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Influence of Classroom Dynamics on Students' Academic Performance in Day Secondary Schools in Mwingi East Sub County, Kitui County, Kenya

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Abstract:

The study aimed to investigate the influence of classroom dynamics on student academic performance in day secondary schools in Mwingi East Sub-County, Kitui County, Kenya. The objectives of the study were:

- To evaluate the influence of class size on academic performance,
- To examine the influence of school rules and regulations,
- To assess the influence of parental involvement in school activities and
- To examine the influence of teacher's class supervision on academic performance.

Goal-Centered Theory (GCT) was used to explain the dynamics of learning. The target population of the study was 2280. 341 responses were obtained using Slovin sample formulae. The random sampling method was used to select schools, while the stratified sampling method was used to select the sample size from principals, class teachers and students from selected secondary schools. Data collection was done using questionnaires, interview schedules and observations. Validity and reliability of Research Instruments were conducted to ascertain the internal consistency and legitimacy of the research instruments. Data analysis was done using SPSS (version 25). Analyzed data was presented in the form of frequency tables, percentages, graphs and charts. The researcher found that on the first objective, the test of hypothesis r -calculated value of 4.88 was greater than the R -critical value of 2.17 at a p -value ~ 0.05 , and the null hypothesis was rejected. On the second objective, the test of hypothesis r -calculated value of 4.88 is greater than the R -critical of value 2.17 at p -value ~ 0.05 , and the null hypothesis was rejected. On the third objective, the test of hypothesis r -calculated value of 4.11 is greater than the R -critical of value 3.1 at p -value ~ 0.05 , and the null hypothesis was rejected. Lastly, on the fourth objective, the test of hypothesis r -calculated value of 5.2 was greater than the R -critical of value 4.2 at p -value ~ 0.05 , and the null hypothesis was rejected. The study concluded that there was evidence of reduced class time for syllabus completion for teachers and low mastery of contents due to pressed instructional time. Rules and instructions in the classroom environment help to improve the class learning procedures, as evidenced by the respondent responses. Timely class attendance was paramount for students' academic performances. Interactive demonstrations for problem-solving techniques were used by selected teachers, thus making teachers have different opinions, and there have been high records of insufficient learning materials that resulted in poor class management and attributed to the contribution of poor performance. The researcher recommended that teachers learn different methods of managing class sizes. Headteachers and teachers should coordinate in drafting and enforcing school rules and regulations, and every teacher should have working strategies that promote class integration.

Keywords: Classroom dynamics, academic performance, class size, class rules and regulations, learning activities, class learning resources

1. Introduction

Education is a dynamic process that involves imparting knowledge, generating interests and curiosity, inculcating desirable attitudes and values, and developing essential skills required for the persons partaking in the study. Such a process for knowledge acquisition enables students to be competent and become useful citizens (Aggrawal, 2014). The unique responsibility of the school is to help children acquire scholastic skills based on several factors influencing academic achievement; the school environment may be said to play a dominant role in the achievement of school students. Schools with proper learning structures have been found to be making a greater effort for academic performance and excellence (Ncube, 2014 & Briggs, 2018; Amon, 2017).

Dynamism in learning calls for classroom interaction between teachers and learners, which is framed by institutional and social demands. Nevertheless, all activities in the classroom are aimed at creating interactive order with respect to acquiring and imparting knowledge (Hurtado, Alvarez, Cuellar & Arellano, 2012). The order of classroom interaction is not sustained by a normative consensus but rather by cooperation between the teacher and students. Teacher training skills and classroom management are critical elements for classroom dynamics (Howe & Abedin, 2013). Teachers are known to control the classroom environment using different approaches such as group discussions, modelling, debates, group guidance and symbols demonstrations. Morris and Tarone *et al.* (2014) underscore that class dynamism goes beyond teachers owning the lesson; rather, it involves engaging the students to participate in the learning process.

According to Borland, Howsen and Trawick (2015), in class, the teacher elicits and negotiates concepts related to the topic with students. Teachers have to link their actions of imparting knowledge to students' actions of acquiring knowledge to create dynamics in interaction that scaffold learning. Insufficient dynamic scaffolding is revealed through phenomena such as student boredom, a signifier of the individual's retreat from teaching and learning, particularly prominent in compulsory education (Bressoux, Kramarz & Prost, 2019; Chileya, 2016). To help students become engaged in working on a topic, learning about it, and acquiring knowledge, teacher actions reach beyond teaching the subject and imparting knowledge. Thus, teachers may apply different techniques in different teaching environments to deliver the content of the subject (Morris & Tarone *et al.*, 2014; Darling-Hammond, 2019).

Classroom dynamics have been predominantly studied through longitudinal ethnographic observations of the classroom, while the perspective of the students who are undergoing these experiences is largely unaccounted for (Morris & Tarone, 2014; Chingos, 2013). Classroom dynamics include interactions among peers and teachers, which are the key components of students' experiences and strongly influence students' motivation to engage in learning activities. The purpose of classroom dynamics is to create a healthy and comfortable environment in the classroom where students can feel free and confident in their learning and can easily share their ideas not only with fellow students but also with the teacher. According to Biddle and Berliner (2021) and Dempsey and Sandler (2015), class dynamics and small class sizes are referred to as effects of interaction between teachers and students. Both teachers and students handle the dynamics of classroom interaction by interpreting actions and communicating to give them a perceived meaning (Adelman & Taylor, 2017; Epstein, 2014).

Three processes that define classroom dynamics involve:

- Classroom Management, which involves organizing learning procedures, routines and policies;
- Classroom set-up for the physical and human resources;
- The relationships between teachers and students; and
- Finally, for learning (This encompasses building positive interactions between teacher and students and students with their peers).

Classroom management involves the coordination of teachers and pupils in classroom activities, which involves running the activities of the class with dynamics in content management, child discipline management and character buildup (Froyen & Iverson, 2019; Comer & Haynes, 2019). Classroom dynamism is applied by teachers to manage classroom activities. A study conducted in Kenya by Maina and Adero (2012) among secondary school students shows that the mechanism has been adopted more in private schools than in public schools. At the same time, MOE (2012) reports indicate that classroom dynamism contributes to almost 85.6% of student creativity and builds excellent relationships with the teacher. Nairobi, a survey conducted by Kajamaa and Rajala (2018) found that many schools whose teachers adopted classroom dynamism in approaches to learning and training of students. Additionally, the context of transforming the classroom environment lies in the hands of the school management and teachers (Maina & Adero *et al.*, 2012).

According to Kanga (2015), classroom dynamics in the teaching and learning environment are confined within the boundaries of the classroom. The study highlights three aspects of classroom dynamics that any trainer needs to apply: maintaining the cohesiveness of the class, bringing social interaction to the class and allowing students to freely discuss the context of various subjects. Similarly, senior (2019) research on a class-centered approach to teaching and learning indicates that classroom dynamics for competencies lie in gathering content knowledge, teaching skills and developing strategies for the learning environment conducive to high-quality learning for improved academic performance.

Better academic performance is a major concern for all parties involved in education since low student performance in national exams indicates (Cotton, 2014; Glasman, 2014). For instance, public secondary schools in Mwingi, Kitui County, continue to perform poorly when compared to other counties, which is a topic the researcher set out to study. Guardians and parents frequently transfer children to private schools in the event of low academic achievement in the hopes of improving performance. According to MOE (2018) survey, many students have demonstrated lower academic mean marks, and this trend has been greatly evident over the last few years in their national examinations. Public secondary schools in Mwingi had mean scores of 31.6%, below the national average (Solomon, 2021).

2. Statement of the Problem

In modern schooling, academic success is determined by the extent to which school administration, teachers and students collaborate in a classroom environment to enhance academic success. Learning involves a dynamic process that involves dealing with teaching methodologies, teachers' interactions with students, and the use of learning resources. Studies have shown that most students do best when teachers foster a dynamic classroom experience in which they share the objectives and guidelines of the lesson with the students but let students lead the conversation. However, for effective learning, teachers and school management strive to create dynamic classroom learning activities where everyone is

included. According to MOE (2019) reports, embracing class dynamics for better academic performance has been the subject of many schools in modern education.

In Kenya, particularly in Mwingi East Sub-County, Kitui County, there exists a problem associated with managing classroom learning for students. Learning in many secondary schools is usually carried out in accordance with MoE learning policy frameworks developed. Headteachers and teachers are mandated to execute learning processes while making the lessons and learning environment to be interactive. As many educational schools employ various learning styles in their classrooms for their students, many teachers have found it difficult to create a dynamic learning environment in the classroom. This difficulty has been linked to a variety of factors, including a lack of effective teachers, packed classrooms, and a shortage of learning tools. However, teachers note a number of difficulties related to controlling class size, enforcing school policies, supervising educational activities, and providing insufficient learning materials, all of which have been shown to have a detrimental effect on students' academic achievement. This has elicited concerns about the effects of classroom dynamics approaches, which are poor or good academic performance in Mwingi East Sub-County, Kitui County.

2.1. Research Objectives

The study sought to:

- To examine how the management of class size influences the academic performance of day secondary school students in Mwingi East Sub-County.
- To examine how observation of class rules and regulations influences student academic performance in day secondary schools in Mwingi East sub-county.
- To assess how class learning activities influence academic performance in day secondary school students in Mwingi East Sub-County
- To examine how the utilization of class learning resources influences academic performance in day secondary school students in Mwingi East Sub-County.

2.2. Research Hypotheses

The study sought to answer these hypothetical questions:

- H₀₁: There is no significant relationship between the management of class size and academic performance of day secondary school students in Mwingi East Sub-County
- H₀₂: There is no significant relationship between observation of class rules and regulations and academic performance of day secondary schools in Mwingi East Sub County
- H₀₃: There is no significant relationship between learning activities and academic performance of day secondary school in Mwingi East Sub-County
- H₀₄: There is no significant relationship between the utilization of class learning resources and academic performance of day secondary school students in Mwingi East Sub-County

3. Theoretical Framework

This investigation was based on Rudolf Dreikurs' Goal Centred Theory (GCT), often known as Democratic Discipline. According to the theory, teachers must look for needs-based justifications for why their pupils behave as they do and then bargain over how to meet their needs in the classroom. This calls on teachers to distinguish between different students based on their actions. Consolidating the core ideas that underlie these theories might, therefore, help educators create effective classroom management strategies. The Goal-Centered Theory (GCT) of Rudolf Dreikurs is a crucial representation of psychological-educational theory. GCT was founded by Dreikurs on the premise that all kids want to fit in and be accepted by their peers for its success in establishing a secure and effective learning environment in the educational community.

In order to ensure that learning can occur as intended, the idea emphasizes creating a pleasant learning environment in the classroom by paying close attention to student's needs and carefully regulating behaviour through the adaptation of useful class rules and penalties. Teachers also instruct kids on appropriate behaviour by laying out the guidelines. Teachers use a variety of reinforcers, including rewards for following rules and consequences for breaching them. The same applies to teachers, who have the right to instruct kids without interruption. When doing so, they are approved by the school and parents and are based on a specific classroom discipline plan. According to this notion, teachers should maintain positive control over their classes and enforce the discipline that has been shown to be successful in fostering a secure and fruitful learning environment (Chunk, 2019).

In order to implement GCT, a teacher must:

- Engage the entire class in a discussion about needs satisfaction and behaviour;
- Provide choice, especially regarding rules, consequences, and academic work;
- Model consistent, considerate, and responsible behaviour;
- Provide explicit instructions, expectations, and boundaries;
- Build class trust and self-responsibility;
- Use natural and logical consequences, not punishment, and
- Encourage effort, not achievement, as the main way to meet needs and expectations.

GCT would be positioned as the theory most significantly influenced by psych-educational theory in the taxonomy of classroom management theories.

4. Materials and Methods

The research adopted a descriptive research design approach. This design aimed at systematically obtaining desirable information to describe a phenomenon or situation about the given population. The descriptive research design adopted was inclined to a correlation of variables to identify the relationship between how independent variables influence the dependent variables. Basically, the researcher used figures and variable characteristics to describe the outcomes of the research variables. This research design enabled the researcher to collect both qualitative and quantitative data during fieldwork. Finally, collected data was analyzed to get the inferences from the outcome of the variables.

In order to collect data, the researcher used both open-ended and closed-ended questionnaires to obtain data from respondents. According to Dulock (2014), questionnaires present an easy way for respondents to attend to the items in the research instrument. Closed-ended questionnaires were designed in a way that presented questions were available for predefined responses. Respondents only needed to choose one or more answers from the response categories provided for closed-ended questions. All respondents (headteachers, students, and teachers) used the questionnaire with components arranged according to the research objective. Open-ended questions were also included to supplement the gathering of data that needed further explanation. In the study, open-ended questionnaires were incorporated for additional information to remove limits and enable a broad range of answers.

Further to this, the researcher made use of interviews and observations in order to explicitly get additional information from desired respondents. Zohrabi (2013) contends that interviews allow researchers to collect detailed information about participants' experiences, opinions, and attitudes in their own words, providing a richer understanding of the research topic than other data collection methods. The interviews were used to solicit additional information on subjects of concern that may require more understanding and deep information. The types of questions that were asked in the interviews were interactive and objective so that the respondents felt comfortable. Additionally, the observation method helped in getting a record of the existing situation in the classroom environment so that the researcher may face it in a real judgmental manner.

After data collection, the data was cleaned and checked for completeness and consistency. Then, using the appropriate customized variables, the data was coded and keyed in for analysis using Statistical Packages of Social Sciences (SPSS version 25) and MS Excel 2016. Data analysis was done quantitatively. Quantitative data adopted the use of descriptive and inferential statistics. Descriptive involves the use of measures of central tendency (percentages, mean and standard deviations), which were used to show the nature of relationships for tested variables. Tentatively, inferential statistics adopt the use of correlation and T-test analysis to determine the relationship between the responses from respondents to determine the association of dependent and independent variables.

Variables were tested using the logic of the significance of the Null hypothesis (H_0 = accept or reject) of a given statement. Bailey (2018) observes that the test of hypothesis compares several groups if they present similar or dissimilar characteristics; therefore, generalized results were presented in the form of T-test and F-test to test if two population variances are equal or unequal. A test of significance of using r was also carried out to the test of significance level. Quantitative data was presented using descriptive statistics. Further to this, inter-correlation analysis (r^2) was used to determine the relationship between the dependent variable (academic performance) and the independent variables (class size, class rules and regulations, class learning activities and learning resources). Finally, data presentation was achieved using frequencies, mean, average, variance and standard deviation. The results were presented using organized figures, tables, bar charts, and pie charts.

5. Results and Discussions

The findings show that 66.9% of the respondents were males, while 33.06% were females. From the results, it can be deduced that the majority of the respondents who participated in the study were females compared to male respondents. The study also showed the age distribution of headteachers' and class teachers' respondents. The results showed that the majority, 35%, were from the age group of 26-35 years, 21% were aged below 25 years, 15% belonged to the age group of 46-55 years, 18% were aged between 36 and 45 years and 11% were aged above 55.

The study further sought to know the age distribution of the students who responded to the study questionnaires. The results indicate that the majority of the students were in the category of 15-17 years and formed 52.11% compared to 28.4% aged below 15 years. On the other hand, students above the age of 17 years formed the least of 19.4%. Tabulated results showed the outcome of headteachers' and class teachers' educational achievements. The results showed that the majority (66.9%) of the respondents had a certificate, 14.8% of the respondents had a diploma, and 10.2% had achieved a degree. Finally, 8.2% of the respondents had achieved a master's degree. Comparatively, female respondents had more achievements in all categories, with an accumulated 81 awards (66.1%) compared to 40 awards (33.9%) by males. The results indicate that female respondents for headteachers and class teachers had advanced well in education, especially at the bachelor's and master's levels.

Tentatively, the researcher sought to know the form of class distribution of the students according to their contribution to the study. The results showed the outcome of the student's contribution to the study. Most (43.2%) of the respondents were students from Form Three, 26.8% were students drawn from Form Two, 21.6% students were drawn from Form One, and the lowest number of students, comprising only 8.42%, were drawn from Form Four. The results show that Form Three and Form Two were the most preferred respondents for the study due to the fact that the classes in the region had recorded high numbers of students exceeding the required teachers-to-students ratio for conducting a class.

The study shows that the researcher asked the respondents (headteachers and class teachers) to indicate their years of experience in their teaching careers. The majority, 44.1%, of the respondents indicated that they had taught for more than 20 years. Tentatively, 22.0% had teaching experience of 16-20 years compared to 21.2% who had 11-15 years of experience of conducting classroom activities. On the other hand, 6.8% had 5-10 years of teaching experience, while 5.9% had less than five years of experience of interacting with students in classes. The results show that more than 85% of teachers had prior experience of interacting with students in a classroom environment.

The first objective entailed an examination of how the management of class size influences academic performance. Responses from the teachers and students were as follows:

On the issue of over-crowded classes obstructing students from smooth learning, the majority (68.6%) of headteachers' and class teachers' responses showed very great influence compared to the majority (68.6%) of students who showed very great influence.

On the issue of students not getting much-needed attention from teachers, the majority (47.9%) of headteachers and class teachers indicated great influence on the aspect compared to the majority (30.5%) of students who indicated it had great influence. Tentatively, on reduced class time for syllabus coverage for teachers, 73.5% indicated that there was a great influence compared to the majority of the students' responses (48.4%), showing that it had a great influence.

On the issue of lack of in-depth content coverage due to the loss of instructional time, for headteachers' and teachers' responses, there were diversified views, with 19.8% showing very great influence, 16.5% showing great influence, 18.2% showing moderate influence, 6.6% showing low influence and 38.8% showing very low influence compared to the majority (41.6%) of students showing low influence, 6.3% showing very great influence, 8.4% showing moderate influence, 20% showing moderate influence and 23.7% showing very low influence. Concerning poor lesson planning and class management, headteachers' and class teacher's responses, the majority (56.2%) stated that the aspect had great influence, while other responses, representing 28.9% and 14.9%, respectively, indicated moderate influence and low influence, respectively. On the same for student responses, the majority (37.9%) indicated very low influence, 20% indicated very great influence, 16.3% indicated great influence, 17.4% indicated moderate influence and 8.4% indicated low influence.

Comparatively, from the responses of headteachers and class teachers, various statements were rated with similar magnitude. Over-crowded classes obstruct students from smooth learning ($\mu=3.8, \sigma=1.01$), and students do not get the much-needed attention from teachers ($\mu=3.3, \sigma=0.41$). Poor lesson planning and class management ($\mu=3.11, \sigma=1.12$) result in reduced class time for syllabus coverage for teachers and a lack of in-depth content coverage due to the loss of instructional time.

The hypothetical question was: 'There is no significant relationship between management of class size and academic performance of day secondary school students.' The hypothesis test for the T-test was performed for the null hypothesis (H_0) to compare whether the two observable groups (headteachers, class teachers) and learners' responses had mean differences. The responses were extracted and tabulated, as shown in table 1 below.

Variables	N	D.f	Mean	S.D	R-cal	R-critical	Remarks
Headteachers and Class teachers	310	297	38.7	8.30	4.88	2.17	reject null hypothesis
Learners/students			19.22	2.5			

Table 1: Significance of the Influence of Class Size on Academic Performance

From table 1 above, the r-calculated value of 4.88 is greater than the R-critical value of 2.17 at a p-value ~ 0.05 significant level and 297 degrees of freedom. Hence, the null hypothesis is rejected. Therefore, it can be concluded that there is a significant relationship between the management of class size and the academic performance of day secondary school students. The above results are comparable to Finn and Achilles (2019) study on Tennessee's class size. The research tested the implication of class size on pupil's performances. One of the hypotheses of the study tested the significance of overcrowded classes on pupils' performance. The results indicated that the tested hypothesis was rejected after the r-calculated value of 6.99 was greater than the r-critical value of 3.61 at a p-value ~ 0.05 significant level and 178 degrees of freedom. Therefore, both variables in the research proved to be true that class size affects pupils' performances.

The second objective was to examine how observing class rules and regulations influences student academic performance in day secondary schools in Mwingi East Sub County. Responses were: For headteachers and class teachers on the issue of strict rules and instructions in the classroom environment, the majority (67%) of the respondents indicated a very great influence compared to 23.1% of respondents who indicated great influence. For students' responses on class rules and regulations, the majority, 28.4%, indicated very great influence, and 28.4% indicated moderate influence comparatively. On the issue of lack of attention from teachers towards discipline, there were diversified responses from respondents, with the majority, 57%, indicating very great influence as compared to 16.5% that indicated great influence, 5% moderate influence, 18.2% low influence and 3.3% very low influence. For student's responses, the majority (55.3%) indicated low influence, while 21.6% indicated very great influence and great influence, respectively.

Headteachers' and class teacher's responses on the aspect of high cases of disruption of lessons from students, the majority (51.2%) showed great influence, 45.5% showed moderate influence compared to students' responses, a vast majority (75.6%) indicated very great influence on handling students in crowded classes and 17.9% indicated low influence. Tentatively, 50.2% stated that delay and time management for students had the statement had very great influence in comparison to 19.8% responses that showed great influence. On the other hand, concerning delay and time

management for students, the majority (50.5%) showed great influence compared to 46.5% who showed moderate influence. On the issue of rising levels of indiscipline among students, the majority (50.2%) of headteachers and teachers indicated great influence compared to 26.3% of students who showed very great influence.

From the results, various responses were rated to have similar magnitude: Strict rules and instructions in the classroom environment ($\mu=3.6$, $\sigma=1.02$), High cases of disruption of lessons from students ($\mu=3.11$, $\sigma=0.24$), Delay and time management for students ($\mu=3.51$, $\sigma=1.07$) Rising levels of indiscipline among students ($\mu=3.01$, $\sigma=1.03$). Only one aspect, 'lack of attention from teachers towards discipline,' showed a different magnitude in terms of teachers'/headteachers' and pupils' responses.

The study sought to answer a hypothetical question: 'There is no significant relationship between observation of class rules and regulations and academic performance of day secondary schools.' The hypothesis test for the T-Test was performed for the null hypothesis (H_0) to compare if the two observable response groups (headteachers, class teachers) and learners showed they had mean differences. The r-calculated value of 3.99 is greater than the r-critical value of 2.3 at a p-value ~ 0.05 significant level and 256 degrees of freedom. Hence, the null hypothesis is rejected. The results were extracted and tabulated as shown in table 2 below.

Variables	N	D.f	Mean	S.D	R-cal	R-critical	Remarks
Headteachers and Class teachers	310	256	33.7	7.10	3.99	2.3	reject null hypothesis
Learners/students			18.23	2.4			

Table 2: Significance of Class Rules and Regulations on Academic Performance

From table 2 above, the r-calculated value of 3.99 is greater than the r-critical value of 2.3 at a p-value ~ 0.05 significant level and 256 degrees of freedom. Hence, the null hypothesis is rejected. The researcher draws the conclusion that there is a significant relationship between class rules and regulations and the academic performance of day secondary school students. These results can correspond to Howe and Abedin (2013) on classroom management, which shows that the essence of maintaining a disciplined class entails total observance of strict rules and regulations when conducting lessons. The hypothetical analysis led to the rejection of the null hypothesis after finding that the r-calculated value of 1.99 was greater than the r-critical value of 2.61 at a p-value ~ 0.05 significant level and 123 degrees of freedom. Further, the study indicated that class rules and regulations are supposed to be dynamic to suit the learning environment.

The third objective was to assess how class learning activities influence academic performance in day secondary school students in Mwingi East Sub-County. Regarding the issue of timely class attendance recorded from students, for headteachers and teachers, the majority (32.2%) of the respondents showed very great influence on how class attendance influences academic performances. On the same, 52.9% indicated that there was great influence compared to the majority (37.4%) being rated to have great influence. Compared to other responses, 23.7% had very great influence, 9.5% had moderate influence, 20% had low influence, and 9.5% had very low influence. Concerning the delayed or lack of submission of assignments, the majority (58.7%) of headteachers and teachers showed very great influence, 28.1% showed great influence, and 13.2% showed moderate influence. Compared to students' responses, the majority (50.5%) indicated moderate influence, 28.4% showed great influence, and 21.1% indicated low influence.

Additionally, for headteachers' and teachers' responses on student - teacher's classroom interactions during lessons, the majority (85.1%) indicated that the statement had very great influence. Compared to students' responses, 30% indicated great influence and 28.4% indicated moderate influence on how teachers-to-students' interaction influences academic performance. Tentatively, in the discussion group for learners, the majority (54.5%) of teachers and head teachers indicated very great influence compared to the majority, 51.1% of students, who indicated great influence and 45.8%, who indicated moderate influence.

From the outcome, different aspects showed the magnitude of the influence on academic performance noted. It is evident that some of the aspects as responded had similar magnitude like timely class attendance recorded from students ($\mu=3.8$, $\sigma=0.13$), delayed or lack of submission of assignments ($\mu=3.5$, $\sigma=1.11$), Student - teachers classroom interactions during lessons ($\mu=3.01$, $\sigma=0.16$) and discussion and group learning for learners ($\mu=3.71$, $\sigma=1.01$). Testing the hypothesis, 'There is no significant relationship between learning activities and academic performance of day secondary school.'

The study sought to answer a hypothetical question: 'There is no significant relationship between learning activities and academic performance of day secondary school.' The hypothesis test for the T-test was performed for the null hypothesis (H_0) to compare whether the two observable response groups (headteachers, class teachers) and learners showed mean differences. The results were extracted and tabulated, as shown in table 3 below.

Variables	N	D.f	Mean	S.D	R-cal	R-critical	Remarks
Headteachers and Class teachers	310	273	30.7	8.20	4.11	3.1	reject null hypothesis
Learners/students			22.3	3.1			

Table 3: Significance of Class Activities on Academic Performance

From table 3 above, the r-calculated value of 4.11 is greater than the r-critical value of 3.1 at a p-value ~ 0.05 significant level and 273 degrees of freedom. Hence, the null hypothesis is rejected. Thus, the researcher makes inferences that there is a significant relationship between class activities and the academic performance of day secondary school

students. The results go in line with Leder et al.'s (2018) findings on student achievement as a factor for classroom dynamics. The study, based on a hypothetical approach, tested the impact of class activities on Academic Performance using the same variables but a different number of respondents; the r-calculated value of 6.23 was greater than the R-critical value of 4.23 at a p-value ~ 0.05 significant level and 312 degrees of freedom. The study found that classroom activities are dependent on the teacher's efforts to create a conducive atmosphere for learning with correct, adequate and comprehensible content for study.

The fourth objective was to examine how the utilization of learning resources influences academic performance in day secondary school students in Mwingi East Sub-County. The majority (58, 47.9%) of headteachers and class teachers indicated great extent on the effectiveness in utilization of resources as compared to the majority (84.7%) of pupils who indicated very great influence on the effectiveness in utilization of resources in contrast to other responses where respondents that showed 15.3% great influence. Regarding learning resources increasing student mobility towards accessing knowledge, the majority, 70 (57.8%) of teachers and headteachers had very great influence, while 20 (16.5%) indicated great influence, 21 (17.4%) indicated moderate influence and 10.0 (8.3%). On the same, the majority of the students (30.5%) showed great influence, and 28.4% indicated moderate influence.

Concerning effective instructional engagement for teachers during classwork, the majority, 54.5%, showed very great influence compared to 28.9%, who indicated moderate influence and 16.5%, who showed low influence. For students, the majority (48.4%) showed great influence, 5.3% very great influence, 33.2% showed moderate influence, 6.8% low influence and 6.3% very low influence. Regarding improved quality learning for students, the majority (47.1%) of headteachers and teachers indicated moderate influence, while 43% indicated very great influence, compared to 8.3% who indicated low influence and 1.7% who indicated very low influence. Finally, on the influence of sufficiency for learning materials leads to easier class management, the majority (74, 61.2%) of teachers and headteachers indicated very great influence, while 21(17.4%) indicated great influence compared to 22(18.2%) who indicated influence and 4.0 (3.3) who indicated very low influence. On the same, students had diversified responses, with the majority, 72 (37.9%), indicating very low influence, 38 (20%) indicating very great influence, 31 (16.3%) indicating great influence, 33 (17.4%) indicating low influence, and 16 (8.4%) indicating very low influence. All aspects were measured, and their magnitude of influence on academic performance was noted. It is evident that some of the aspects as responded had similar magnitude like promoting efficiency in learning ($\mu=3.9, \sigma=0.12$), increasing student mobility towards accessing knowledge ($\mu=3.1, \sigma=1.12$), effective instructional engagement for teachers during classwork ($\mu=3.01, \sigma=0.13$) and improved quality learning for students ($\mu=3.20, \sigma=1.1$).

The study sought to answer a hypothetical question: 'There is no significant relationship between learning activities and academic performance of day secondary school.' The hypothesis test for the T-Test was performed for the null hypothesis (H_0) to compare if the two observable response groups (headteachers, class teachers) and learners showed they had mean differences. The results were extracted and tabulated as shown in table 4 below.

Variables	N	D.f	Mean	S.D	R-cal	R-critical	Remarks
Headteachers and Class teachers	310	273	30.7	8.20	4.11	3.1	reject null hypothesis
Learners/students			22.3	3.1			

Table 4: Significance of Class Activities on Academic Performance

From table 4 above, the r-calculated value of 4.11 is greater than the r-critical value of 3.1 at a p-value ~ 0.05 significant level and 273 degrees of freedom. Hence, the null hypothesis is rejected. Thus, the researcher makes inferences that there is a significant relationship between class activities and the academic performance of day secondary school students. The results are in line with Leder et al.'s (2018) findings on student achievement as a factor in classroom dynamics. The study based on a hypothetical approach tested the impact of class activities on Academic Performance and using the same variables but a different number of respondents, the r-calculated value of 6.23 was greater than the r-critical value of 4.23 at a p-value ~ 0.05 significant level and 312 degrees of freedom. The study found that classroom activities are dependent on the teacher's efforts to create a conducive atmosphere for learning with correct, adequate and comprehensible content for study.

The overall objective was to investigate the influence of classroom dynamics on students' academic performance; the researcher used a correlation test to summarize inter-correlations between independent variables (Class Size, Class Activities, Class Rules and Regulations and Learning Resources) and dependent variables (Academic Performance). Therefore, table 5 presents the inter-correlation that sought to determine the degree of interdependence of the independent and dependent variables as represented in a matrix grid.

	Class Size	Class Activities	Class Rules and Regulations	Learning Resources	Academic Performance
Class Size	1				
Class Activities	0.45	1			
Class Rules and Regulations	0.76	0.38	1		
Learning Resources	0.55	0.65	0.45	1	
Academic Performance	0.61	0.78	0.81	0.55	1

Table 5: Inter-Correlation of Variables
 ** Correlation Significant at the 0.05 Level (2-Tailed)

The data generated in table 5 indicate that the associations between the independent variables were significant at the 95% confidence level. This means that the inter-correlations (r^2) of variables between the independent variables were strong enough to depict the overall effect on the dependent variable.

The first correlation analysis was used to examine how class size management influences the academic performance of day secondary schools. The tested results showed that there exists a relationship of ($r = 0.61$, $\alpha = 0.05$). Pearson's correlation factor on the coefficient of correlation $r = 0.61$ (61%) indicates that there exists a strong relationship above average between the two research variables. Thus, the researcher can draw inferences that class size influences the academic performance of students.

The second correlation analysis was used to examine how observation of class rules and regulations influences students' academic performance for day secondary school students. The tested results showed that there exists a relationship of ($r = 0.81$, $\alpha = 0.05$). Pearson's correlation factor on the coefficient of correlation $r = 0.81$ (81%) indicates that there exists a strong relationship above average between the two research variables. Thus, the researcher makes inferences that strict class rules and regulations influence academic performance.

The third correlation analysis was used to assess how class learning activities influence academic performance in day secondary school. The tested variables showed a relationship of ($r = 0.78$, $\alpha = 0.05$). Pearson's correlation factor on coefficient of correlation $r = 0.78$ (78%) indicates that there is a strong relationship above average between the two research variables. Thus, the researcher makes inferences that class learning activities influence academic performance.

The fourth correlation analysis was used to examine how the utilization of learning resources influences academic performance in day secondary school. The tested variable showed a relationship of ($r = 0.55$, $\alpha = 0.05$). Pearson's correlation factor on the coefficient of correlation $r = 0.55$ (55%) indicates that there exists a moderate relationship above average between the two researched variables. Thus, the researcher makes inferences that effective utilization of learning resources influences academic performance.

6. Conclusions and Recommendations

The first objective sought to determine how the management of class size influences the academic performance of day secondary school students; from the responses, the researcher concluded that overcrowded classes obstruct students from learning smoothly. Such cases were evident in all classes where the researcher observed that commotion was the norm of each lesson. Teachers adopted strategies of calming the class before the commencement of the lesson. However, students do not get the much-needed attention from teachers because teachers try to manage big class sizes. Some classes may go unattended while the completion of the syllabus becomes hectic. In such scenarios, teachers adopted remedial classes and called for extra time. Correspondingly, teachers need to plan well for lessons and work on class management. There was evidence of reduced class time for syllabus completion for teachers and low mastery of contents due to pressed instructional time.

The second objective sought to examine how observation of class rules and regulations influences student academic performance on the day; from the responses, the researcher concludes that from the tested aspects, strict rules and instructions in the classroom environment help to improve the class learning procedures, as evident from the respondent responses. Though there are high cases of disruption of lessons from overcrowded students, teachers usually use different tactics to manage their class environment. Delay and time management for students have been a major issue in class management. Nevertheless, teachers try to manage time due to class interruptions caused by crowded classrooms. There are recorded cases of indiscipline among students, but teachers usually try to control students while creating order in the learning process.

The third objective sought to examine how class learning activities influence academic performance in day secondary school students; from the responses, the researcher concludes that timely class attendance was paramount for students' academic performances. Nevertheless, such issues recorded by students, such as delayed or lack of submission of assignments, indicated teachers' recklessness in monitoring students' progress. For performing classes, there were high student-teacher classroom interactions during lessons. Forming discussion group learning for learners was the most preferred method for managing the classroom environment adopted by many teachers. Consequently, interactive demonstrations for problem-solving techniques were used by selected teachers, thus making teachers have different opinions.

The fourth objective sought to examine the influence of the utilization of learning resources on students' academic performance in secondary schools. From the responses, the researcher concluded that many teachers work towards promoting efficiency in learning in the schooling environment. Dynamic procedures used by teachers involve scheduling and allocating scarce learning materials. Such mechanisms help increase students' mobility towards accessing knowledge in schools. Effective instructional engagement for teachers during classwork has been well used and aims to improve quality learning for students. There were high records of insufficient learning materials that resulted in poor class management and attributed to the contribution of poor performance.

From the outcome of the study, the research recommends that:

- The first objective that entailed 'management of class size influences academic performance of day secondary school', the researcher recommends headteachers facilitate the grouping of classes to smaller sizes whilst teachers can improve on different methods of managing class growing class sizes. Tentatively, the researcher further recommends that school administration help teachers by organizing manageable class sizes, possibly in a ratio of 1:35.
- On objective two, which involves 'observation of class rules and regulations influences student academic performance in day secondary schools', the researcher recommends that headteachers and teachers should coordinate in drafting and enforcing school rules and regulations that are likeable and friendly to enhance favorable learning environment parents and government should enforce adherence to friendly rules and regulations for a conducive learning environment.
- The third objective was to assess the influence of class learning activities on academic performance in day secondary school. The research recommends that teachers and every educator have working strategies that promote class integration away from the normal learning procedures in school. The researcher also recommends that the Ministry of Education periodically assess how learning is being conducted.
- The last objective was to 'examine how the utilization of class learning resources influences academic performance in day secondary school.' The researcher recommends that schools invest in modern learning facilities and that teachers advance on interactive teaching methodologies integrated with current students' needs.

7. References

- i. Aggrawal, T. (2014). Student participation in formulation and implementation of school rules and regulations. *Journal of International and Development Studies*, 8(6), 34–56.
- ii. Amon, M. (2017). Learning resources and academic performance of learners in selected secondary schools. *International Journal of Advanced Studies*, 7(12).
- iii. Borland, M. V., Howsen, R. M., & Trawick, M. W. (2015). An investigation of the effect of class size on student academic achievement. *Education Economics*, 13(1), 73–83.
- iv. Bressoux, P., Kramarz, F., & Prost, C. (2019). Teachers' training, class size and students' outcomes: Learning from administrative forecasting mistakes. *The Economic Journal*, 119(536), 540–561.
- v. Chileya, A. (2016). Factors affecting poor academic performance of pupils in junior secondary leaving examinations in selected day secondary schools in by. *University of Zambia*.
- vi. Chingos, M. M. (2013). Class size and student outcomes: Research and policy implications. *Journal of Policy Analysis and Management*, 32(3), 411–438.
- vii. Chunk, D. H. (2019). *Learning theories: An educational perspective* (6th ed.). Pearson. <https://www.pearson.com/us/higher-education/product/Schunk-Learning-Theories-An-Educational-Perspective-6th-Edition/9780137071951.html>
- viii. Comer, J. P., & Haynes, N. M. (2019). The dynamics of school change: Response to the article, "Comer's School Development Program in Prince George's County, Maryland: A theory-based evaluation," by Thomas D. Cook et al. *American Educational Research Journal*, 36(3), 543–597.
- ix. Cotton, N. (2014). *Student discipline and motivation: Research synthesis*. Portland, Northwest: Regional Educational Laboratory.
- x. Darling-Hammond, L. (2019). Teacher quality and student achievement. *Education Policy Analysis Archives*, 8, 1–1.
- xi. Dempsey, K. V., & Sandler, H. M. (2015). Parental involvement in children's education: Why does it make a difference? *Teachers College Record*, 97(2), 310–331.
- xii. Dulock, H. L. (2014). Research design: Descriptive research. *Journal of Pediatric Oncology Nursing*, 10(4), 154–157.
- xiii. Epstein, J. L. (2014). School policy and parent involvement: Research results. *Educational Horizons*, 62, 70–172.
- xiv. Finn, J. D., & Achilles, C. M. (2019). Tennessee's class size study: Findings, implications, misconceptions. *Educational Evaluation and Policy Analysis*, 21(2), 97–109.
- xv. Froyen, L. A., & Iverson, A. M. (2019). *Schoolwide and classroom management: The reflective educator-leader* (3rd ed.). Upper Saddle River, NJ: Prentice-Hall.
- xvi. Glasman, N. S. (2014). Student performance and the school procedures. *Educational Evaluation and Policy Analysis*, 6(3), 283–296.
- xvii. Glass, G. V., & Smith, M. L. (2016). Meta-analysis of research on class size and achievement. *Educational Evaluation and Policy Analysis*, 1(1), 2–16.
- xviii. Glickman, C. D., Gordon, S. P., & Ross-Gordon, J. M. (2017). *Supervision and instructional leadership: A development approach* (5th ed.). Toronto: Allyn and Bacon.
- xix. Goad, L. (2019). *The dynamics of educational change in Africa and other continents: Toward responsive schools*.

- xx. Gremmen, M. C., Dijkstra, J. K., Steglich, C., & Veenstra, R. (2017). First selection, then influence: Developmental differences in classroom dynamics regarding academic achievement. *Developmental Psychology*, 53(7), 1356.
- xxi. Hadfield, J. (2013). *Classroom dynamics: Resource books for teachers*. Oxford University Press.
- xxii. Howe, C., & Abedin, M. (2013). Classroom management: A systematic review across four decades of research. *Cambridge Journal of Education*, 43(3), 325–356. <https://doi.org/10.1080/0305764X.2013.786024>
- xxiii. Hoy, W. (2012). School characteristics that make a difference for the achievement of all students: A 40-year odyssey. *Journal of Educational Administration*, 50(1), 76–97.
- xxiv. Grimaldi, P. J., Basu Mallick, D., Waters, A. E., & Baraniuk, R. G. (2019). Do open educational resources improve student learning? Implications of the access hypothesis. *PloS One*, 14(3), e0212508.
- xxv. Hurtado, S., Alvarez, C. L., Cuellar, M., & Arellano, L. (2012). A model for diverse learning environments: The scholarship on creating and assessing conditions for student success. *Higher Education: Handbook of Theory and Research: Volume 27*, 41–122.
- xxvi. Kiggundu, H. (2019). The influence of discipline management by headteachers on students' academic performance in selected private secondary schools of Busiro County in Wakiso District (Doctoral dissertation, Makerere University).
- xxvii. Kimalel, B. C. (2019). Influence of instructional resources on children's early literacy performance in public pre-schools in Kanduyi Sub-County, Bungoma County, Kenya. [Master's thesis, Kisii University]. Kenya. <http://41.89.196.16:8080/xmlui/handle/123456789/968>
- xxviii. Kothari, C. R. (2016). *Research methodology: Methods and techniques*. New Age International.
- xxix. Kumpulainen, K., Kajamaa, A., & Rajala, A. (2018). Understanding educational change: Agency-structure dynamics in a novel design and making environment. *Digital Education Review*, (33), 26–38.
- xxx. Kwayu, A. I. (2014). Perception of secondary students on school rules and regulations in promoting acceptable behavior: A case of Moshi Rural District (Doctoral dissertation, The Open University of Tanzania).
- xxxi. Leder, G. C. (2018). Student achievement: A factor in classroom dynamics? *The Exceptional Child*, 34(2), 133–141.
- xxxii. Livumbaze, A. G., & Achoka, S. J. (2017). Analyzing the effect of teaching/learning resources on students' academic achievement in public secondary schools, Hamisi Sub-County, Kenya. *European Journal of Education Studies*, 3(1), 361–376. <https://doi.org/10.12816/0036069>
- xxxiii. Mandinach, E. B., & Cline, H. F. (2013). *Classroom dynamics: Implementing a technology-based learning environment*. Routledge.
- xxxiv. Monks, J., & Schmidt, R. M. (2017). The impact of class size on outcomes in higher education. *The BE Journal of Economic Analysis & Policy*, 11(1).
- xxxv. Morris, F. A., & Tarone, E. E. (2014). Retracted: Impact of classroom dynamics on the effectiveness of recasts in second language acquisition. *Language Learning*, 53(2), 325–368.
- xxxvi. Muoka, M. V. (2017). The role of headteachers' instructional supervision in public secondary schools. *Unpublished Master's thesis, University of Nairobi, Kenya*.
- xxxvii. Muriithi, M. M. (2012). Influence of head teachers' supervision strategies on pupils' performance: Curriculum implementation in public primary schools in Imenti South District. *Unpublished M.Ed. Project, University of Nairobi, Kenya*.
- xxxviii. Naisiano, M., Koome, P., & Marima, E. (2020). Influence of teaching and learning materials available on the development of pupils in upper primary schools in Karunga Zone, Gilgil Sub County. *International Journal of Research in Business and Social Science*, 9(5), 294–301. <https://doi.org/10.20525/ijrbs.v9i5.864>
- xxxix. Ncube, N. J. (2014). Managing the quality of education in Zimbabwe: The internal efficiency of rural day secondary schools (Doctoral dissertation).
- xl. Ndeto, A. (2015). Effectiveness of school rules and regulations in enhancing discipline in public secondary schools in Kangundo division, Machakos County, Kenya (Doctoral dissertation).
- xli. Omona, J. (2013). Sampling in qualitative research: Improving the quality of research outcomes in higher education. *Makerere Journal of Higher Education*, 4(2), 169–185.
- xl. Pianta, R. C., Lun, J., Allen, J. P., Mikami, A. Y., & Gregory, A. (2011). An interaction-based approach to enhancing secondary school instruction and student achievement. *Science*, 333(6045), 1034–1037.
- xl. Randhawa, S., & Lewis (2016). Assessment and effect of some classroom environment variables. *Journal of Review of Educational Research*, 43(3).
- xl. Roberts, P., & Priest, H. (2016). Reliability and validity in research. *Nursing Standard*, 20(44), 41–46.
- xl. Senior, R. (2019). A class-centered approach to teaching and learning. *ELT Journal*, 56(4), 352–363. Underhill, A. (1999). Facilitation in language teaching. In J. Arnold (Ed.), *Affect in language learning*. Cambridge: Cambridge University Press.
- xl. Taylor, L., & Adelman, H. (2017). Addressing the barriers to learning in a classroom environment. *Journal of Education Arts, Online Submission*, 7(12), 23–78.
- xl. Tobister, M. (2017). Factors influencing academic performance in Kenya Certificate of Primary Education in Kiminini Sub County, Trans Nzoia County, Kenya. [Master's Thesis, Moi University]. Kenya. <http://ir.mu.ac.ke:8080/xmlui/handle/123456789/815>
- xl. Wang, L., & Calvano, L. (2022). Class size, student behaviors and educational outcomes. *Organization Management Journal*, 19(4), 126–142. <https://doi.org/10.1108>

- xlix. Wilson, D., Burgess, S., & Briggs, A. (2018). The dynamics of school attainment of England's ethnic minorities. *Journal of Population Economics*, 24, 681–700.
- l. Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, 3(2), 254.