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*Original Article*

# THE RELATIONSHIP BETWEEN COLLABORATIVE LEARNING ACTIVITIES AND ACADEMIC ACHIEVEMENTS OF PUPILS IN UNIVERSAL PRIMARY EDUCATION SCHOOLS IN MAKINDYE SABAGABO MUNICIPALITY. A CROSS-SECTIONAL STUDY.

***Pauline Nsangi*, Dr. Patrick Waiswa (PhD)***
*Team University*



## Abstract

### Background

Academic achievement is important because it signifies pupils' knowledge, skills, and abilities in a specific academic area. Therefore, this study aimed to examine the relationship between collaborative learning activities and pupils' academic achievements in UPE schools in Makindye Sabagabo municipality.

### Methodology

Mixed method approach of research in which quantitative data were collected using questionnaires, and qualitative data were collected using interviews. The target population was 200 individuals, from which a sample of 132 was selected using Krejcie & Morgan's (1970) table for determining sample size. These included 123 teachers and 11 key informants. Quantitative data were analyzed using descriptive statistics and correlational analysis, while qualitative data were analyzed using thematic analysis.

### Results

Out of the 120 respondents, 73 (60.8%) were male while **47** (39.2%) were female. The age distribution showed that the range 31–40 years had the majority of respondents (44.2%), while the range above 51 years had the fewest respondents (6.7%). The majority (89.1%) of the respondents agreed that pupils listened to the opinions of their fellows during group discussions, as compared to those who disagreed (0.0%). The majority (62.7%) of the respondents agreed that all the pupils contributed during group assignments, as compared to those who disagreed (37.3%). The overall mean on this item was 3.22, suggesting that overall, respondents were not sure that all the pupils contribute during group assignments. There was a moderate positive correlation ($r = 0.491$, $p = 0.004$) between collaborative learning activities and academic achievements in the Makindye Sabagabo division.

### Conclusion

There was a positive relationship between collaborative learning activities and the academic achievement of pupils in UPE schools in Makindye Sabagabo Division.

### Recommendation

Teachers need to have continuous professional development on the use of education learning activities in order to increase the academic achievement of pupils.

***Keywords:*** *Collaborative learning activities, Academic Achievements, Universal Primary Education Schools, Makindye Sabagabo Municipality.*
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***Corresponding Author:*** *Pauline Nsangi*
*Team University*

## Background of the study

### Historical Perspective

Academic achievements are important because they showcase a pupil's knowledge, skills, and abilities in a specific academic area. They are indicators of a pupil's dedication, perseverance, and willingness to put in the effort required to excel academically (Wamala & Seruwagi, 2023). Academic achievements are often highly valued by educational institutions, potential employers, and scholarship-granting organizations, as they provide evidence of a pupil's potential for future success (Nurhayati & Penna, 2023). The assessment of academic achievements in primary schools has a long history, dating back to ancient civilizations. For instance, in China, the imperial examination system (keju) was established during the Sui Dynasty (581-618 AD) to select government officials based on merit. This system influenced similar practices in other parts of the world, including Europe and America (Elman, 2023).

Globally, the push for academic achievements in primary schools was solidified by the adoption of the Universal Declaration of Human Rights in 1948, which declared education a fundamental right for all. The Education for All (EFA) initiative, established in 1990 at the World Conference on Education for All in Jomtien, Thailand, and later reinforced by the Millennium Development Goals (MDGs), sought to ensure universal access to

quality primary education and improve academic outcomes for all children, especially in developing regions (UNESCO, 1990; United Nations, 2020). Despite these efforts, academic achievement in government-run primary schools worldwide remains uneven, heavily influenced by socio-economic factors, government policies, and the quality of instructional delivery (UNESCO, 2023). In Europe, formal education systems began to take shape during the Middle Ages, with the establishment of cathedral schools and universities. The Renaissance period saw a renewed emphasis on education, leading to the development of standardized tests and assessments to measure pupil performance (Anderson, 2023).

In the United States, the Boston School Committee conducted one of the earliest formal assessments of pupil performance in 1845, known as the Boston Survey. This initiative aimed to evaluate the quality of education in Boston and laid the groundwork for modern academic achievement assessments (Cremin, 1988). Further, initiatives like the No Child Left Behind Act (2021) and Common Core Standards have been pivotal in shaping the academic expectations of primary school pupils. These reforms primarily focus on standardizing testing and improving academic outcomes across various social groups (U.S. Department of Education, 2021). However, studies reveal persistent achievement gaps, particularly among economically disadvantaged and minority groups (OECD, 2019). In Asia, countries like Japan and South Korea have made significant strides in improving academic achievements through rigorous education systems and standardized testing. These countries have consistently ranked high in international assessments such as PISA (Programme for International Student Assessment) (OECD, 2023). Conversely, countries like India and Bangladesh face substantial challenges related to overcrowded classrooms, poor teacher training, and inadequate educational resources, which hamper pupils' academic performance (Asian Development Bank, 2018).

In Africa, academic achievements in primary education are deeply influenced by historical and socio-political contexts, such as post-colonial education reforms, funding limitations, and political instability. Following the adoption of the Education for All (EFA) goals, African governments have made efforts to enhance primary school enrollment rates, but academic achievement remains inconsistent across the continent. Many African countries, such as Nigeria, Ghana, and Zimbabwe, among others, have introduced Universal Primary Education (UPE) policies to address access to education; however, issues like overcrowded classrooms, insufficient teaching materials, and a lack of qualified teachers continue to affect educational outcomes (UNESCO, 2024). For example, in Ghana, government efforts to improve primary education began with the introduction of the Free Compulsory Universal Basic Education (FCUBE) policy in 1996, which aimed to increase enrollment and ensure equitable access to education for all children (Ghana Education Service, 2021). While this policy has led to a rise in enrollment, academic achievements remain a challenge due to issues such as poor school infrastructure, lack of educational materials, and regional disparities in teaching quality. Studies have highlighted that pupils in rural areas face more significant barriers to educational achievement compared to their urban counterparts (Kwarteng & Ofori, 2021). Nigeria's educational landscape is defined by its Universal Basic Education (UBE) program, introduced in 2020 to provide free and compulsory education at the primary and junior secondary levels. However, academic achievement in government-run primary schools continues to be affected by overcrowded classrooms, inadequate learning materials, and inconsistent teacher quality. Research indicates that pupils in the northern regions of Nigeria, where there is a higher incidence of poverty and insecurity, tend to have lower academic outcomes compared to their southern counterparts (Olaniyan & Ojo, 2021).

Countries in East Africa, including Kenya and Rwanda, have introduced reforms aimed at improving access to education and enhancing academic performance. Kenya's Free Primary Education (FPE) policy, introduced in 2023, resulted in an enrollment surge, but academic achievement in public primary schools remains low in some areas due to large class sizes and a lack of resources (Republic of Kenya, 2023). In Rwanda, the government has made concerted efforts to rebuild the education system post-genocide, focusing on improving access and quality. However, despite these efforts, challenges such as large class sizes, insufficient learning materials, and teacher training issues persist (Wamala & Kabonesa, 2023).

Back home in Uganda, there have been various educational reforms to improve academic achievements in government primary schools. Uganda's Universal Primary Education (UPE) program, introduced in 1997, dramatically increased enrollment rates, but studies have shown that the quality of education still faces significant challenges. Large class sizes and poorly trained teachers hinder academic achievement, particularly in rural regions (Okware & Nambalirwa, 2019). In Makindye Sabagabo Municipality, low academic achievements in primary schools have been a concern (Madhusoodanan & Mugisha, 2024). Studies indicated that despite the accessibility provided by UPE, the quality of education in schools remained a major concern, especially in urban areas like Makindye Sabagabo, where rapid growth exacerbated the disparities in educational resources (Okware & Nambalirwa, 2019).

In recent years, efforts have been made to improve both access to and the quality of education in UPE schools in Makindye Sabagabo. These efforts included curriculum reforms, improvements in teacher qualifications, and increased community involvement through initiatives like school management committees (Nsubuga & Kayiwa, 2023). These reforms have led to some improvements in academic performance, particularly where better management practices and teacher training programs have been implemented. However, issues such as overcrowded classrooms and insufficient school facilities remain a

persistent challenge (Kyoshaba, 2019). Community participation has played a crucial role in supporting schools and improving educational outcomes by fostering a more supportive learning environment, as evidenced by the work of Kyalimpa and Nsubuga (2023). Despite progress, addressing these challenges remains key to further enhancing the academic achievements of pupils in the municipality.

## Theoretical Perspective

The study was guided by constructivist theory, which emphasizes the importance of learners actively constructing their understanding and knowledge of the world through experiencing things and reflecting on those experiences (UNESCO, 2024). According to this theory, learners do not passively receive information; rather, they actively construct their understanding based on their prior knowledge, experiences, and social contexts (Piaget, 1970; Vygotsky, 1978).

The key elements of constructivism are:

Active Learning: Learners are seen as active participants in the learning process. They engage with the material, ask questions, solve problems, and collaborate with others, rather than simply receiving information passively from a teacher (Bransford, Brown, & Cocking, 2020).

Prior Knowledge: Constructivism posits that learners build new knowledge based on what they already know. Prior experiences and knowledge play a critical role in how learners make sense of new information. Teachers should consider students' backgrounds and previous learning when introducing new concepts (Wamala & Seruwagi, 2023).

Social Interaction: Learning is often a social process. Constructivist theory suggests that interaction with peers, teachers, and others helps learners test ideas, share perspectives, and refine their understanding. Collaborative learning and discussions are encouraged (Iqbal et al., 2021).

Problem-Solving: Constructivism emphasizes learning through problem-solving. Instead of just memorizing facts, learners work through real-world problems, apply their knowledge, and reflect on solutions. This hands-on approach helps deepen their understanding (Lam & Zhou, 2019).

Scaffolding: Scaffolding is a key concept in constructivist theory, introduced by Lev Vygotsky. It refers to the support and guidance provided by a teacher or a more knowledgeable peer to help the learner reach higher levels of understanding. As learners become more competent, the support is gradually reduced.

Discovery Learning: Learners discover concepts and principles for themselves rather than being directly taught. Teachers provide a rich environment where students can explore, experiment, and learn through trial and error. This encourages deeper understanding and retention.

Constructing Meaning: Knowledge is not seen as something that is transmitted from teacher to student; instead, learners actively construct meaning through their own experiences. This aligns with the idea that learning is a personal, individual process (Iqbal & Mirza, 2f018).

Contextual Learning: Knowledge is understood best when it is applied in a meaningful, real-world context. Learning should be connected to real-life situations, allowing learners to see the relevance and practical application of what they are learning. Critical Thinking and Reflection: Constructivism encourages learners to think critically about what they know, question assumptions, and reflect on their learning process. Reflection helps learners make connections and deepen their understanding (Peng & Kievit, 2020).

In the context of UPE schools, where large class sizes and limited resources often create challenges for individualized learning, constructivist approaches encourage teachers to use active learning methods such as group discussions, problem-solving tasks, and hands-on activities. These activities help pupils construct their understanding and make connections between new information and their existing knowledge, which can improve academic achievements (Bransford, Brown, & Cocking, 2020). For instance, in UPE schools where resources are scarce, teachers can use local materials for hands-on learning activities. By doing so, pupils engage in active learning, which can lead to better academic outcomes, as they internalize concepts through practical experiences rather than passive note-taking (Vygotsky, 1978). By implementing collaborative learning activities, pupils not only deepen their understanding of the subject matter but also learn vital social skills such as communication, negotiation, and teamwork (Johnson, 1994). The theoretical principles of constructivism suggest that academic achievements in UPE schools are not only determined by the quality of the resources available but also by how teachers structure learning activities. By incorporating hands-on activities, group work, culturally relevant content, and scaffolding techniques, UPE schools can foster an environment where pupils actively engage with learning, thereby improving their academic performance.

## Conceptual Perspective

Educational learning activities are structured, intentional tasks designed to engage pupils in the learning process, enabling them to acquire knowledge, develop skills, and foster critical thinking (Zimmerman, 2022). These activities can range from traditional lectures to more interactive, pupil-centered approaches such as problem-solving, group work, and project-based learning.

Bransford et al. (2020) describe learning activities as tasks designed to facilitate pupils' understanding of new information by connecting it to prior knowledge and experience. According to them, effective learning activities involve active engagement, reflection, and the application of knowledge in meaningful contexts. The authors argue that learners best understand content when they can relate it to their existing cognitive structures, and learning activities should be designed to help pupils build and refine these structures. According to Jonassen (2020),

learning activities should enable pupils to construct their knowledge, rather than passively receiving information. He advocates for problem-based learning (PBL) and experiential activities that allow learners to engage with real-world problems, encouraging higher-order thinking and deeper learning. He suggests that educational learning activities should align with real-world contexts, fostering critical thinking and problem-solving.

Wamala & Seruwagi (2023) refer to academic achievements as the accomplishments and successes made by students in their academic pursuits. These achievements can vary in nature and typically include both individual and collective accomplishments. Individual academic achievements can include receiving high grades, earning academic awards or scholarships, being recognized for academic excellence, publishing research or creative work, presenting at conferences, and completing challenging coursework or programs (Lam & Zhou, 2019). These achievements demonstrate a pupil's mastery of specific subject areas and their dedication and commitment to their studies (Peng & Kievit, 2020). Collective academic achievements pertain to accomplishments made by groups of pupils, such as winning academic competitions, participating in successful group projects, or achieving recognition for school-wide achievements. These achievements highlight the collaboration and teamwork skills of pupils (Akellot & Bangirana, 2019). Furthermore, academic achievements can create opportunities for pupils, such as gaining admission to prestigious higher institutions of learning, securing internships or job offers, or receiving financial support for further education (Ludigo et al., 2019). They can also enhance a pupil's academic and professional reputation and open doors to new experiences and networking opportunities.

To achieve academic success, pupils must demonstrate strong study habits, time management skills, critical thinking abilities, and effective communication skills (Hassan, 2020). They must be proactive in seeking out resources and support when needed, such as tutoring, attending office hours, or participating in study groups (Lam & Zhou, 2019). Additionally, perseverance, resilience, and a growth mindset are essential qualities for achieving academic achievements, as setbacks and challenges are inevitable in the learning process (Peng & Kievit, 2020). It's important to note that academic achievements should not be the sole focus of a pupil's education. While they are valuable indicators of knowledge and skills, they do not encompass all aspects of a pupil's growth and development (Iqbal et al., 2021). Other important factors, such as personal growth, leadership abilities, extracurricular involvement, community service, and emotional intelligence, should also be considered in assessing a pupil's overall achievements (Nabizadeh et al., 2019). A well-rounded education includes a balance of academic accomplishments and experiences that promote intellectual, social, and emotional development (Mahuro & Hungi, 2023). In this study, academic achievement (the dependent variable) will be conceived as national academic grades attained by learners, internal scores, and skills achieved, while the independent variable will be educational learning activities, which will be explained as collaborative learning activities, interactive learning activities, and individualized learning activities.

### Contextual Perspective

The academic achievements of pupils in Universal Primary Education (UPE) schools in Makindye Sabagabo Municipality, Wakiso District, have been a cause for concern. Empirical evidence indicates that while the UPE policy has increased enrollment rates, the academic performance of pupils has not improved proportionally. For example, the comprehensive evaluation of the UPE policy revealed that 88% of school-going-age children are in school, but only 60% of the UPE objectives have been substantially achieved (Wakiso Education Department, 2023). UPE schools in Makindye-Sabagabo have witnessed a marked increase in enrollment, but the quality of education has not kept pace. According to the Ministry of Education and Sports (2019), while enrollment figures have risen sharply, pupil achievements have stagnated. The Uganda National Examinations Board (UNEB) reports that primary school exam results reflect a troubling trend of low academic grades in Makindye Sabagabo Municipality. A report by UNEB indicated that over 50% of pupils in UPE schools in Makindye Sabagabo Municipality scored below 45% in mathematics and science subjects (Wakiso District UNEB, 2020). Further, a report by the Wakiso District Education Department (2023) showed that at least 40% of pupils in UPE schools performed below the national average in their Primary Leaving Examinations (PLE). There is fear that if these low academic achievements of pupils are not addressed, it may affect their future opportunities, self-esteem, and result in long-term social and economic disadvantages. This prompted the researcher to examine the relationship between collaborative learning activities and pupils' academic achievements in universal primary education schools in Makindye Sabagabo municipality.

## Methodology

### Research Design

This study employed a mixed-methods approach of research in which both quantitative and qualitative research techniques were used. For quantitative data, the study used a cross-sectional survey design. The study was cross-sectional in that data were collected in a short period, hence saving on the expenses that were involved (Robson & McCartan, 2023; Creswell, 2024). The study employed survey methods, and a large amount of data was collected for purposes of generalization. For qualitative data, an exploratory research design through interviews was employed to collect data from key respondents, which allowed in-depth exploration and understanding of experiences, insights, and perspectives (Creswell, 2024).

## Study Population

A study population is defined as all the members of a real or hypothetical set of people, events, or objects to which a researcher wishes to generalize the results of the research study (Borg & Gall, 1989). Hence, the target population of the study included teachers and administrators (Key informers) from Makindye Sabagabo Municipality. The schools under the study included: Seguku PS, Busabala PS, Ndejje Cs, Masajja UMEA PS, Kibiri Cs, Kibiri Cu, St Pius Massajja PS, Namasuba UMEA, Kigorunya PS, Kigo Prisons PS, and Bunamwaya CU PS. Therefore, the target population for the study was 200 participants, which comprised 180 teachers (for quantitative data, 15 head teachers, the district education officer, and 4 Inspectors of schools (for qualitative data) in Makindye Sabagabo Municipality.

## Sample Size

Kibuacha (2021) defines sample size as the number of individuals included in a research study to represent a population. For quantitative data, the target population of the study was about 180 teachers who came from 15 primary schools. Hence, using Krejcie & Morgan's (1970) table for determining sample size (appendix D), the minimum sample size of the study for quantitative data was 123. For qualitative data, the sample size was about eleven (11) key informant participants who included District Education Officers (DEOs), Inspectors of Schools (IoS), and Head Teachers (HT) from the selected primary schools. Table 3.1 gives a summary of respondents and participants.

**Table 1: Summary of Sample Size for Quantitative and Qualitative**

| Participants/Respondents | Population size | Sample Size | Selection Technique |
|---|---|---|---|
| Key informants (District Education officer, Inspectors of schools, Head teachers | 20 | 11 | Purposive sampling |
| Teachers | 180 | 123 | Simple random sampling |
| **Total** | **200** | **132** | |

## Sampling Techniques

The study used simple random and purposive sampling techniques to arrive at the required sample sizes. Simple random sampling was used to select teachers who provided quantitative data about the study variables. Purposive Sampling was used to select key informants, such as head teachers, inspectors of schools, and district education officers, as key respondents who provided qualitative data. These were specifically selected to provide information that was relevant to the study.

## Data Sources

Data was collected from both primary and secondary sources. The primary sources were participants and respondents who provided qualitative and quantitative data. These sources provided primary data, which were collected directly from the field by the researcher and research assistants. Secondary data sources included academic performance reports, school reports, library information, internet research, newspapers, and written literature by earlier scholars on the study topic. These provided secondary data, which was used to supplement primary data.

## Data Collection Instruments

Basically, three research instruments were used in conducting this study. These included questionnaires, interview guides and documentary review check list.

## Questionnaires

A self-administered questionnaire (SAQ) was the main instrument and was used to collect quantitative data from teachers. The questionnaire (Appendix A) had closed-ended questions to obtain straightforward answers from respondents. The questions in the questionnaire were based on variables (Figure 1.1) of the study, and responses were obtained using a five-point Likert scale. It had four sections, namely: Section A had background variables with items used to classify respondents' gender (Male/Female), age, period of service, educational level (Grade 3, Diploma, degree, or others), and period of service. Sections B to E had items with a range of 1-5 from Strongly agree to Strongly disagree, as 1=Strongly agree, 2=Agree, 3=Not sure, 4=Disagree, and 5=Strongly disagree. Section B was on collaborative learning activities with a battery of nine items, Section C had a battery of eight items on interactive learning activities, Section D was on individualized learning activities with seven items, while Section E was the dependent variable (academic achievement) with a battery of 8 items.

## Interview Guide

An Interview guide (Appendix B) was used to collect qualitative data from key informants (inspectors of schools, district education officers, and head teachers). This instrument was used to secure in-depth information from the interviewees by the researcher. A probe with

additional questions and gathering supplemental information enabled the researcher to cross-check the accuracy of the data collected as recommended by Sekaran (2023). The interviews were conducted for about 20 minutes on average. They were mainly conducted using the face-to-face technique, but where respondents were busy, the researcher used telephone calls to obtain clarity on certain issues.

## Documentary Checklist

The study was conducted on a wide documentary review to help the researcher avoid unnecessary and unintentional duplication of studies and provide a framework within which the research findings were interpreted, as stated by Mugenda and Mugenda (2023). Data gathered using this method was secondary from academic reports of pupils, especially in Primary Leaving Examinations. The documentary evidence method was used to get dependable data, as it was permanent and reliable information. The researcher reviewed reports, plans, newspaper articles, and literature from the library, together with other relevant written material on the study.

## Data Quality Control

This can be achieved through the validity and reliability of the research instruments. Validity is when an instrument measures data accurately to represent what they are supposed to measure, and reliability is when an instrument collects similar data consistently under the same conditions. These were the steps and measures taken to ensure that the instruments used were good and clear enough to give the right findings of the study.

## Validity of Instruments

Validity refers to the ability of an instrument to successfully measure what it is designed for. At the initial stage, the validity of the instruments was achieved by ensuring the questions reflected the construct or variables of the study. To establish validity, a pre-test sample was conducted using 10 respondents who were included in the main study. This was done to identify the relevant items for each of the variables that were used in the study, hence ensuring the validity of the research findings. Pre-testing was done to estimate the time it took and the accuracy of the questions in measuring the subject under study, eliminate or reduce errors in the study instruments, and ensure the quality of research findings. For each variable, the Content Validity Index (CVI) was computed, and 0.89 was achieved as per the expression 3.1.

$$CVI = \frac{\text{Number of Items Rated Relevant}}{\text{Total Number of Items}} \quad \text{- 3.1}$$

The researcher first enumerated the number of relevant items for the study and divided them by the total number of items in the instruments. Ten questionnaires were pilot-tested on teachers outside the sample within Makindye Sabagabo Division who participated in the study. The instruments were considered valid when the CVI (0.89) was above 0.7 (Tavakol and Derick, 2011), and thus the research instruments were valid for the study.

## Reliability of Instruments

Reliability is the measure of the degree to which a research instrument yields consistent results if administered on different occasions. According to Amin (2005), reliability is dependability, trustworthiness, or the degree to which an instrument yields consistent results after repeated trials. The researcher administered the questionnaire to only target groups and used it for selective data, which was only relevant to the research objectives, to minimize errors and increase its reliability. A pretest was done whereby the research instruments were tested with ten respondents to find out their accuracy and relevance to the research topic.

Using Cronbach's Alpha (1951) as a measure of the reliability of the variables, the following model will be utilized;

$$\propto = \frac{K}{K-1}\left[1 - \frac{\Sigma\sigma 2k}{\sigma 2}\right]$$

Where;

α = Reliability, Alpha Coefficient (Cronbach)

K = Number of items in the instrument

$\Sigma\sigma 2k$ = Variance of individual items

$\sigma 2$ = Variance of the total instrument

A Cronbach Alpha Coefficient of 0.85 was obtained and compared with 0.7 as adopted by Amin (2009), and the instruments were declared reliable to collect intended data for the study.

## Data Collection Procedures

After obtaining an introductory letter from the school of Postgraduate Team University, the researcher sought permission from the District Education officer and the head teachers of the selected primary schools. The Researcher then physically delivered questionnaires to pupils at their respective schools and classes (P7 classroom). Follow-ups with respondents were conducted after the agreed period to find out if the researcher could collect the questionnaires. Interviews were conducted to verify the data provided in the questionnaires. For procedures of obtaining secondary data, inquiries were made about access and availability of the information. A critical analysis of documents was made to squeeze out the required data.

## Measurements of Variables

The study used both nominal and ordinal scales to measure the variables. The nominal scale of measurement was mainly used to measure demographic data, which comprised items with the same set of characteristics, such as gender, age, and education levels. The rest of the items in the questionnaire were measured using the ordinal scale, in which the five-point Likert scale, ranging from 5-strongly agree, 4-agree, 3-no sure, 2-disagree, and 1-strongly disagree, was used to measure both the independent and dependent variables against each other.

## Data Analysis

### Quantitative Data Analysis

Before the quantitative analysis, all the questionnaires were numbered to facilitate easier referencing. After confirming that all the data entered was accurate, descriptive statistics such as frequency distributions, percentages, and measures of central tendency (mean, standard deviation, and range) were calculated with the help of SPSS IBM. Additionally, both correlation and regression statistical approaches were used to analyze the data. The regressional determined the degree to which changes in the value of one variable predicted changes in the value of another variable.

### Analysis of Qualitative Data

Thematic content analysis was employed for qualitative data. The following steps were undertaken in the analysis: recording of data, with prior consent from the respondents, and transcription of the recorded data. The second step involved grouping the responses according to their respective themes, which primarily aligned with the research objectives. Key responses were quoted directly based on themes. For preliminary data coding, content-aided and thematic analyses were utilized. Coding started immediately after transcribing the interviews, as early coding aided in organizing and interpreting the collected data (Creswell, 2014).

### Ethical Considerations

In order to achieve the integrity of this study, the principle of research was highly observed. Hence a number of ethical issues were adhered to.

### Ethical Issues of Informed Consent

Before data collection, respondents were asked to give their willingness to participate in the study. A consent form was developed and provided to the respondents before they participated in data collection. This allowed respondents to either object or agree, and the researcher honored the decisions of the respondents. The investigator ensured that consent was obtained to ensure voluntary participation in the study. The choice to participate or not was made after a thorough explanation of the purpose of the study by the investigator.

### Ethical Issues of Confidentiality

The confidentiality of respondents was maintained. The investigator protected the confidentiality of the information provided to ensure the success of the research. Respondents were not required to reveal their names or provide their contact information on the questionnaires. Identification numbers, such as A and B, were used instead of names to prevent tracing the information back to specific respondents. Since the research involved personal privacy, the researcher maximized confidentiality to obtain reliable and valid data. The data collected was used only for this study.

### Ethical Issues of Anonymity

The research procedures were explained to all respondents before they participated in the study, and their informed consent was obtained. To ensure anonymity, the investigator assigned respondents codes or numbers known only to the researcher, ensuring that the information provided could not be easily linked to them by a third party. Personal bias was avoided throughout the study, including during interviews, data analysis, and reporting.

### Ethical Issues of Plagiarism

All sources of literature were acknowledged throughout the study through proper citations and referencing.

### Ethical Issues of Deception

To address the principle of deception, the investigator clearly explained the purpose of the study, the potential risks and harm of participation, and the likelihood of compensation or lack thereof in case of any risks or harm during participation. The investigator did not make promises of incentives to be offered to participants.

## Results

### Response Rate for the Study

**Table 2: Response rate**

| Respondents | Questionnaires issued and Interviews Scheduled | Questionnaires collected and Interviews Scheduled | Response rate |
|---|---|---|---|
| District Education Officer | 01 | 01 | 100% |
| Inspectors of schools | 04 | 03 | 75% |
| Head teachers | 06 | 06 | 100% |
| Teachers | 123 | 110 | 89.4% |
| **Total** | **132** | **120** | **90.9%** |

**Source:** ***Primary data (2024)***

The study aimed to examine the relationship between educational learning activities and the academic achievements of pupils in Universal Primary Education (UPE) schools in Makindye Sabagabo Municipality. To achieve this, data were collected from various key stakeholders in the education sector through the administration of questionnaires and scheduled interviews.

A total of **123** questionnaires were issued to collect quantitative data, and 11 interviews were scheduled for qualitative data across four categories of respondents (the District Education Officer, Inspectors of Schools, Head Teachers, and Teachers). Out of the total **123 questionnaires issued, 110** were successfully collected, resulting in a response rate of **89.4%.** This high response rate is indicative of the respondents' interest and willingness to participate in the study, and it greatly enhances the credibility and reliability of the data collected. Out of the 11 interviews scheduled, 10 were successfully conducted, making a response rate for qualitative data of 91.1%, hence showing a high response rate.

Description of the Participants by Background Variables

This section presents the socio-demographic characteristics of the respondents who participated in the study. The focus was on their category, gender, age group, level of education, and period of service. These characteristics provide important context for interpreting the findings related to the relationship between educational learning activities and pupils' academic achievement in UPE schools within Makindye Sabagabo Municipality. The data is summarized using frequencies and percentages, as shown in Table 4.2.

**Table 3: Frequencies and Percentages of Background Variables**

| Variable | Category | Frequency (n) | Percentage (%) |
|---|---|---|---|
| Gender | Male | 73 | **60.8** |
| | Female | 47 | 39.2 |
| Age Group (years) | 20–30 years | 13 | 10.8 |
| | 31–40 years | 53 | 44.2 |
| | 41–50 years | 46 | 38.3 |
| | 51+ years | 8 | 6.7 |
| | | 13 | 10.8 |
| Academic Qualifications | Grade III | 6 | 5.0 |
| | Diploma | 59 | 49.2 |
| | Degree | 50 | 41.7 |
| | Masters | 5 | 4.2 |
| Period of Service (in years) | Below 5 | 15 | 12.5 |
| | 6–10 | 32 | 26.7 |
| | 11–15 | 69 | 57.5 |
| | 16 and above | 4 | 3.3 |

Out of the 120 respondents, **73** (**60.8%**) were male while **47** (39.2%) were female. The age distribution showed that the range **31–40 had** the majority of respondents (44.2%), while the range above 51 had the fewest respondents (only 6.7%). This suggests a workforce that is largely in its prime working age, potentially contributing to active involvement in school activities and pupil learning. Regarding academic qualifications, the majority of respondents (49.2%) had a d**iploma,** followed by those with a **Bachelor's degree** (41.7%). A smaller proportion (5.0%) had a Grade **III Certificate** and a **Master's degree** (4.2%). These findings indicate that most education personnel in UPE schools within the municipality possess qualifications at or above the diploma level, which may have a positive influence on the implementation of effective learning strategies. In terms of work experience, the highest number of respondents (57.5%) had been in service for **11–15 years**, suggesting a well-experienced workforce. Respondents with **6–10 years** of experience made up 26.7%, while those with **less than 5 years** of experience accounted for 12.5%. Only 3.3% had served for more than 16 years. The predominance of respondents with over a decade of experience is likely to enhance the reliability of their responses regarding educational practices and pupil performance.

Description of Variables

The researcher rated the views of respondents on the study variables based on a 5-point Likert scale as Strongly Disagree (SD) = 1, Disagree (D) = 2, Not sure (N S) = 3, Agree (A) = 4, and Strongly Agree (SA) = 5. However, when it came to analysis, the first two parts of the Likert scale (strongly disagree and disagree) were combined to be one response as disagree since both of them were negative responses. The last two parts of the Likert scales (agree and strongly agree) were combined into one response as agree, since both of them were positive responses. The one in the middle of not sure was analyzed as it was because this shows that the response is neither positive nor negative, but rather neutral.

## Description of Collaborative learning activities

This variable had ten items on which respondents gave opinions on the collaborative learning activities.

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**Table 4: Opinions on Collaborative Learning Activities**

| Items on Collaborative Learning Activities | Percentage Response (%) | | | | | |
|---|---|---|---|---|---|---|
| | SD | D | N | A | SA | Mean |
| Pupils are allowed to share ideas during lessons | 0.0% (0) | 11.8% (13) | 0% (0) | 79.1% (87) | 9.1% (10) | 3.86% |
| Pupils listen to opinions of their fellows during group discussions | 0.0% (0) | 0.0% (0) | 10.9% (12) | 70.9% (78) | 9.1% (20) | 4.07 |
| All the pupils contribute during group assignments | 0.0% (0) | 37.3% (41) | 0.0% (o) | 62.7% (60) | 0.0% (o) | 3.22 |
| Pupils work as a team to accomplish given tasks | 9.1 (10) | 39.8 (43) | 10.9 (12) | 36.4 (40) | 4.5 (5) | 3.02 |
| Teachers administer jigsaw reading to pupils | 0.0 (0) | 20.0 (22) | 0.0 (0) | 56.4 (62) | 23.6 (16) | 3.91 |
| Pupils engage in peer teaching | 10.9 (12) | 40.9 (45) | 19.1 (21) | 29.1 (32) | 0.0 (0) | 2.74 |
| Pupils work in groups to role-play different scenarios | 0.0 (0) | 0.0 (0) | 10 (11) | 59.1 (65) | 30.9 (34) | 4.20 |
| Teachers set up different learning stations around the classroom during the lesson | 0.0 (0) | 0.0 (0) | 1.8 (2) | 59.1 (59.1) | 39.1 (39.1) | 4.36 |
| Teachers provide pupils with group problem-solving challenges | 0.0 (0) | 0.0 (0) | 18.1 (20) | 55.5 (61) | 26.4 (29) | 4.06 |

**Source: Primary Data 2025**

According to Table 4, the cumulative majority, 88.2% (79.1% & 9.1%) of the respondents agreed that pupils were allowed to share ideas during lessons as compared to those who disagreed (19.9%). The overall mean on this item was 3.84, indicating that, overall, respondents agreed that pupils were allowed to share ideas during lessons. From Table 4, the majority (89.1%) of the respondents agreed that pupils listened to the opinions of their fellows during group discussions, as compared to those who disagreed (0.0%). The overall mean here was 4.07, showing that generally, respondents agreed that pupils listened to the opinions of their fellows during group discussions. In Table 4, the majority (62.7%) of the respondents agreed that all the pupils contribute during group assignments, as compared to those who disagreed (37.3%). The overall mean on this item was 3.22, suggesting that overall, respondents were not sure that all the pupils contribute during group assignments. Regarding the aspect of pupils working as a team to accomplish given tasks**,** a total of 40.9% of respondents agreed, while a total of 48.2% disagreed. The overall mean was 3.02indicating that generally respondents were not sure as to whether pupils working as a team could accomplish given tasks.

On the use of jigsaw reading as a collaborative strategy, a combined 80% (56.4% & 23.6%) agreed while 20% disagreed. The overall mean was 3.91, indicating that overall, all respondents agreed that jigsaw reading as a collaborative strategy was used. When examining peer teaching, the results indicate limited implementation. Only 29.1% agreed, while a combined 51.8% (40.9% &10%). The overall mean was 2.74, pointing to a significant gap in encouraging pupils to take on teaching roles among their peers. Group role-playing activities were well-integrated into classroom practices majority of respondents (90%) agreed that pupils engage in role-play to explore different scenarios, with no disagreement recorded. The overall mean was 4.20. This indicates the effective use of interactive learning strategies. Regarding learning stations, areas set up within the classroom where students rotate between different tasks were also widely used. A notable 98.2% of respondents agreed with this statement, while no one disagreed. The mean of 4.36 reflects a high level of innovation and learner-centered approaches in lesson delivery. Lastly, the provision of group problem-solving challenges also appeared to be common a total of 81.9% of respondents agreeing with this statement, and none of the respondents disagreed. The overall mean was 4.06, indicating widespread acceptance of this collaborative method.

## Qualitative Findings on collaborative learning activities.

During the interview with one of the head teachers, he said, *"In our school, we try to incorporate collaborative learning by encouraging group work, peer-to-peer discussions, and project-based assignments. Teachers often divide pupils into small groups where they can solve problems together or discuss a topic before presenting their ideas to the class. This approach is especially effective in subjects like Science and English. It helps pupils learn from one another and develop teamwork and communication skills. We've seen that when pupils work together, they feel more engaged and confident."*

He added, *"One major challenge is the large class sizes. With 60 to 80 pupils in some classes, managing group activities becomes difficult. Teachers often find it hard to*

*monitor each group effectively, and noise control becomes an issue. Additionally, there are cases where some pupils dominate the discussion while others remain passive, which reduces the effectiveness of collaboration. Despite these setbacks, we still encourage teachers to structure their lessons in ways that promote cooperation among learners."*

**Another Head Teacher said,** *"Collaborative learning has a positive impact both academically and socially. Academically, pupils can explain concepts to each other in simpler terms, which enhances understanding. We've noticed that weaker pupils tend to improve when paired with stronger peers. Socially, it builds a sense of teamwork and respect for others' opinions. It also helps to reduce classroom tensions and promotes inclusiveness, especially for shy or reserved learners. These benefits extend beyond the classroom as well."*

He added, *"Teachers need continuous training on how to design and manage collaborative activities, especially in overcrowded classrooms. They also need access to teaching aids and learning materials that support group-based instruction. More importantly, there needs to be a mindset shift—from seeing teaching as one-way instruction to embracing a more participatory and pupil-centered approach. As a school, we try to support this through peer coaching and sharing best practices during our weekly planning meetings."*

## Discussion

### Relationship between collaborative learning activities and academic achievement

The results of the current study, which reveal a **moderate positive correlation (r = 0.491)** between collaborative learning activities and academic achievement among pupils in Makindye Sabagabo Municipality, strongly align with existing literature on the benefits of collaborative learning in primary education, especially within Universal Primary Education (UPE) contexts. As indicated by Vygotsky's (1978) socio-constructivist theory**,** learning is most effective when it occurs through social interaction. In line with this, the observed correlation suggests that pupils who engage more frequently in collaborative learning activities such as group discussions, peer teaching, and cooperative problem-solving tend to exhibit higher academic performance**.** These interactions likely serve to scaffold pupil understanding, allowing them to co-construct knowledge and deepen their conceptual grasp of academic content.

Studies by Johnson & Johnson (2020) and Slavin (2018) also reinforce the idea that collaborative learning not only enhances academic outcomes but also builds critical life skills such as communication, teamwork, and empathy. In resource-constrained environments like many UPE schools, where teacher-led instruction is often challenged by large class sizes and inadequate materials, collaborative learning can redistribute the cognitive and instructional load, making learning more pupil-centered and interactive. This matches the findings from the current study, where collaborative learning appears to mitigate some of the common UPE challenges and foster better pupil performance. Furthermore, the significance level ($p = 0.004$) of the correlation implies a statistically significant relationship between the two variables, confirming that the link is unlikely to be due to chance. This mirrors findings from studies such as Topping (2021) and Gillies & Boyle (2018), which documented improved academic outcomes in environments that supported structured collaborative learning tasks.

Additionally, Deci & Ryan's (2020) self-determination theory supports the notion that collaborative learning increases pupils' intrinsic motivation, a key factor in academic success. By working with peers, pupils often feel a greater sense of belonging and competence, which can explain why pupils in Makindye Sabagabo Municipality who are engaged in collaborative activities show improved academic outcomes. This finding is particularly relevant in UPE schools, where limited learning materials and under-resourced classrooms can otherwise demotivate learners. The study's results also resonate with Pennycuick (2020), who argued that collaborative learning helps pupils overcome the limitations posed by overcrowded classrooms and overburdened teachers. In the current context, where UPE schools in Makindye Sabagabo face similar structural constraints, the positive association between collaborative learning and achievement provides further empirical support for incorporating such approaches in everyday teaching practices.

However, while the literature generally supports the positive effects of collaborative learning, it also highlights implementation challenges**,** such as the need for adequate teacher training and appropriate classroom management skills. These factors were echoed in the contextual analysis of this study, which noted that teachers in Makindye Sabagabo often struggle with classroom control and effective facilitation of group activities due to overcrowding and limited professional development opportunities.

## Conclusions

There was a positive relationship between collaborative learning activities and the academic achievement of pupils in UPE schools in Makindye Sabagabo Division. This indicates that pupils who are more engaged in collaborative learning activities tend to perform better academically. Further, findings indicated that collaborative learning activities are generally embraced in UPE schools within Makindye Sabagabo Municipality. Strategies such as group discussions, jigsaw reading, learning stations, role-playing, and problem-solving challenges are being practiced to varying degrees.

## Recommendations

Teachers should be provided with regular in-service training focused on collaborative learning strategies. This includes effective use of group discussions, jigsaw methods, and problem-solving tasks. Training should also

cover classroom management techniques for large groups to ensure active participation of all learners.

The Ministry of Education and Sports, in collaboration with local education authorities, should develop simplified guides and lesson plan templates that promote the integration of collaborative learning activities across subjects. These should be tailored for resource-constrained classrooms.

To make collaborative learning more effective, efforts should be made to reduce overcrowding in classrooms. This could be achieved by recruiting more teachers or constructing additional classrooms to allow for manageable group sizes during collaborative tasks.

Schools should be equipped with sufficient teaching and learning aids such as charts, textbooks, manipulatives, and printed activity guides to support group-based tasks. Locally available resources can also be adapted creatively to enhance collaboration.

Schools should implement structured peer-teaching programs where higher-performing pupils support their peers through group discussions or mini-presentations. This approach reinforces learning for both the helper and the learner, while promoting cooperation.

School administrators and inspectors of schools should conduct regular monitoring focused on how teachers are implementing collaborative strategies. Constructive feedback and mentorship can help teachers improve the effectiveness of these activities.

## Areas for Further Research

A Comparative Study on the Effectiveness of Different Learning Strategies Across Urban and Rural UPE Schools. While this study focused on schools within Makindye Sabagabo Municipality (largely urban/peri-urban), it would be valuable to compare how learning strategies perform in rural settings where resources, teacher training, and pupil demographics may differ significantly.

Influence of Teacher Competency and Attitude on the Use of Learner-Centered Approaches**.** Since teacher implementation was noted as inconsistent, a study could focus on how teachers' training, attitudes, and motivation influence the application of collaborative and interactive methods, and in turn, pupil outcomes.

## The Role of Parental Involvement in Supporting Individual Learning Activities at Home.

Given the importance of self-directed learning, future research could investigate how parental support and home learning environments affect the success of individual learning tasks like reading, writing, and vocabulary practice.

## The Impact of Class Size on the Effectiveness of Collaborative and Interactive Learning.

A quantitative study could be conducted to assess how pupil-teacher ratios influence the success of group-based or participatory learning in UPE schools and identify practical solutions for improving learning in overcrowded classrooms.

Evaluating the Integration of ICT in Primary School Teaching and Learning. As digital tools were noted to be underutilized, future research could assess ICT infrastructure, teacher capacity, and policy readiness for the integration of technology to enhance interactive learning in UPE schools.

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## Conflict of interest

The author declares no conflict of interest.

## Author contributions

Pauline Nsangi, principal investigator.
Dr. Patrick Waiswa (PhD) supervised the research project.

## Data availability

Data is available upon request.

## Informed consent

All the study participants consented to this study.

## Author Biography

Pauline Nsangi holds a master's degree in educational planning and management from Team University.
Dr. Patrick Waiswa (PhD), lecturer at Team University.

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Address: Scholar's Summit, Nakigalala, East Africa