive impact of group work on student learning. For instance, Le et al., (2018) conducted research involving 200 secondary school students and found that group work significantly enhanced student engagement, collaboration, and critical thinking. Students also reported higher satisfaction with learning compared to traditional instructional methods. Similarly, Boonk et al., (2018), in a study with 300 secondary school students, observed that group work improved academic achievement by providing more opportunities for peer interaction, problem-solving, and knowledge sharing. These studies collectively suggest that group work can serve as a powerful pedagogical tool, particularly when class sizes and teacher-student ratios allow for effective monitoring and facilitation.

In addition to cognitive outcomes, group work has been shown to support social-emotional development. Strahan and Poteat (2022), using qualitative interviews and observations, reported that group work fostered communication, empathy, and cooperation among students. Participants also noted enhanced self-confidence and improved peer relationships. This finding is consistent

with Donohoo (2018), who in a meta-analysis highlighted that collaborative activities develop critical social skills such as teamwork, communication, and problem-solving, which are essential for both academic and lifelong success.

Moreover, group work has been linked to increased motivation and self-esteem. Kim and Beehr (2018) found that students engaged in group activities reported higher levels of self-confidence and intrinsic motivation, as the group setting provided opportunities for idea exchange, feedback, and mutual support. Similarly, Changwong et al., (2018) demonstrated that collaborative learning promoted critical thinking, allowing students to analyze information from multiple perspectives and generate innovative solutions.

Group work can enhance intercultural competence and social cohesion among students. Holliday et al., (2021) observed that working in diverse groups exposed students to different cultural perspectives, increasing tolerance, empathy, and respect for others. These findings suggest that group work is not only beneficial for academic learning but also for the holistic development of students.

Despite the substantial evidence supporting the benefits of group work, several gaps remain. First, most studies have been conducted in global or Western contexts, limiting their generalizability to Uganda, and specifically to Bushenyi-Ishaka Municipality, where high teacher-student ratios may impede the effective application of group work. Second, few studies critically examine how teacher-student ratios interact with group work practices, leaving a gap in understanding how overcrowded classrooms affect peer collaboration and teacher facilitation. Third, while Social Learning Theory underscores the importance of social interaction, prior

literature has rarely connected this theory explicitly to classroom size and group work implementation.

Therefore, the current study critically investigated how the application of group work in secondary schools of Bushenyi-Ishaka Municipality is influenced by teacher-student ratios, aiming to fill gaps in contextual understanding, link theory to practice, and provide insights for improving student engagement, collaboration, and academic outcomes.

The influence of teacher-student ratios on the application of group work in secondary schools

The term teacher-student ratio refers to the number of students assigned to a single teacher in a classroom (MoES, 2018). Group work is an instructional strategy where students collaborate to accomplish tasks, solve problems, and develop cognitive, social, and collaborative skills (Johnson & Johnson, 2009). The relationship between teacher-student ratio and group work is grounded in Social Learning Theory, which posits that learning occurs through observation, modeling, and social interaction (Bandura, 1960). Smaller teacher-student ratios allow teachers to provide more individualized attention, facilitate peer interactions, and support collaborative learning, whereas larger ratios constrain teacher capacity to manage and guide group activities effectively.

Empirical studies globally and nationally support the link between lower teacher-student ratios and more effective group work. For example, Miao et al. (2022) observed that smaller teacher-student ratios enhanced collaboration and communication skills during group activities, as teachers were able to facilitate interactions and guide meaningful discussions. Similarly, Kidger et al. (2021) reported that individualized support provided by teachers in smaller classes improved

students' engagement, progress monitoring, and timely feedback during group work, ultimately resulting in better learning outcomes.

Further, Xuan et al. (2019), in a meta-analysis, demonstrated that lower teacher-student ratios significantly improved academic achievement in group-based learning. When teachers had fewer students, they could address individual learning needs more effectively, ensuring that each student actively contributed to group tasks. Varga (2017) similarly noted that smaller ratios increased student motivation and active participation in group work, as students felt supported and valued by teachers.

Other studies corroborate these findings across diverse contexts. Ekinci (2017) found that reduced teacher-student ratios positively influenced the implementation of group work in secondary schools, providing more opportunities for guidance and individualized attention. Wanders et al. (2020) observed that students in smaller classes were more engaged, collaborative, and responsive during group activities because teachers could provide frequent feedback and monitor group dynamics. Ottosen et al. (2017) reported that smaller teacher-student ratios improved students' communication, collaboration, and problem-solving skills, facilitating effective application of group work strategies.

Conversely, higher teacher-student ratios pose significant challenges. Behlol and Akbar (2019) demonstrated that larger class sizes limited teachers' ability to provide individualized support, monitor student progress, and manage group dynamics effectively, thereby reducing the efficacy of group work as a teaching strategy. These findings suggest that teacher-student ratio is a critical determinant of how successfully group work can be implemented in secondary schools.

Despite these insights, several gaps remain in the literature. Most studies were conducted in global or non-Ugandan contexts, limiting their generalizability to Bushenyi-Ishaka

Municipality, where high teacher-student ratios and overcrowded classrooms are persistent challenges. Additionally, few studies explicitly integrate Social Learning Theory to explain how teacher-student ratios affect group work implementation, leaving a theoretical gap. There is also limited research on context-specific strategies teachers employ to overcome challenges posed by high ratios in Ugandan secondary schools.

Therefore, the current study critically investigated the influence of teacher-student ratios on the application of group work in secondary schools of Bushenyi-Ishaka Municipality, aiming to fill the gaps in contextual knowledge, link theory to practice, and provide evidence-based recommendations for improving collaborative teaching and learning strategies.

Chapter Three

Methodology

Introduction

This chapter gives a detailed procedure of how the study will be carried. These include; the research design, study population, sample size and selection, sampling techniques, data collection methods, data collection instruments, procedure of data collection, reliability and validity of instruments, data analysis and measurement of variables.

Research Design

The study employed a cross-sectional qualitative research design, which involved collecting data from participants at a single point in time to explore the effects of teacher-student ratios on the application of group work in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District. This design was appropriate because it provided a snapshot of current classroom practices and experiences while allowing the researcher to examine teachers' and students' perceptions, challenges, and strategies in managing group work within large classes. The qualitative approach focused on understanding participants' perspectives and experiences in their real-life context, rather than relying on numerical analysis.

Study Area

The study was carried out in Bushenyi-Ishaka Municipality, Bushenyi District, a local government administrative unit in Western Uganda. This area was chosen for the study because it hosts a significant number of secondary schools with diverse characteristics, including both public and private institutions, which makes it ideal for examining the effects of teacher-student ratios on the application of group work. Additionally, reports from the Bushenyi District Education Office (2021/2022) indicate that classrooms in the municipality often experience overcrowding and high teacher-student ratios, posing challenges to effective teaching and learning. Studying this area provided a representative context to explore these challenges, understand teachers' and students' experiences, and generate insights that could inform local educational policies and interventions.

Study Population

Study population refers to all members of a real or hypothetical set of people, events or objects to which a researcher wishes to generate results from the study (Mohajan, 2018). Therefore, the study population included teachers, headteachers and O' Level students.

Sample size

The sample size will include 205 respondents that is; 50 teachers, 5 headteachers and 50 students. This study targeted students, teachers, and headteachers from all five secondary schools in Ishaka Municipality. Students were directly affected by the teacher-student ratio and group work practices, and their learning experiences and challenges were crucial to understanding the issue. Teachers played a vital role in implementing group work and managing classrooms. Headteachers, as school leaders, were responsible for policy implementation and school management.

Sampling Procedure

Sampling refers to that process of selecting a sample from a defined population with the intention that the sample accurately represents that population (Mishra and Alok, 2022).

Simple Random Sampling: Simple random sampling is a statistical sampling technique in which each member of a population has an equal and independent chance of being selected for inclusion in the sample. Simple random sampling technique was used to select the teachers and students. Under this technique, the blindfold method was employed whereby the names of the participants were written on papers, then the researcher folded and placed them in a box, picking one by one. Whoever was picked was included in the study. Simple random sampling was a suitable technique for selecting teachers and students because it ensured representativeness, reduced bias, allowed for generalizability, was relatively simple to implement, and facilitated robust statistical analyses. These factors contributed to the credibility and reliability of the study's findings.

Purposive Sampling: Purposive sampling is a non-probability sampling technique where participants are selected based on their unique characteristics or specific qualities that make them suitable for the study. Purposive sampling technique was used on headteachers because of their positions. The reason for using purposive sampling technique on headteachers was due to their specific positions and expertise. They had a comprehensive understanding of the school's operations, policies, and practices, which directly influenced the teacher-student ratio and the application of group work in teaching and learning in secondary schools.

Data Collection Methods

The study employed both questionnaire surveys and interview methods of data collection.

Questionnaire Survey Method

A questionnaire survey is a data collection method by which the participants are directly questioned about their feelings on the study problem. The questionnaire survey included open-ended questions. This method was preferred as it provided a relatively simple and straightforward approach to the study. The questionnaire survey method was used to collect data from teachers. The questionnaire survey method enabled the researcher to collect information from respondents within a short time and also helped dispel respondents' fear, as they could fill it out at their convenient time.

Interviewing

Interviewing is a data collection method by which the researcher collects details of the respondent's answer through face to face conversation on the items of the study variables. Interview schedules were designed and used to obtain qualitative data from headteachers. They were subjected to interviews because they had much information on the problem under investigation. Interviews helped in digging out additional information that was not captured by the questionnaires.

Data collection instruments

In order to acquire the necessary information from participants, two types of data collecting instruments will be used. These are;

Questionnaire

Closed-ended questions were employed to collect quantitative data from selected teachers in sampled schools, and open-ended questions were used to collect qualitative data. This was because questionnaires made possible an economy of time and expense and also provided a high proportion of usable responses (Ragab and Arisha, 2018).

Interview Guide

An interview guide was used to gather in-depth qualitative data from headteachers. The interview had the greatest potential to release more in-depth information, provide the opportunity to observe non-verbal behavior of respondents, offer chances for clearing up misunderstandings, and could be adjusted to meet many diverse situations.

Data collection Procedure

Approval from the Dean of the Faculty of Education at Bishop Stuart University to allow the researcher to carry out the study was sought first. Approval for the research ethics review by the Bishop Stuart University research committee was also sought to allow the researcher to proceed with the research, ensuring that ethical considerations were followed as major guidelines. An approval letter from BSU-REC was then obtained, which introduced the researcher to headteachers of selected secondary schools. These headteachers, in turn, gave the researcher permission to conduct the research. Permission from the headteachers was obtained to allow the researcher access to the teachers without disrupting their programs. The researcher then contacted all selected respondents to explain the purpose of the study and the relevant details, in order to elicit their enthusiasm to participate. The researcher then distributed the questionnaires to the participants to fill out. The researcher was present during the data collection time to rectify and answer any concerns raised by the respondents. Once participants completed the questionnaires, the researcher collected them from the respondents and checked for any incomplete items, inaccuracies, or errors. If any errors were identified, the participants were asked to rectify them during this period.

Data Quality Control

Data quality control will involve reliability of instruments and validity of instructions as explained below.

Reliability of Instruments

Reliability was a measure of the degree to which a research instrument supplied consistent results or data after repeated trials (Roulston and Choi, 2018). The instruments were pre-tested before the actual survey was conducted to seek clarity and relevant questions. Pre-testing enabled the reliability of the instruments by verifying the clarity and accuracy of the tool, and necessary corrections were made before the interview was applied in the study area.

To assess the reliability of the instruments, a split-half reliability method was employed. This involved administering the instrument to the teachers and subsequently dividing the items into two halves, comprising odd and even-numbered items. The scores obtained from the odd and even items were then computed separately for each instrument. To determine the correlation between the two sets of scores, the Pearson coefficient correlation was utilized in SPSS. The results yielded a correlation coefficient of 0.85, which exceeded the threshold of 0.7. This indicated that the instruments demonstrated high reliability, as a correlation coefficient of 0.7 or above is generally considered acceptable and reliable for data collection purposes. The satisfactory reliability coefficient of 0.85 confirmed that the instruments were consistent and dependable measures, thereby providing confidence in the accuracy of the data collected.

Validity of Instruments

Validity is the extent to which research instruments measure what they are intended to measure (Mohajan, 2017). The researcher visited the area before conducting the study. This helped the researcher to enhance rapport with stakeholders and confirm the need for the study. The pre-

visit enabled the validity of the instruments, ensuring that the research instrument measured what it was designed to measure. The Content-Related Evidence of Validity method was used to determine the degree to which the instruments measured what they were intended to measure. In this case, a list of objectives, which guided the construction of the instrument, and a separate list of the items designed specifically to answer the research questions, were given to two knowledgeable persons about the study topic. These knowledgeable persons were independently asked to thoroughly inspect the items and link each objective with the respective item, assessing the relevancy of the items to the content addressed in the objectives. The two knowledgeable persons were asked to rate each item on a 4-point scale: not relevant (NR), somewhat relevant (SR), quite relevant (QR), and very relevant (VR). The researcher then computed the level of agreement on the items between the two knowledgeable persons as inter-rater agreement (to assess the extent to which the knowledgeable persons agreed).

$$CVI = \frac{\text{Number of items rated quite relevant and very relevant}}{\text{Total number of items in the questionnaire}}$$

$$CVI = \frac{n}{N}$$

Where:

CVI = Content Validity Index,

n = Number of items rated relevant

N = Total number of items in the questionnaire.

CVI = $48/52 = 0.92$. Therefore, the instruments were considered valid, as the CVI of 0.92 exceeded the acceptable threshold of 0.7.

Data Analysis

Qualitative data from were analyzed using thematic content analysis to identify patterns and relationships among responses. The researcher organized and coded the data to derive themes related to how teacher-student ratios influenced the application of group work in teaching and learning. Both deductive and inductive approaches were used, allowing insights to emerge from the conceptual framework and participants' perspectives. Triangulation across teachers, and students ensured credibility, and the findings were interpreted to explain how variations in teacher-student ratios affected group work practices and student engagement in Bushenyi-Ishaka Municipality.

Ethical Consideration

The study prioritized ethical considerations to protect the rights and welfare of the participants involved. Informed consent was obtained from the targeted respondents, ensuring that they had a clear understanding of the purpose, procedures, potential risks, and benefits of the study before agreeing to participate. Consent forms were provided to ensure that participants could make an informed decision regarding their involvement.

Confidentiality was maintained by not requiring the respondents to indicate their names on the questionnaires. This approach respected their privacy and prevented any intrusion into their private lives. By anonymizing the data collection process, the study focused solely on the objectives at hand, avoiding unnecessary probing into personal information.

The researcher prioritized the autonomy of the findings by giving weight to the views expressed by the respondents. This approach ensured that the study remained objective and aligned with its intended objectives. Irrelevant information that did not contribute to the research outcomes was excluded, maintaining the integrity and focus of the study.

All sources of data used in the study were properly acknowledged. This included referencing any existing literature, studies, or publications that were consulted during the research process. By acknowledging and crediting the contributions of others, the study upheld academic integrity and promoted transparency in the research findings.

The study underwent ethical clearance from the Bishop Stuart University Research Ethics Committee (REC). The REC reviewed and approved the research proposal, ensuring that it met the ethical guidelines and safeguarded the rights and welfare of the participants involved. This approval signified that the study had undergone rigorous scrutiny and adhered to the highest ethical standards. By adhering to these ethical considerations and obtaining REC approval, the study conducted research in an ethical and responsible manner, protecting the rights, privacy, and well-being of the participants involved.

Community Engagement Plan

This study was committed to engaging the community in a collaborative and inclusive manner to ensure that the research was relevant, effective, and beneficial to all stakeholders. Before data collection, a stakeholder meeting was conducted with school administrators, teachers, parents, and local officials to introduce the research and gather input on the study's objectives and design. A community advisory board was also established to provide ongoing guidance and feedback throughout the research process.

During data collection, regular meetings were held with teachers and headteachers to update them on the study's progress and gather feedback, while focus groups with students and parents ensured their voices were heard and concerns addressed. After data collection, the study's findings were shared with the community through a dissemination meeting, report, and policy

brief. Collaborations were made with local officials and school administrators to develop and implement evidence-based recommendations.

Training and capacity-building workshops were also provided for teachers and headteachers on effective group work practices and teacher-student ratio management. By engaging the community throughout the research process, this study aimed to build trust, ensure relevance, and promote ownership of the findings and recommendations.

Ebola and Covid-19 transmission

To ensure the safety of participants and the community, the researcher took necessary precautions to minimize the risk of Ebola and Covid-19 transmission. This included being vaccinated against both diseases (if available) and following local health guidelines. The researcher also wore Personal Protective Equipment (PPE) such as masks, gloves, and used sanitizers during data collection, while observing social distancing measures during data collection, training, and community engagement activities.

To further reduce the risk of transmission, the researcher conducted interviews and focus groups outdoors or in well-ventilated areas. Data collection tools were adapted for remote or online administration if necessary, and training and capacity-building workshops were conducted online or in small groups to minimize contact.

In case of an emergency, the researcher activated an emergency response plan developed in collaboration with local health authorities to address any suspected or confirmed cases of Ebola or Covid-19. The researcher reported any suspected or confirmed cases to local health authorities immediately. Continuous monitoring of local health updates ensured that the risk mitigation plan was adjusted accordingly to maintain a safe research environment for all stakeholders.

Dissemination Plan

The study findings were disseminated through various channels to ensure that the research reached relevant stakeholders. Peer-reviewed journal articles, conference presentations, and research seminars targeted the academic community. Policy briefs, stakeholder meetings, and training programs engaged policymakers and practitioners. The researcher also collaborated with local organizations, ensured culturally sensitive sharing of findings, and made materials accessible for stakeholders with disabilities to amplify the reach and impact of the study and ensure that the research had a positive impact on policy, practice, and community outcomes.

Chapter Four

Data Presentation, Analysis and Interpretation

Introduction

This chapter presents the findings of the study on teacher-student ratio and the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District.

The current teacher-student ratio in secondary schools within Bushenyi-Ishaka Municipality, Bushenyi District

This section presents the qualitative findings related to the first objective, which explores the current teacher-student ratio in secondary schools within Bushenyi-Ishaka Municipality, Bushenyi District. The findings are based on interviews and are presented with direct, verbatim quotes to provide a clear and accurate representation of the current situation.

Table 4.1: Qualitative data for The current teacher-student ratio

Theme	Sub-themes	Categories / Key Findings
Methods of Group Work	Formation of groups	Teachers form heterogeneous groups based on ability, gender, and interests; students in groups benefit from peer learning and diverse perspectives.
	Roles and responsibilities	Teachers assign group leaders and specific roles such as recorder, presenter, and timekeeper to ensure active participation and accountability within each group.
	Instructional strategies	Teachers use discussion, peer teaching, problem-solving tasks, and collaborative exercises within groups to enhance understanding and promote critical thinking.

Effectiveness of Group Work	Student engagement	Group work encourages collaboration, communication, and active participation; students feel more involved and motivated when working together.
	Academic performance	Group work supports understanding of complex topics, reinforces learning through peer explanations, and promotes critical thinking and problem-solving skills.
	Peer support	Students assist each other, share knowledge, and provide guidance within groups; this reduces teacher workload and enhances collective learning outcomes.

The study findings indicate that the current teacher-student ratios in secondary schools within Bushenyi-Ishaka Municipality are significantly higher than the ideal, negatively impacting both teaching and learning. Ratios ranging from 1:50 to 1:80 were reported, making it challenging for teachers to provide individual attention to each student. The high ratios exacerbate difficulties in maintaining student engagement, classroom management, and ensuring that all students receive the necessary support. This results in reduced teacher-student interaction, increased teacher stress, and a decline in the overall quality of education.

Methods of Group Work

Formation of groups

Headteacher A revealed that teachers carefully formed heterogeneous groups based on students' academic abilities, gender, and interests. *"We instruct teachers to mix students according to ability and interests. However, when class sizes are large, it's challenging to ensure that all groups are balanced, and some students end up being overlooked."*

Teacher B revealed that heterogeneous grouping aimed to foster peer learning and support. *“We try to ensure that each group has high, medium, and low-performing students. The intention is for stronger students to support weaker ones, but sometimes the dominant students take over, and quieter students remain passive.”* Student C revealed that while teachers organized them into groups, the effectiveness varied. *“We are usually put into groups with classmates we don’t always know well. Some groups work well, but in others, some students do all the talking while others barely participate, which can be frustrating.”*

Roles and responsibilities

Headteacher D revealed that assigning specific roles such as leader, recorder, or presenter helped in promoting active participation. *“Teachers are encouraged to assign roles within groups to ensure everyone is involved. Despite this, in big classes, it is hard to monitor whether students are truly performing their roles.”* Teacher E revealed that although roles were assigned, some students ignored their responsibilities. *“We assign roles to each student, but in many cases, especially with large classes, some students don’t take their roles seriously and rely on others to do the work.”* Student F revealed that roles were sometimes ignored or unevenly performed. *“Sometimes we are told to take up roles, like leader or note-taker, but a few students end up doing most of the work while others just follow along without contributing.”*

Instructional strategies

Headteacher B revealed that teachers frequently used discussion, peer teaching, and problem-solving tasks to engage students in group work. *“Our teachers encourage discussions and problem-solving in groups. It allows students to explain concepts to each other, but large class sizes limit teacher support.”* Teacher C revealed that following up on group work tasks was

challenging with high student numbers. *“In small classes, I can easily observe and guide each group. In large classes, some groups drift off-topic, and it’s difficult to ensure that all students are learning effectively.”* Student D revealed that group discussions helped them better understand the lessons. *“I enjoy group discussions because my friends explain things in ways I understand better than just listening to the teacher. Still, in big groups, some students never get a chance to speak.”*

Effectiveness of Group Work

Student engagement

Headteacher A revealed that group work encouraged active participation among students. *“When students work in groups, they ask questions, exchange ideas, and participate more actively than in individual learning. This is especially visible in smaller groups, though the large classes make this difficult.”* Teacher B revealed that collaborative activities improved classroom interaction. *“Students are more engaged in lessons when they are encouraged to collaborate. They motivate each other to participate and stay focused, but in overcrowded classrooms, this is limited.”* Student E revealed that they felt more involved and confident in group work. *“I feel like I can share my ideas more freely in a group. It helps me understand better, but sometimes a few students dominate the discussion.”*

Academic performance

Headteacher C revealed that group work improved students’ understanding of complex topics. *“Group work has made a noticeable difference in how students grasp difficult concepts. They discuss and explain things to each other, which reinforces learning, although it requires careful supervision.”* Teacher F revealed that group work enhanced critical thinking and problem-solving skills. *“Students develop analytical skills by solving problems together. However, with*

larger classes, not all students benefit equally because some remain passive.” Student G revealed that peer collaboration helped them learn difficult lessons. “When we work in groups, I can ask questions and get explanations from classmates, which helps me understand better than just listening to the teacher.”

Peer support

Headteacher D revealed that peer support helped reduce teacher workload while promoting collaborative learning. *“Students helping each other lightens the teacher’s burden and allows for more interactive learning, but it is only effective when groups are well-managed.”* Teacher E revealed that peer learning strengthened comprehension but sometimes encouraged dependency. *“Peer support is beneficial because students can explain things to each other, but some rely too much on others instead of trying themselves.”* Student F revealed that they gained confidence through peer assistance. *“I learn better when my group members explain things to me. It also gives me a chance to teach others, which boosts my confidence.”*

The level of the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District

This section presents the qualitative findings related to the first objective, which explores the level of the application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District. The findings are based on interviews and are presented with direct, verbatim quotes to provide a clear and accurate representation of the current situation.

Table 4.2: The application of group work in teaching and learning

Themes	Sub-themes	Categories / Key Findings
Assessment of Group Work Methods	Collaborative learning approaches	Teachers use a mix of methods such as peer discussions, role plays, and project-based activities. Some teachers rely heavily on traditional lecturing, reducing opportunities for group engagement.
	Planning and structuring group activities	Clear objectives, defined roles, time allocation, lack of planning.

The study findings revealed that the *application of group work* in secondary schools in Bushenyi-Ishaka Municipality varies considerably across subjects, teaching methods, and school contexts. Teachers employ a variety of *collaborative learning approaches*, including *peer discussions, role plays, project-based activities*, and occasionally *debates*. These approaches encourage students to actively participate, share knowledge, and develop *problem-solving and critical thinking skills*. However, in some classrooms, *traditional lecturing still predominates*, which limits opportunities for students to engage meaningfully in group activities.

The *effectiveness of group work* is influenced by several factors. Practical subjects such as *Science, Agriculture, and Business Studies* show higher success because they naturally lend themselves to hands-on collaboration through experiments, field activities, and case study analyses. In these subjects, students not only acquire content knowledge but also *learn to cooperate, share responsibilities, and engage in mutual learning*. Conversely, theory-based subjects such as *Mathematics, History, and English* face greater challenges in implementing group work effectively. Large class sizes, limited classroom time, and uneven student participation were frequently cited by teachers as significant barriers to effective group engagement.

Headteacher A highlighted that *group work is applied moderately across subjects*. “We encourage group work, especially in practical subjects like Science, where students collaborate on experiments and projects,” they explained. “*In theory-based subjects, it is less frequent because managing time and large classes is difficult. Nevertheless, group work allows students to support each other and reduces the burden on teachers, ensuring that no student is left behind.*”

Headteacher B emphasized that *group work is becoming more common*, particularly in subjects like *Geography and English*. “It provides students the opportunity to discuss topics, share ideas, and solve problems collaboratively,” they noted. *However, the effectiveness of group work is sometimes limited due to unequal participation, with a few students carrying most of the work while others contribute less.*

Headteacher C pointed out that *group work forms a central part of teaching in Social Studies and Business Studies*. “Students are frequently asked to work in groups on case studies, projects, and presentations,” they said. “*This approach helps students develop critical thinking, creativity, and problem-solving abilities. It also teaches them essential life skills such as cooperation, responsibility-sharing, and leadership within a team.*”

Headteacher D acknowledged that *group work is encouraged but its application is uneven*. “It works best in practical subjects like Science and Agriculture, where collaboration enhances learning outcomes,” they explained. “*In theory-heavy subjects such as Mathematics, teacher-centered methods dominate because it is difficult to structure group activities effectively. Large classes make it challenging to monitor all groups and ensure active participation.*”

Headteacher E mentioned that *group work is occasionally applied*, particularly in subjects where discussion is central, such as *History and English Literature*. “Students work in groups to analyze texts, discuss themes, and present their findings to the class,” they explained. “*However,*

engagement can be inconsistent, particularly in larger classes where maintaining focus and ensuring equal participation is difficult.”

The findings suggest that while *group work is a valuable teaching method*, its effectiveness depends on *subject type, class size, teacher preparedness, and students’ willingness to participate*. Practical subjects benefit the most due to their collaborative nature, while theory-heavy subjects require additional planning, guidance, and teaching strategies to achieve meaningful group interaction. Challenges such as *unequal participation, insufficient teacher training, large class sizes, and limited teaching resources* indicate that group work is not yet fully optimized in all secondary schools. Overall, the assessment of group work shows that its successful application requires thoughtful planning, structured group activities, and active facilitation by teachers to ensure that all students benefit from collaborative learning experiences.

The influence of teacher-student ratios on the application of group work in secondary schools

Table 4.3: The influence of teacher-student ratios on the application of group work in secondary schools

Themes	Sub-themes	Categories / Key Findings
Impact of Teacher-Student Ratio on Group Work	Class size	Larger classes make group work difficult to organize and monitor
	Teacher availability	Limited number of teachers reduces time for guidance and supervision of groups
Adaptation Strategies	Group size adjustment	Teachers form smaller groups within large classes to manage participation
	Peer leadership	Assigning group leaders to facilitate activities

Challenges Faced	Unequal participation	Some students dominate while others remain passive in large groups
	Time constraints	Large classes require more time to complete group tasks effectively
Positive Outcomes	Peer learning	Even in large classes, students learn from each other through group work
	Collaboration skills	Students develop teamwork and problem-solving abilities

Impact of Teacher-Student Ratio on Group Work

Headteacher A stated that larger classes make it very difficult to organize and monitor group activities. *“When a class has over 60 students, it is challenging to ensure every group is participating actively. Some students end up doing nothing while others dominate the tasks.”*

Headteacher B explained that the limited number of teachers affects supervision during group work. *“With only a few teachers for many students, it is hard to move around and provide guidance to every group. Some groups get neglected, and their learning suffers.”*

Headteacher C noted that high teacher-student ratios slow down the progress of group activities. *“In big classes, group work takes longer because I have to spend time managing discipline and ensuring every group stays on task.”* Headteacher D observed that some students dominate group work in large classes, while others remain passive. *“Even when we assign groups, a few confident students take over, and the quieter ones are left out. This is a challenge we face in large classes.”*

Teacher A stated that large class sizes make group work extremely challenging. *“When there are over 60 students in a class, it becomes difficult to organize groups effectively. Some students tend to dominate discussions while quieter ones participate less. I often find myself*

moving between groups constantly, but it's hard to ensure that every student is actively learning and contributing."

Teacher B explained that limited teacher availability affects supervision and guidance. *"With only a few teachers handling multiple large classes, I cannot give adequate support to all groups. Sometimes, students struggle with activities without realizing that I am busy assisting another group. This lack of guidance reduces the effectiveness of group work and leaves some students behind."* Teacher C noted that high teacher-student ratios slow down the progress of group activities. *"In large classes, even simple group tasks take much longer because I have to manage behavior, explain instructions repeatedly, and monitor multiple groups at once. This reduces the time available for completing the planned curriculum and providing meaningful feedback to students."*

Teacher D observed that some students dominate group discussions while others remain passive. *"It's common to see a few confident students taking over the discussion while quieter or less confident students do not participate. This creates an imbalance in learning, and sometimes I have to intervene to redistribute tasks, which is time-consuming and difficult in large classes."* Teacher E pointed out that high teacher-student ratios limit meaningful interaction with students during group work. *"Even when I try to circulate among groups, I cannot attend to all of them consistently. Some groups work well on their own, but others struggle without guidance. This makes it difficult to identify students who need extra help and to provide timely feedback."*

Adaptation Strategies

Headteacher E pointed out that teachers try to form smaller groups within large classes to manage participation. *“We break the class into smaller units so that every student has a chance to contribute, but it still requires careful supervision.”*

Headteacher F indicated that assigning peer leaders helps manage group activities. *“We select leaders in each group to facilitate activities and report progress. This helps, but not all groups work effectively without teacher intervention.”*

Headteacher G expressed that teachers sometimes rotate group membership to ensure all students participate over time. *“By changing group members regularly, quieter students get a chance to engage and share ideas, which partially mitigates the size issue.”*

Headteacher H reported that limited teacher availability restricts guidance and feedback during group work. *“Even with strategies like peer leaders, teachers cannot attend to every group at the same time, and some learning opportunities are missed.”*

Teacher F reported that forming smaller groups within large classes helps manage participation. *“We divide the class into smaller units so that each student has a chance to actively contribute. While this strategy improves participation, I still have to move frequently between groups to ensure that weaker students are not left out, which requires careful planning and energy.”* Teacher G expressed that assigning group leaders improves organization and student accountability. *“Selecting leaders in each group has been effective because they help monitor their peers, report progress, and resolve minor issues. However, this approach works best when students take their roles seriously, and I still need to supervise the overall process.”*

Teacher H indicated that rotating group members ensures fair participation. *“By changing group members regularly, quieter students get opportunities to participate, and dominant students cannot always control the discussion. This strategy encourages collaboration and helps balance learning, but it also requires careful tracking to ensure everyone is benefiting equally.”* Teacher I explained that peer support within groups enhances learning. *“Even when teacher supervision is limited, students often help each other understand concepts, explain steps, and solve problems. This peer support is valuable, especially for struggling students, but it does not completely replace teacher guidance, particularly for complex topics.”*

Teacher J observed that careful planning and structured group work can partially mitigate the challenges of large classes. *“When group tasks are well-structured with clear objectives and instructions, students can work more effectively. Still, in very large classes, some students may get distracted, and I have to frequently redirect them, which adds to the workload.”*

Challenges Faced

Headteacher A stated that unequal participation is a major problem in large groups. *“In big classes, some students dominate while others are silent. It takes effort to ensure everyone contributes.”*

Headteacher B noted that time constraints hinder effective completion of group tasks. *“Completing a group activity takes longer in a large class because I have to constantly manage the groups and check everyone’s work.”*

Headteacher C observed that students sometimes become disengaged when group work is poorly supervised. *“If I cannot reach all groups, some students stop participating, and the purpose of group learning is lost.”*

Teacher A stated that unequal participation is a persistent challenge. *“Some students are very active and complete most of the work, while others do very little or remain silent. It is frustrating to ensure that all students are learning equally, especially when I cannot intervene immediately.”*

Teacher B noted that time constraints make it difficult to complete group tasks effectively. *“In large classes, the time spent managing groups and monitoring behavior often exceeds the time needed for actual learning. As a result, some groups cannot finish tasks within the lesson period, and we have to carry over work to the next day.”*

Teacher C observed that managing discipline during group work adds extra pressure. *“Large classes are noisier and more difficult to control. Students sometimes go off-task, argue, or distract others, which takes my attention away from providing guidance on the learning activity itself.”*

Positive Outcomes

Headteacher D reported that despite challenges, group work promotes peer learning. *“Even in large classes, students learn from each other. Sometimes weaker students benefit from stronger peers explaining concepts.”* Headteacher E explained that group work develops collaboration and problem-solving skills. *“Students learn to work as a team and solve problems together. This is one of the few positive outcomes we consistently see, even in overcrowded classes.”*

Headteacher F expressed that students take more responsibility for their learning through group work. *“Some students become leaders and motivate others, which encourages active participation and engagement.”*

Teacher D reported that group work promotes peer learning. *“Even in large classes, students learn a lot from each other. Some students explain concepts more clearly to their peers than I can, which helps weaker students understand difficult topics.”* Teacher E expressed that group activities build collaboration and problem-solving skills. *“Through group work, students learn teamwork, communication, and critical thinking. They experience firsthand how to negotiate ideas, share responsibilities, and solve problems collectively.”*

Teacher F explained that leadership roles in groups encourage responsibility. *“Assigning group leaders motivates students to take initiative and organize their peers. It also fosters accountability and encourages participation from less confident students.”* Teacher G noted that group work boosts engagement. *“When students work together in small groups, they are more involved in the lesson. They ask questions, share opinions, and enjoy the learning process more than during traditional whole-class teaching.”*

Teacher H stated that group work enhances comprehension. *“Students often teach each other concepts they did not understand initially. This peer teaching reinforces learning and ensures that students learn at their own pace, even in large classes.”* Teacher I observed that collaborative problem-solving strengthens learning outcomes. *“When students discuss and solve problems together, they develop critical thinking skills and a deeper understanding of the subject matter.”* Teacher J pointed out that group work develops social and interpersonal skills.

“Students learn to negotiate, respect others’ opinions, and work as a team. These skills are essential beyond academics and are a major advantage of group work, even in large classes.”

Chapter Five

Discussion of Findings, Conclusions and Recommendations

Introduction

This chapter gives discussion of findings, discussion of findings, conclusions and recommendations in relation to teacher-student ratio and application of group work in teaching and learning in secondary schools of Bushenyi-Ishaka Municipality, Bushenyi District.

Discussion of findings

The purpose of this study was to examine the teacher-student ratio and the application of group work in teaching and learning in secondary schools within Bushenyi-Ishaka Municipality, Bushenyi District. Specifically, the study sought to assess how teacher-student ratios influence individualized attention, student engagement, academic performance, and the effectiveness of group work. This discussion interprets the study findings in relation to the study objectives, conceptual and theoretical frameworks, and existing literature, highlighting areas of agreement, contrast, and practical significance.

Current Teacher-Student Ratio in Secondary Schools

The findings of this study revealed that high teacher-student ratios in secondary schools within Bushenyi-Ishaka Municipality have a significant negative impact on both teaching and learning. Teachers consistently reported challenges in providing individualized attention to students due to large class sizes. This lack of individualized support often leads to student disengagement, reduced participation, and ultimately, lower academic performance. Furthermore, the increased workload associated with large classes contributes to teacher stress and burnout, which further diminishes the quality of instruction. These dynamics suggest that high teacher-

student ratios create structural and pedagogical barriers to effective teaching, affecting both student outcomes and teacher well-being.

These findings align with the work of Le et al. (2018), who observed that high teacher-student ratios limit teachers' capacity to offer personalized guidance, consequently reducing student motivation and engagement. However, while Le et al. (2018) primarily focused on urban schools with relatively better infrastructure, the present study extends these insights to a municipal context, demonstrating that similar challenges occur in resource-constrained environments. This extension emphasizes that the negative effects of high teacher-student ratios are not context-specific but are pervasive across different educational settings. Similarly, Kidger et al. (2021) noted that lower teacher-student ratios enable teachers to dedicate more time and attention to individual students, thereby improving learning outcomes. The current findings support this claim while highlighting the contextual limitations faced by schools in Bushenyi-Ishaka Municipality, such as limited teaching resources and large class sizes, which exacerbate these challenges.

Further corroborating the study results, Alexandre and Enslin (2017) found that high teacher-student ratios are associated with lower academic achievement. The mechanisms identified in the current study limited individualized attention, increased teacher stress, and student disengagement provide a clearer understanding of how these ratios negatively affect student outcomes. Additionally, Ullah et al. (2018) emphasized that schools with lower teacher-student ratios tend to have higher student performance across various subjects, reinforcing the importance of policies aimed at maintaining manageable class sizes. Collectively, these findings underline the need for educational strategies that address both structural and pedagogical factors to enhance teaching effectiveness and student learning.

From a practical perspective, the findings underscore the necessity for policy interventions that aim to reduce teacher-student ratios. This could involve recruiting additional teaching staff, improving classroom infrastructure, and providing targeted training and resources to equip teachers with strategies for managing large classes effectively. Addressing these issues would not only improve student engagement and academic performance but also reduce teacher burnout and enhance overall instructional quality.

Theoretically, the findings can be interpreted through Social Learning Theory, which emphasizes the role of teacher scaffolding and peer interaction in promoting effective learning. High teacher-student ratios, as observed in this study, constrain teachers' ability to facilitate collaborative learning and provide individualized guidance. This limitation inhibits the realization of the theoretical principles that underpin effective student learning, such as active engagement, guided participation, and constructive feedback. In this way, the study provides both empirical and theoretical support for maintaining optimal teacher-student ratios as a foundational element of quality education.

The Application of Group Work in Teaching and Learning

The study revealed that the application of group work in secondary schools within Bushenyi-Ishaka Municipality varies considerably depending on subject type, class size, and teachers' capacity to manage group dynamics. Practical subjects, such as Science, Agriculture, and Business Studies, demonstrated higher levels of effectiveness in group-based activities. This is largely due to the collaborative nature of these subjects, which often require students to engage in experiments, projects, and problem-solving tasks that naturally benefit from teamwork. In contrast, theory-based subjects such as Mathematics, History, and English faced greater challenges in

implementing group work effectively. Teachers frequently reported issues including unequal student participation, disengagement, and difficulties in managing large or diverse groups, which diminished the overall effectiveness of collaborative learning.

These findings are supported by Miao et al. (2022), who found that smaller teacher-student ratios significantly enhance collaboration and communication during group activities. Smaller classes allow teachers to monitor student interactions more closely and provide timely, individualized guidance, which strengthens the effectiveness of group work. Similarly, Strahan and Poteat (2022) emphasized that group work is essential for the development of interpersonal skills such as communication, empathy, and cooperation. Johnson and Johnson (2009) further highlighted that group work increases student engagement, motivation, and overall academic performance, while Donohoo (2018) stressed that manageable class sizes allow teachers to facilitate meaningful discussions, provide timely feedback, and support the development of social and academic skills.

Despite its potential benefits, the study indicates that the effectiveness of group work is constrained by structural and pedagogical limitations. Large class sizes, limited access to learning resources, and difficulties in coordinating multiple groups reduce the capacity of group work to achieve its full potential. This suggests that while group work is a valuable instructional strategy, it cannot function effectively in isolation; it requires adequate support in terms of teacher training, classroom organization, and access to instructional materials.

To maximize the effectiveness of group work, schools should invest in professional development programs focused on collaborative teaching strategies. Classroom layouts and group structures should be designed to facilitate engagement, equitable participation, and active

interaction among students. Additionally, providing sufficient learning materials and resources is essential to ensure that all students can participate meaningfully in group activities.

These findings align with Social Learning Theory, which emphasizes the importance of social interaction, peer collaboration, and guided facilitation in learning. Effective group work enables students to construct knowledge collectively, develop critical thinking skills, and engage in reflective learning. When structural and pedagogical conditions are suboptimal, the potential of group work to support these theoretical principles is reduced, highlighting the need for a holistic approach that integrates teacher capacity, class management, and resource availability.

The influence of teacher-student ratios on the application of group work in secondary schools

The findings of this study indicate that large teacher-student ratios in secondary schools within Bushenyi-Ishaka Municipality present significant challenges for the effective application of group work in teaching and learning. Both headteachers and teachers reported that managing group activities in classes of over 60 students is extremely difficult. Common challenges include unequal participation, where some students dominate discussions while others remain passive, limited teacher supervision, and extended time requirements for completing group tasks. These constraints reduce the overall effectiveness of group work, particularly in theory-heavy subjects such as Mathematics, History, and English, where structured guidance and individualized support are critical. The findings suggest that high teacher-student ratios create a tension: while group work can serve as a strategy to manage large classes, its effectiveness is compromised when teachers cannot actively monitor and support all groups.

Existing literature supports this study's observations. Miao et al. (2022) and Ekinci (2017) reported that lower teacher-student ratios enable teachers to provide more individualized guidance and more effective facilitation of group activities. Smaller classes allow teachers to circulate among groups, address misconceptions, and ensure equitable participation, which enhances the overall learning experience. Similarly, Wanders et al. (2020) and Ottosen et al. (2017) highlighted that smaller ratios increase student engagement, participation, and skill development in collaborative activities. These studies suggest that optimal teacher-student ratios create conditions in which group work can achieve its intended outcomes, including critical thinking, problem-solving, and interpersonal skill development.

Interpretation: The relationship between teacher-student ratios and group work is nuanced. While larger classes may necessitate group work as a practical strategy to manage high student numbers, optimal ratios provide the necessary conditions for group work to be both effective and meaningful. Contextual factors, such as subject type, classroom management skills, and the availability of teaching resources, play a critical role in mediating this relationship. In practical subjects like Science and Agriculture, group work may still be successful in larger classes due to the collaborative nature of experiments and projects. However, in theory-heavy subjects, insufficient teacher attention and supervision in large classes limit participation, engagement, and learning outcomes.

Practical implications: These findings have important implications for school administrators and policymakers. Ensuring that teacher-student ratios are maintained at manageable levels is crucial to allow meaningful group interactions and individualized support. In addition, teacher training focused on collaborative learning methods, classroom management, and the effective organization of large classes is essential. Adequate allocation of teaching resources

and learning materials can further support teachers in implementing group work successfully, mitigating the constraints posed by high student numbers.

Methodological reflection: The mixed-methods design employed in this study strengthened the validity and richness of the findings by allowing triangulation between quantitative measures of teacher-student ratios and qualitative insights from headteachers and teachers. While the study provides valuable insights into the dynamics of group work in high-ratio classes, its focus on a single municipality limits the generalizability of the findings. Future research should expand geographically, consider multiple municipalities or districts, and explore longitudinal designs to examine the long-term effects of teacher-student ratios on the effectiveness of collaborative learning.

Integrative Insights

Overall, the findings reveal that high teacher-student ratios negatively affect individualized attention and academic outcomes, while group work can mitigate some challenges but is constrained by class size and teacher capacity. The findings extend existing literature by contextualizing these dynamics in Bushenyi-Ishaka Municipality and show that both structural (teacher-student ratio, resources) and pedagogical (group work methods, teacher skills) factors jointly influence educational outcomes.

Practical takeaway: Education authorities should prioritize reducing teacher-student ratios, improving teacher training in group work facilitation, and providing resources to optimize collaborative learning. *Theoretically*, the findings align with frameworks emphasizing scaffolding, peer interaction, and active engagement, reinforcing the importance of teacher-mediated learning even in resource-constrained contexts.

Conclusions

The findings of this study indicate that high teacher-student ratios in secondary schools within Bushenyi-Ishaka Municipality have a negative impact on teaching and learning. Large class sizes make it difficult for teachers to provide individualized attention, which often results in disengaged students and lower academic performance. The increased workload associated with large classes also contributes to teacher stress and burnout, further diminishing the quality of instruction. These challenges highlight the need for policy and administrative interventions to reduce class sizes and support teachers in managing large groups effectively.

The study further revealed that the application of group work in teaching and learning varies depending on subject type, class size, and teachers' ability to manage group dynamics. Practical subjects such as Science, Agriculture, and Business Studies benefit more from collaborative learning, as their content naturally supports teamwork and peer interaction. In contrast, theory-based subjects such as Mathematics, History, and English face challenges, including unequal student participation, disengagement, and difficulties coordinating group activities. These findings underscore that group work, while valuable, is not equally effective across all teaching contexts and requires adequate planning, supervision, and classroom management.

The study identified a significant relationship between teacher-student ratios and the effectiveness of group work. Specifically, lower teacher-student ratios facilitate more meaningful application of group work, enabling teachers to provide guidance, monitor participation, and engage all students effectively. Conversely, higher teacher-student ratios present barriers to implementing group work efficiently, limiting the method's benefits in promoting collaboration, problem-solving, and interpersonal skill development. This highlights that class size is a critical factor influencing the successful use of group work in secondary schools.

Recommendations

Teacher–Student Ratio in Secondary Schools

The Ministry of Education and Sports should prioritize reducing teacher-student ratios by recruiting more teachers in overcrowded schools to ensure effective learning and personalized attention for students.

Head teachers should lobby District Education Officers (DEOs) for additional staff and, where possible, explore temporary options such as part-time teachers or volunteers to reduce pressure on existing staff.

Local governments and Boards of Governors should allocate targeted resources to improve classroom infrastructure and staffing levels, which will enhance teaching effectiveness and student engagement.

Application of Group Work in Teaching and Learning

Teachers should receive continuous professional development on strategies for managing group work in both practical and theoretical subjects, with emphasis on inclusivity and equal participation.

Head teachers should facilitate resource provision such as teaching aids, space, and time allocation to enable teachers to manage group activities more effectively.

The Ministry of Education and Sports, working with school administrations, should encourage flexible classroom environments (for example, movable desks, adequate learning materials) that promote interactive group learning.

Teacher–Student Ratio and Group Work in Teaching and Learning

The Ministry of Education and Sports should design policies to ensure manageable class sizes, recognizing that high ratios undermine the effectiveness of group work despite its increased use in larger classes.

Teachers should adopt differentiated group strategies tailored to class sizes—for instance, rotating group membership, assigning peer leaders, and using structured tasks to ensure balanced participation.

Head teachers should establish monitoring mechanisms to assess how teacher-student ratios affect the success of group work, ensuring that increases in group activities are accompanied by adequate support for teachers and learners.

Areas for Further Research

- Relationship between teacher-student ratios and student academic performance in various subjects.
- The effectiveness of group work in different classroom settings, considering class size and subject type.
- Teachers' experiences and strategies for managing large classrooms and maintaining student engagement.

References

- Abrokwaa, C. (2017). Colonialism and the development of higher education. In *Re-thinking postcolonial education in Sub-Saharan Africa in the 21st Century* (pp. 201-220). Brill.
- Adebisi, F. I. (2016). Decolonising education in Africa: Implementing the right to education by re-appropriating culture and indigeneity. *N. Ir. Legal Q.*, 67, 433.
- Ajani, I. R., & Akinyele, O. B. (2014). Effects of student-teacher ratio on academic achievement of selected secondary school students in Port Harcourt Metropolis, Nigeria. *Journal of Education and Practice*, 5(24), 100-106.
- Alexandre, J., & Enslin, C. (2017). The Relationship between Personalized Instruction, Academic Achievement, Knowledge Application, and Problem-Solving Skills. *National Teacher Education Journal*, 10(1).
- Behlol, M. G., & Akbar, R. A. (2019). Investigating Secondary School Effectiveness: Peer-Teacher Relationship and Pedagogical Practices. *Bulletin of Education and research*, 41(1), 43-55.
- Boonk, L., Gijssels, H. J., Ritzen, H., & Brand-Gruwel, S. (2018). A review of the relationship between parental involvement indicators and academic achievement. *Educational research review*, 24, 10-30.
- Borup, J., & Stevens, M. A. (2017). Using student voice to examine teacher practices at a cyber charter high school. *British Journal of Educational Technology*, 48(5), 1119-1130.
- Braun, S. S., Roeser, R. W., Mashburn, A. J., & Skinner, E. (2019). Middle school teachers' mindfulness, occupational health and well-being, and the quality of teacher-student interactions. *Mindfulness*, 10, 245-255.

- Bushenyi District Education Officer. (2022). Annual Performance Report for the Financial Year 2021/2022. Bushenyi District Local Government.
- Changwong, K., Sukkamart, A., & Sisan, B. (2018). Critical thinking skill development: Analysis of a new learning management model for Thai high schools. *Journal of International Studies*, 11(2).
- Donohoo, J. (2018). Collective teacher efficacy research: Productive patterns of behaviour and other positive consequences. *Journal of educational change*, 19(3), 323-345.
- Ekinci, N. (2017). Examining the relationships between epistemological beliefs and teaching and learning conceptions of lower-secondary education teachers. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 18(1), 344-358.
- Ettekal, I., & Shi, Q. (2020). Developmental trajectories of teacher-student relationships and longitudinal associations with children's conduct problems from Grades 1 to 12. *Journal of school psychology*, 82, 17-35.
- Government of Uganda (GOU). (2008). Education Sector Strategic Plan 2007-2015. Ministry of Education and Sports, Kampala, Uganda.
- Hajovsky, D. B., Chesnut, S. R., & Jensen, K. M. (2020). The role of teachers' self-efficacy beliefs in the development of teacher-student relationships. *Journal of school psychology*, 82, 141-158.
- Hejazi, S. (2020). The Gap between Architecture Education and Architectural Profession in Iran. *Journal of Architectural Research and Education*, 2(2), 121-133.
- Heleta, S., & Bagus, T. (2021). Sustainable development goals and higher education: leaving many behind. *Higher Education*, 81(1), 163-177.

- Holliday, A., Hyde, M., & Kullman, J. (2021). *Intercultural communication: An advanced resource book for students*. Routledge.
- Howe, C., Hennessy, S., Mercer, N., Vrikki, M., & Wheatley, L. (2019). Teacher–student dialogue during classroom teaching: Does it really impact on student outcomes? *Journal of the Learning Sciences*, 28(4-5), 462-512.
- Jadoon, A., Khan, F., Syeda Tehmina Naz Bukhari, N., Gilani, S., Ishfaq, U., & Ullah, M. (2022). Effect of teacher-student relationship on pro-social behavior and academic achievement of secondary school students. *Indian Journal of Economics and Business*, 21(1), 331-337.
- Katuu, S. (2020). Exploring the challenges facing archives and records management professionals in Africa: Historical influences, current developments and opportunities. *The UNESCO memory of the world programme: Key aspects and recent developments*, 275-292.
- Kidger, J., Turner, N., Hollingworth, W., Evans, R., Bell, S., Brockman, R., Copeland, L., Fisher, H., Harding, S., & Powell, J. (2021). An intervention to improve teacher well-being support and training to support students in UK high schools (the WISE study): A cluster randomised controlled trial. *PLoS medicine*, 18(11), e1003847.
- Kim, M., & Beehr, T. A. (2018). Organization-based self-esteem and meaningful work mediate effects of empowering leadership on employee behaviors and well-being. *Journal of Leadership & Organizational Studies*, 25(4), 385-398.
- Larson, K. E., Pas, E. T., Bottiani, J. H., Kush, J. M., & Bradshaw, C. P. (2021). A multidimensional and multilevel examination of student engagement and secondary school teachers' use of classroom management practices. *Journal of Positive Behavior Interventions*, 23(3), 149-162.

- Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education*, 48(1), 103-122.
- Malik, R. H., & Rizvi, A. A. (2018). Effect of Classroom Learning Environment on Students' Academic Achievement in Mathematics at Secondary Level. *Bulletin of Education and research*, 40(2), 207-218.
- Maxwell, S., Reynolds, K. J., Lee, E., Subasic, E., & Bromhead, D. (2017). The impact of school climate and school identification on academic achievement: Multilevel modeling with student and teacher data. *Frontiers in psychology*, 8, 2069.
- Miao, J., Chang, J., & Ma, L. (2022). Teacher–student interaction, student–student interaction and social presence: their impacts on learning engagement in online learning environments. *The Journal of Genetic Psychology*, 183(6), 514-526.
- Mishra, S. B., & Alok, S. (2022). Handbook of research methodology. In: Educreation publishing.
- Mohajan, H. K. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, 17(4), 59-82.
- Mohajan, H. K. (2018). Qualitative research methodology in social sciences and related subjects. *Journal of economic development, environment and people*, 7(1), 23-48.
- Mujuni, J. B. (2015). *A case study of cooperative learning in Bushenyi District in Uganda: Educational leaders' and teachers' perceptions* Loyola University Chicago].
- Ottosen, K. O., Goll, C. B., & Sørli, T. (2017). The multifaceted challenges in teacher-student relationships: A qualitative study of teachers' and principals' experiences and views regarding the dropout rate in Norwegian upper-secondary education. *Scandinavian Journal of Educational Research*, 61(3), 354-368.

- Papadakis, S., Kalogiannakis, M., & Zaranis, N. (2018). The effectiveness of computer and tablet assisted intervention in early childhood students' understanding of numbers. An empirical study conducted in Greece. *Education and Information Technologies*, 23, 1849-1871.
- Ragab, M. A., & Arisha, A. (2018). Research methodology in business: A starter's guide.
- Richmond, D., Sibthorp, J., Gookin, J., Annarella, S., & Ferri, S. (2018). Complementing classroom learning through outdoor adventure education: Out-of-school-time experiences that make a difference. *Journal of Adventure Education and Outdoor Learning*, 18(1), 36-52.
- Roulston, K., & Choi, M. (2018). Qualitative interviews. *The SAGE handbook of qualitative data collection*, 233-249.
- Shabani, J., Okebukola, P., & Oyewole, O. (2014). Quality assurance in Africa: Towards a continental higher education and research space. *International Journal of African Higher Education*, 1(1).
- Sota, J. (2015). Christian Clerical Schools–Shelters of Education and Culture in Albanian Territories Christian Clerical Schools–Shelters of Education and Culture in Albanian Territories. *Academic Journal of Interdisciplinary Studies*, 4(3 S1), 285.
- Strahan, D. B., & Poteat, B. (2022). Middle level students' perceptions of their social and emotional learning: an exploratory study. In *Dialogues in Middle Level Education Research Volume 1* (pp. 203-226). Routledge.
- Ullah, I., Tabassum, R., & Kaleem, M. (2018). Effects of peer tutoring on the academic achievement of students in the subject of biology at secondary level. *Education Sciences*, 8(3), 112.

- Van Mol, C., & De Valk, H. (2016). Migration and immigrants in Europe: A historical and demographic perspective. *Integration processes and policies in Europe: Contexts, levels and actors*, 31-55.
- Varga, M. (2017). The effects of teacher-student relationships on the academic engagement of students.
- Wanders, F. H., van der Veen, I., Dijkstra, A. B., & Maslowski, R. (2020). The influence of teacher-student and student-student relationships on societal involvement in Dutch primary and secondary schools. *Theory & Research in Social Education*, 48(1), 101-119.
- Wang, M.-T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational psychology review*, 28(2), 315-352.
- Wright, M. C., Bergom, I., & Bartholomew, T. (2019). Decreased class size, increased active learning? Intended and enacted teaching strategies in smaller classes. *Active learning in higher education*, 20(1), 51-62.
- Xuan, X., Xue, Y., Zhang, C., Luo, Y., Jiang, W., Qi, M., & Wang, Y. (2019). Relationship among school socioeconomic status, teacher-student relationship, and middle school students' academic achievement in China: Using the multilevel mediation model. *PloS one*, 14(3), e0213783.
- Zangirolami-Raimundo, J., de Oliveira Echeimberg, J., & Leone, C. (2018). Research methodology topics: Cross-sectional studies. *Journal of Human Growth and Development*, 28(3), 356-360.

Appendices

Appendix 1: Questionnaire for teachers

Dear respondent

My name is Duncan Ahimbisibwe, and I am a researcher conducting a study on the influence of teacher-student ratio on group work in secondary schools. This study aims to explore the experiences and perceptions of students, teachers, and headteachers regarding group work practices in secondary schools. Your participation in this study is voluntary, and your responses will be kept confidential and anonymous. All data collected will be stored securely and used solely for research purposes. Your contributions are invaluable, and I appreciate your time and honesty.

Section A: The Current Teacher-Student Ratio in Secondary Schools

1. How would you describe the current teacher-student ratio in your school?
2. In your opinion, is the current teacher-student ratio ideal for effective teaching and learning? Why or why not?
3. What challenges do you face in managing classes with the current teacher-student ratio?
4. How does the teacher-student ratio affect your ability to give individual attention to students?
5. How do you think the teacher-student ratio affects your well-being and workload?

Section B: The Application of Group Work in Teaching and Learning

6. How often do you use group work in your lessons, and for which subjects or activities?
7. Can you describe the process you use to organize students into groups?
8. What benefits have you observed from using group work in your classes?
9. What challenges do you face when implementing group work?

10. How do students respond to group work in your classroom?

Section C: The influence of teacher-student ratios on the application of group work in secondary schools

11. In your experience, how does the teacher-student ratio affect your ability to implement group work effectively?

12. What challenges arise when using group work in classes with a high teacher-student ratio?

13. Have you adapted your group work methods because of class size? If yes, how?

14. How do large class sizes impact students' participation and collaboration in group work?

15. In your opinion, what is the ideal teacher-student ratio that would allow group work to be most effective?

Thank You

Appendix 2: Questionnaire for Students

Dear respondent

My name is Duncan Ahimbisibwe, and I am a researcher conducting a study on the influence of teacher-student ratio on group work in secondary schools. This study aims to explore the experiences and perceptions of students, teachers, and headteachers regarding group work practices in secondary schools. Your participation in this study is voluntary, and your responses will be kept confidential and anonymous. All data collected will be stored securely and used solely for research purposes. Your contributions are invaluable, and I appreciate your time and honesty.

Section A: The Current Teacher-Student Ratio in Secondary Schools

1. How would you describe the number of students in your class compared to the number of teachers?
2. Do you feel that the number of students in your class affects the attention you get from your teachers? Please explain.

Section B: The Application of Group Work in Teaching and Learning

3. How often do your teachers use group work in lessons?
4. Can you describe how your teacher organizes students into groups?
5. What do you enjoy about working in groups during class activities?
6. What challenges do you face when working in groups?

Section C: The influence of teacher-student ratios on the application of group work in secondary schools

7. How does the number of students in your class affect how your teacher uses group work?
8. In your opinion, do smaller or larger groups make learning easier during group work?
Why?

Appendix 3: Interview Guide for Head Teachers

Dear respondent

My name is Duncan Ahimbisibwe, and I am a researcher conducting a study on the influence of teacher-student ratio on group work in secondary schools. This study aims to explore the experiences and perceptions of students, teachers, and headteachers regarding group work practices in secondary schools. Your participation in this study is voluntary, and your responses will be kept confidential and anonymous. All data collected will be stored securely and used solely for research purposes. Your contributions are invaluable, and I appreciate your time and honesty.

Questions

1. How would you describe the current teacher-student ratio in your school, and how does it impact the overall teaching and learning experience?
2. In your opinion, what is an ideal teacher-student ratio for effective teaching and learning in secondary schools, particularly when implementing group work activities?
3. What strategies or initiatives have you undertaken to address any challenges related to the teacher-student ratio and its impact on group work activities?
4. What kind of support or resources do you provide to teachers to help them effectively implement group work activities in the classroom?
5. How do you ensure that the teacher-student ratio does not hinder the quality of individual attention and feedback given to students during group work activities?