

The Influence of Teacher-Student Ratios on the Application of Group Work in Secondary Schools of Bushenyi-Ishaka Municipality, Bushenyi District

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Abstract

The study examined the influence of teacher-student ratios on the application of group work in secondary schools within Bushenyi-Ishaka Municipality. 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. Purposive and random sampling techniques were used to select participants, while the 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. This undermines effective supervision and individualized support. While group work is practiced, its application remains uneven, favoring practical subjects more than theoretical ones. Overcrowding leads to unequal participation, limited teacher guidance, and reduced 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. However, 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 improved infrastructure.

Keywords: Influence, Teacher-Student Ratios, Group Work, Secondary Schools.

Introduction

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). These 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 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 significant deviations from the recommended ratio (GOU, 2008). In Bushenyi-Ishaka Municipality, Bushenyi District, this challenge 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). 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 teachers to 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 its potential benefits, 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 influence would 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 the 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

To examine how the teacher-student ratio influences the application of group work in secondary schools in Bushenyi-Ishaka Municipality, Bushenyi District.

Literature Review

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 influence of teacher-student ratios on the application of 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 teachers' ability 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 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) also noted that smaller ratios increased student motivation and active participation in group work, as students felt supported and valued by their 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) similarly reported that smaller ratios improved students' communication, collaboration, and problem-solving skills, thereby facilitating the 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 the 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 remain 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 in Bushenyi-Ishaka Municipality. It aimed to fill the gaps in contextual knowledge, link theory to practice, and provide evidence-based recommendations for improving collaborative teaching and learning strategies.

Methodology

Research Design: The study employed a cross-sectional qualitative research design, 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 in Bushenyi-Ishaka Municipality, Bushenyi District.

Study Area: The study was conducted in Bushenyi-Ishaka Municipality, a local government administrative unit in Western Uganda, chosen because it hosts a significant number of secondary schools with diverse characteristics, including both public and private institutions.

Study Population and Sample Size: The study population comprised teachers, headteachers, and O' Level students, with a total sample size of 105 respondents, including 50 teachers, 5 headteachers, and 50 students drawn from all five secondary schools in the municipality.

Sampling Procedure: Simple random sampling was used to select teachers and students, while purposive sampling was applied to headteachers because of their administrative roles.

Data Collection Instruments: Questionnaires were used to collect data from teachers, and interview guides were used to obtain in-depth qualitative information from headteachers.

Data Analysis: The collected data were analyzed using thematic content analysis to the influence of teacher-student ratios on the application of group work among responses. The researcher organized and coded the data to generate themes related to how teacher-student ratios influenced the application of group work in teaching and learning. Both deductive and inductive approaches were applied, enabling insights to emerge from the conceptual framework and participants' perspectives. Triangulation across teachers and students ensured credibility, and findings were interpreted to explain how variations in teacher-student ratios affected group work practices and student engagement in Bushenyi-Ishaka Municipality.

Results

Table 1: The current teacher-student ratio

Theme	Sub-themes	Categories
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.

Table 2: The application of group work in teaching and learning

Themes	Sub-themes	Categories
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*.

Table 3: The influence of teacher-student ratio on application of group work in teaching and learning in secondary schools

Themes	Sub-themes	Categories
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

The study findings revealed that large class sizes and high teacher-student ratios limit the effectiveness of group work by causing unequal participation, discipline challenges, time constraints, and inadequate supervision, forcing teachers to adopt coping strategies such as forming smaller groups, assigning peer leaders, and rotating membership. While these strategies offer partial solutions, they do not fully address the underlying challenges, implying a need for more teachers, smaller class sizes, and better institutional support.

Discussion

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 influence of teacher-student ratios on the application of 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 influence. 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.

Conclusion

The study identified a significant influence of teacher-student ratios on the application 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

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.

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