PHYSICAL FACILITIES AND ACADEMIC PERFORMANCE OF SCIENCE IN RUCHU GIRLS SECONDARY SCHOOL, MARAGUA DISTRICT, KENYA

By

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DECLARATION

I, Daniel Waicigo, declare that this piece of work has been out of my entire effort and has never been presented in any other institution.

Signature.....

Date.....

APPROVAL

This Dissertation has been submitted under my supervision as a University Supervisor.

Signature.....

KAMAGARA EDSON

SUPERVISOR

Date.....

DEDICATION

This piece of work is dedicated to my Parents for the support rendered to me.

ACKNOWLEDGEMENT

I would love to acknowledge the following persons in their capacities who have contributed towards my education and the generation of this piece of work;

Sincere thanks are extended to my Supervisor Mr. Kamagara Edson for his advice and guidance that saw me through this presentation. I will never forget his care and may God bless him so much.

My family especially my parents, sisters and brothers for loving and praying for me while I pursued my studies.

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ABSTRACT

This study determined physical facilities of schools in relation to Academic performance of science students. It determines the profile of the respondents and determined the relationship between lighting and academic performance of science students, determined the relationship between building age and quality and academic performance of science students and determined the relationship between class size and academic performance of science students.

The first objective was to find out the relationship between lighting and academic performance of science students. The findings reveal that lack of lights in the school stops students from reading and therefore negatively affects their academic performance. Also, it was revealed that the poor lighting of the school affects the eye sight of the students which naturally affects their academic performance.

The second objective of the study was to find out if the state of building age and its quality affects academic performance. The finds reveal that poor buildings stop school authorities from buying science equipment necessary for students to learn.

The third objective was to find out if class size has any effect on academic performance of science students. The findings revealed the big class size stops some students from hearing what the teacher is teaching and this affects academic performance.

The study focused on the failure by students to hear what the teacher is teaching because of the big size of the class, the failure by the teacher to notice who misses classes and the failure by teachers to give exercises and tests to students because of the over whelming no students in class.

The following recommendations are based on the findings and conclusions; The school authorities should ask for facilitation from government to renovate and construct new building structures for the school, the government should make it a point that it budgets money for construction and renovation of its schools and the school authorities should put in place better lighting system in order to help students read their books.

PROBLEM AND ITS SCOPE

INTRODUCTION

Rationale of the study

A good school facility supports the educational enterprise. Research has shown that clean air, good light, and a small, quiet, comfortable, and safe learning environment are important for academic achievement (see, for example, Cash 1993, Earthman and Lemasters 1996, Lemasters 1997, Lackney 1999, Cotton 2001, Schneider 2002). While factors such as student socioeconomic status and parental involvement are among the most important predictors of student academic performance, the condition, adequacy and management of a school building are directly under the control of the school district and state—hence improving school facilities offers a feasible opportunity for improving academic performance.

In the spring of 2003, the LAUSD completed an assessment of the health and safety compliance of its schools. It evaluated each school on 14 measures of compliance: accident prevention, asbestos management, fire/life safety, campus security, chemical safety, pest management, lead management, restroom facilities (e.g., mold, supplies, and ventilation), indoor environment (such as indoor air quality), maintenance and repair, safe school plan, emergency preparedness (including earthquake preparation), traffic and pedestrian safety, and science lab safety. These measures were combined to create an "Overall Compliance Rating" (OCR) for each school.

While the compliance measure does not necessarily reflect all of the many factors that affect the condition and the design of the school

facility, a low OCR may signal a school that is in poor condition because of factors such as age, overcrowding, deferred maintenance, or poor initial design. A low OCR signals poor operating practices, e.g., failure to keep hazmat in approved storage cabinet, and, more generally, may identify a school that is poorly managed.

Theory

This study is based on the theory of David Hargreaves (1997) which states that, "many schools fail to produce a sense of dignity of working-class. If pupils fail to achieve individual success in competitive exams they will tend to rebel and fail to develop a sense of belonging within the school." The researcher concurs with that conclusion within the Jamaican experience; students who are the most indisciplined oftentimes are within the group of poor academic achievers (i.e. failure at examinations). Haralambos writing revealed that, "To acquire dignity a person must achieve a sense of competence, of making a contribution to, and of being valued by, the group to which he or she belongs." Here Hergreaves's positions reflect the structure of the world as it relates to accomplishment, being successes on a competitive examination in order to establish competence. Meaning that, there is much stress levied on the individual to compete on an examination in order to establish worth, mastery and that of being valued by society. This explains why sociologists of the modern school including Hargreaves believed that the individual should have some sense of freedom to pursue disciplines of his/her interest or talent and not be totally dictated to by the social institution – the school. That is, the education system is rigidly structured to measure students' performance in order to allocate human resources within the role-structure of adult society.

"Conformity and obedience therefore bring their own rewards. Finally,

students emerge from the educational system with a variety of qualifications that they and others believe have provided them with the training, skills and competence for particular occupations. Illich rejects this belief. He argues that 'The pupil is schooled to confuse teaching with learning, grade advancement with education, a diploma with competence," Haralambos (1997) said. The researcher concurs with Haralambos' views. The present 'Westernized' model is designed around qualification, success, achievement and competence as measured by a competitive examination that cannot be a true reflection of individuals' depth of knowledge, skill base or even mastery in a task.

The Journal of Education (1981) posited that performance might be seen as an index of the candidates' ability and motivation. In that, the success of teaching is in engaging in giving direction, as that fact is observed as affecting performance.

The Journal of Education (op cit) further commented that the Jamaican economy relies heavily on graduate output of the University of the West Indies to supply the needed expertise in technological, commercial and professional fields. In turn, the University of the West Indies depends on the Sixth Forms of Secondary High Schools (grammar school) to supply students capable of acquiring a particular expertise. Over the past few years however, wastage at the Sixth Form level in Jamaican Grammar schools has led to setting up of a working party by the Jamaican government to consider post Ordinary Level Education.

In Jamaica, an investment in Sixth Form Education at the Secondary level requires thorough investigation if the overall outcome continues to be between 4.0 and 45.8 percent success rate in the Cambridge Advanced Level Accounting Examination. Students who participate in the Sixth Form programme of study are usually University aspirants and

represent meritocratic elite in the Jamaican Educational system. This small and selected group of young adults has elected to pursue this course of study after attaining a minimum of grade III or a grade C at the CXC/Ordinary Level examination in since,1998).

The performance of Advanced Level candidates (post Caribbean Examination Council) has been deteriorating disappointingly). The Journal (op cit) noted that the continuing wastage at the Sixth Form Level demands that improvement in the Advanced Level Achievement of Jamaican Students be treated as a priority. As such, consideration and speedy implementation of some or all of the recommendations offered by the Working Party provide a starting point on which to develop those improvements best able to assist in equipping Sixth Formers for providing Jamaica with the technological, commercial and professional skills vital to the Nation's Economic, political, social and psychological development.

You may want to argue that the Journal of Education was published in 1981, so looked at issues of that period and not beyond to 2004. The issue today is, have systems been implemented to curtail those matters that were place in the Journal of Education in 1981. If not, the argument still holds true as the situation is the same as before the research was done by that agency. Now, you will see that such performance has continued to occur, when Lloyd Brown (1989) posited that, the results of the Advanced Level Examinations in 1988 in Jamaica could hardly be encouraging to the child going into Sixth Form. Continuing, the statistics revealed that a candidate is highly likely to fail the examination (that is, 6/10 chance that s/he will fail the papers) Brown, 1989. The statistics on students' successes showed that an individual chance of being successful in 2004 is 4/10. The worrying spiral downward trends in successes of candidates who have sat the examination are depressing to

the eyes and the human capital development of this country. Because the failure rate is high or very high, thorough the history of the examination, the researcher have wonders whether the Parents and Children have been advised of the challenge of the Sixth Form Programme.

Pupils who leave for the Fifth Form Level of education where they have just completed the Caribbean Examination Council (CXC) or Ordinary Level (O'Level) programme are experiencing severe problems at the lower Sixth Form Level (Brown, 1989). Based on Table II (see Appendix II), Brown's findings are true as the facts from the A' Level examination results clearly concurs with Brown. The researcher's own experience at the Advanced levels affirms Brown's postulations on the matters, as he believes that he got no prior preparation for this new mental rigor and depth of application. Hence, this still leaves unanswered "Are students being furnished with the relevant skills, knowledge and competencies for the Advanced Level examination?" If not, the inevitable occurs – frustration, inability to cope and ultimately failure on the path of many candidates. Brown states, "Having been fed a diet of dependency, the pupil approaches the Sixth Form programme in the same manner and s/he is really badly shaken when he/she realizes that he/she must use a different approach, if s/he is to achieve academic excellence". This leaves yet another unanswered issue, the difference between the Ordinary and Advanced Level examination and the teachers understanding of the requirements of latter. What is the social reality and social meanings that are out there that explain the sub-performance of A' Level candidates?

Review of the related literature

Lighting and academic performance

According to Mayron et al. 1974, Classroom lighting plays a particularly critical role in student performance (Phillips 1997). Obviously, students cannot study unless lighting is adequate, and there have been many studies reporting optimal lighting levels.

Tanner's review (1999) cites results of seventeen studies from the mid-1930s to 1997. The consensus of these studies is that appropriate lighting improves test scores, reduces off-task behavior, and plays a significant role in students' achievement.

Recently there has been renewed interest in increasing natural daylight in school buildings. Until the 1950s, natural light was the predominant means of illuminating most school spaces, but as electric power costs declined, so too did the amount of day lighting used in schools. According to Benya, a lighting designer and consultant, recent changes, including energy-efficient windows and skylights and a renewed recognition of the positive psychological and physiological effects of day lighting, have heightened interest in increasing natural daylight in schools (Benya 2001).

Lemasters' (1997) synthesis of fifty-three studies pertaining to school facilities, student achievement, and student behavior reports that day light fosters higher student achievement. The study by the Heschong Mahone Group (1999), covering more than 2000 classrooms in three school districts, is perhaps the most cited evidence about the effects of daylight. The study indicated that students with the most classroom daylight progressed twenty percent faster in one year on math tests and

twenty-six percent faster on reading tests than those students who learned in environments that received the least amount of natural light (also Plympton, Conway, and Epstein 2000). There were some questions that could not be answered by the original Heschong study, such as whether the higher performance was driven at least in part by better teachers being assigned to the classrooms that received more daylight. A follow-up study surveyed teachers in one of the districts and added information on teacher characteristics to the analysis. This new report found that the effect of day lighting remained both positive and significant. Other studies are currently in process to try to validate

Building Age and Quality

McGuffey's 1982 synthesis of earlier studies correlated student achievement with better building quality, newer school buildings, better lighting, better thermal comfort and air quality, and more advanced laboratories and libraries. More recent reviews by Earthman and Lemasters (1996, 1998) report similar links between building quality and higher test scores. For example, researchers studying Georgia's primary schools found that fourth-grade students in non-modernized buildings scored lower in basic skills assessments than students in modernized or new buildings (Plumley 1978). Similarly, Chan (1979) found that eighth-grade students scored consistently higher across a range of standardized tests if housed in new or modernized buildings. Bowers and Burkett (1987) found that students in newer buildings outperformed students in older ones and posted better records for health, attendance, and discipline. The study attributed approximately three percent of the variance in achievement scores to facility age, after considering socio-economic differences in the student populations. In more recent work, Phillips (1997) found similar improvements in newer facilities, and Jago

and Tanner (1999) also found links between building age and student achievement and behavior.

Class Size and academic performance

Class size is an important factor in school design and drives a host of costly facility-related issues that are part and parcel of the school building's planning, design, construction, cost, maintenance, and operation. Given that education is labor intensive, class size is a big factor in determining the number of teachers needed and, hence, how much education will cost. While social scientists are engaged in an intense debate over the effects of class size on educational outcomes, there is widespread popular belief that smaller classes are better.

Of the teachers surveyed by Public Agenda, seventy percent said that small class size is more important to student achievement than small school size. This preference for smaller classes is being codified in law: nearly half the states have enacted legislation and are spending hundreds of millions of dollars each year to reconfigure school buildings to reduce the student-teacher ratio to twenty or fewer students per teacher (National Association of Elementary School Principals 2000).

At the national level, the Clinton administration made class size reduction a centerpiece of its educational reform efforts and the Bush administration has followed suit. Despite the popularity of small classes, the scientific evidence linking class size to achievement is mixed—and hotly contested.

School Size and academic performance

Schools in the United States have grown larger and larger, but how this growth affects learning is still being explored. Buildings housing two or

three thousand students are not uncommon; high schools in some large cities house five thousand students (Henderson and Raywid 1994). The trend toward large schools stems from several historical processes, including school district consolidation and the belief that large schools can deliver education with major economies of scale. As a result of rural school district consolidation and lack of available sites and population growth in central cities, large schools began appearing in this country as early as 1869. The post-WWII baby boom and concurrent population shift from city to suburbs made larger schools commonplace. And notwithstanding any absolute definition of smallness, is appropriate. And as shown below, this may be especially true in low-income communities. But despite the possibility that any reduction in size is good, the consensus seems to be that small-school benefits are achieved in the 300- to 400-student range for elementary schools and less than 1,000 students for high schools (Cotton 1996).

Significance of the study

This study will be of benefit in the following ways;

The ministry of education will be able to make policies that can improve the physical structures of schools in order to improve performance.

The district supervisors will be able to supervise the work of putting in place physical facilities in schools in order to improve on the performance of students.

The teachers particularly the heads of the schools will be sensitized on the importance of putting in place physical facilities that can improve the academic performance of students in schools.

Parents will be able to press the school administrations during parents meetings at schools to improve the physical structures of the schools

The students will also be able to demand better services in relation to physical facilities in schools.

Objectives

General: This study determined physical facilities of schools in relation to academic performance of science students

Specific: this study sought to

1. Determine the profile of the respondents as to:
    1.1 socio demographic data
        1.1.1 Age
        1.1.2 Gender
        1.1.3 Academic level

2. Determined the relationship between lighting and academic performance of science students.

3. Determined the relationship between building age and quality and academic performance of science students.

4. Determined the relationship between class size and academic performance of science students.

Research Questions

1. What is the relationship between lighting and academic performance of science students?

2. What is the relationship between building age and quality of the school and academic performance of science students?

3. What is the relationship between class size and academic performance of science students?

4. What is the relationship between school size and academic performance of science students?

RESEARCH METHODOLOGY

Design

This study followed a descriptive research design. Both qualitative and quantitative methods were used. The quantitative technique was used to collect and analyze data on physical facilities and academic performance as well as different responses from both students and teachers. The qualitative technique was used to assess the physical facility factors affecting students' academic performance in respect to attitudes towards science students as well as responses from teachers & students.

Environment

The research was carried out in Rachu girls' secondary school in Maragua District, Kenya.

Respondents

The study included ideas from head teachers, teachers and students of the school and the district education officer of Maragua District.

Instruments

A self administered questionnaire was used to gather information from students and teachers of the school. The questionnaire was used because of the advantage of obtaining data within a short time. It also had an element of privacy so students were able to express themselves freely.

Data collection procedures

The researcher obtained an introductory letter from the institute of continuing and distance studies. This enabled the researcher to go to the field to carryout the study. The researcher personally distributed and supervised the filling into questionnaires by students. This was done with the help of school authorities. The questionnaire for the teachers was left with the head teacher or deputy who later distributed them to teachers. They were collected back after two weeks. The interview with the head teacher was held in her office on appointment since she is a very busy officer. The same was done with the district education officer at the district headquarters.

Statistical treatment of Data

Quantitative analysis. Data was categorized according to the research variables. Data was then coded in sheets from which it was keyed into the computer. Quantitative data generated from questionnaires was computed into frequency courts and percentages using the formula below;

$$\text{Percentage (\%)} = \frac{F}{\text{Total number of}} \times 100$$

Where F = number of respondents

Observed

Qualitative analysis. Data from questionnaires was standardized and categorized. Such data was presented in a descriptive form and was used to discuss the results of quantitative data.

PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

Introduction

This chapter is a presentation, interpretation and discussion of the field results. The results are presented in tables and in form of frequency counts and percentages. The results and discussions are centered on the Set objectives of the study.

The results and discussions are presented below:

Demographic characteristics of respondents

The study covered 50 randomly selected respondents of whom 25(50%) are male and 25(50%) female.

Table 1: Below shows respondents age brackets.

Age bracket	Frequency	Percentage
13-17 years	25	50
18-22 years	25	50
Total	50	100

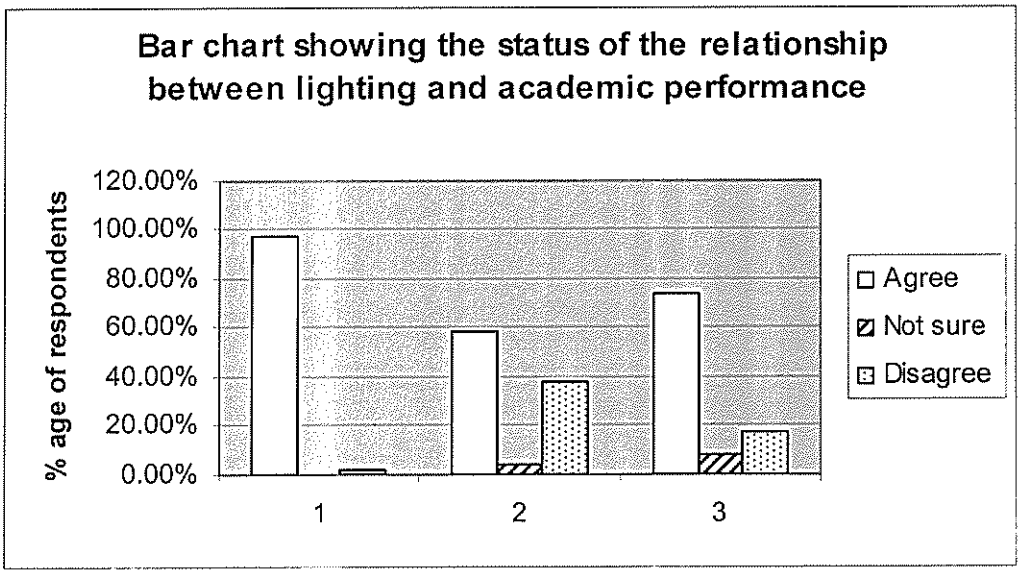
The table above shows that respondents where evenly chosen in the ranges of 13-17 years (50%) and 18-20 years (50%).

The relationship between lighting and academic performance of science students.

Table 2: Status of the relationship between lighting and academic performance.

	Item	Agree	Not sure	Disagree
1.	Lack of lights in the school stops me from reading and hence I don't pass my exams.	97.6%	0.0%	2.4%
2.	The poor lighting system in school affects my eyes and hence I can not read my books.	58.8%	3.6%	37.6%
3.	We miss to attend some lessons some times because it's dark in class and we can't go on with our lessons.	74.1%	8.5%	17.6%

Source: Primary data



From the table 4.2 & chart 1.2 above, the respondents overwhelmingly agreed that the lighting system of the school affects or interferes in their performance at school. 97.0% of the respondents think that lack of lights in the school stops them from reading their books and hence affects their performance. Also 74.1% of the respondent said that at times when lights go off, they stop their lessons which consequently affects their concentration in class and even interferes with their reading time tables. This definitely negatively affects their performance. Further more 58.8%of the respondents reported that the poor lighting system of the school also affects their eye sight which means that they can not read their books. This consequently negatively affects their academic performance.

Relationship between building age and quality and academic performance of science students.

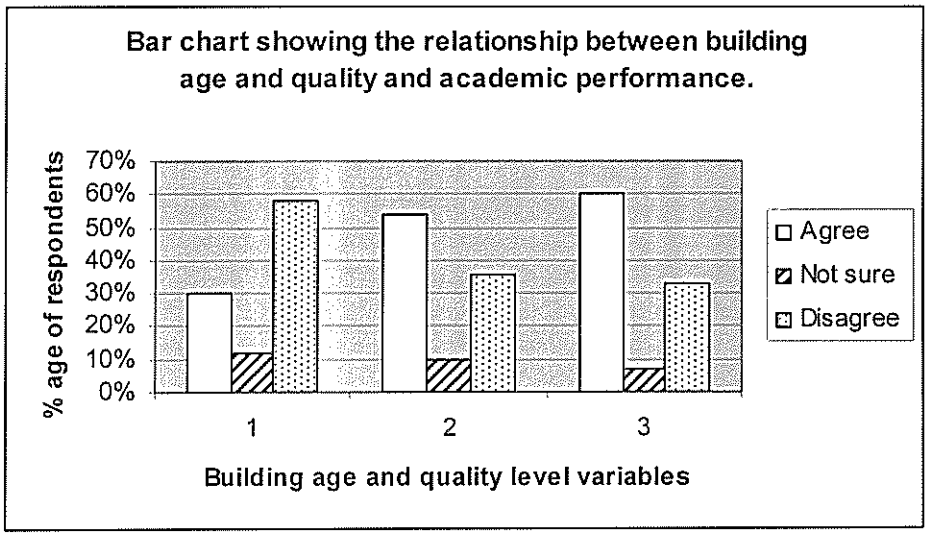
The research findings on the relationship between building age and quality and academic performance of science students is presented in the table 4.4 and chart 4.4 below.

Table 3: Relationship between building age and quality and academic performance.

	Item	Agree	Not sure	Disagree
1.	The poor buildings do stop teachers from coming to teach us and we end up performing badly.	30%	12%	58%
2.	The old and poor quality buildings stops the school management from buying equipments necessary for our science practicals for fear of destroying them.	54%	10%	36%

3.	The poor quality buildings do not attract bright students and good teachers in our school and so we miss out on the people who would have helped us do better in academics.	60%	7%	33%

Source: Primary data



Results from table 4.2 and chart 4.2 above show that 60% of respondents agreed that the poor quality of building stops attracting good quality teachers and bright students who would have helped other students perform better in academics. Consequently students end up performing poorly. Also 54% of the respondents thought the poor quality buildings stops the school management. Form purchasing equipment for the science students for reasons being they have no safe place to keep them. This naturally negatively affects the academic performance of students.

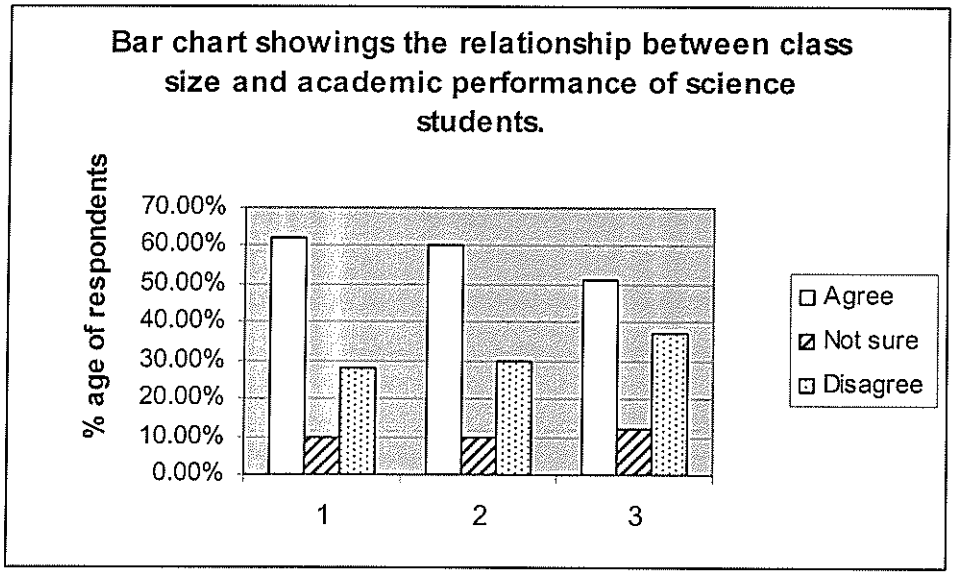
However, with regard to teachers dodging classes because of poor buildings, the respondents rejected the statement (58%). It is only 30% of the respondents who thought the statement was true.

The relation ship between class size and academic performance of science students.

The results of the findings are presented in the table 4.4 and chart 4.4 below;

	Item	**Agree**	**Not sure**	**Disagree**
1.	We perform poorly in academics because the class size is so big that we cant hear what some of the things the teachers teaching.	62.0%	10%	28.0%
2.	Because the class size is big, the teacher does not mind who misses his classes and so we perform poorly.	60%	10%	30%
3.	The teachers do not give tests and exercises in class for our practice because they are over whelmed by the big no of our class size and so we end up failing exams.	51%	12%	37%

Source: Primary data



Results from the table 4.4 and chart 4.4 above indicate that 62% of the respondents agreed with the statement that their poor academic performance was due to the fact that their class size was so big that they can't pay attention and hear what the teacher is teaching.

Also, the respondents also agreed that because of their big class size, the teacher in class does not mind who attends his class or not and this also leads to poor performance.

Lastly, it is also agreed that the cause of poor performance is due to the fact that teachers do not give tests and exercises in class to students for practice just because the teachers are over whelmed by the big no of students in class. This makes the students go to exams ill prepared and so they perform poorly.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The study looked at the relationship between physical facilities and academic performance of science in Ruchu girls secondary school, Maragua district. In an attempt to achieve the above, three objectives were developed. This chapter presents the summary, conclusion and recommendations.

Summary of the major findings

The relationship between lighting and academic performance of science students.

The first objective sought to identify the relationship between lighting and academic. The study focused on lack of lights in the school and how it affects the reading of students hence poor performance, and poor lighting system in the school affects the eye sight of students and hence poor academic performance.

The findings from the respondents revealed that 96.6% of respondents agreed that lack of lights in the school stops students from reading and hence they don't pass their exams. Also, 58.8% of the respondents confirmed that poor lighting systems in school affects eye sight of students and hence fail to read and in the end perform poorly.

Furthermore 74.1% of the respondents said they miss lessons some times when it is dark in their classes and so they cant revise to perform well in exams.

Relationship between building age and quality and academic performance of science students.

The school objective focused on the relationship between building age and quality and academic performance of science students. The study focused on the failure of teachers to go and teach students because of poor buildings, failure of school management to big equipments for students because of poor buildings and the lack of attraction of quality teachers and bright students because of poor buildings.

The study findings revealed that 54% of respondents agreed that the state of poor buildings steps school management from buying the necessary equipments for science students for year of their poor storage. Regarding the failure of attracting good quality teachers and bright students 60% of the respondents agreed with the statement. However the respondents disagreed with the notion that the poor building facilities stop teachers from coming to teach the students.

The relationship between class size and academic performance of science students.

The third objective focused on the relationship between class size and academic performance of science student.

Conclusions

The relationship between lighting and academic performance.

The first objective was to find out the relationship between lighting and academic performance of science students. The findings reveal that lack of lights in the school stops students from reading and therefore negatively affects their academic performance.

Also, it was revealed that the poor lighting of the school affects the eye sight of the students which naturally affects their academic performance.

The relationship between building age and quality and academic performance of science students.

The second objective of the study was to find out if the state of building age and its quality affects academic performance. The finds reveal that poor buildings stop school authorities from buying science equipment necessary for students to learn.

The relationship between class size and academic performance of science students.

The third objective was to find out if class size has any effect on academic performance of science students.
The findings revealed the big class size stops some students from hearing what the teacher is teaching and this affects academic performance.

The study focused on the failure by students to hear what the teacher is teaching because of the big size of the class, the failure by the teacher to notice who misses classes and the failure by teachers to give exercises and tests to students because of the over whelming no students in class.

The study findings revealed that 62% of respondents thought they can not hear what some of what the teacher is teaching because of the overwhelming no of students and so they perform poorly. Also, it was observed that 60% of the respondents agreed that the lack of concern of the teachers about absent students in class makes them relaxed and they end up performing poorly. Furthermore, it was established that 51% of students agreed that their lack of good academic performance is attributed to their lack of doing enough through exercises and tests. This was attributed to teachers refusing to give them because of their big number in class.

Recommendations

The following recommendations are based on the findings and conclusions;

1. The school authorities should ask for facilitation from government to renovate and construct new building structures for the school.

2. The government should make it a point that it budgets money for construction and renovation of its schools.

3. The school authorities should put in place better lighting system in order to help students read their books.

BIBLIOGRAPHY

Cotton, K. 2001. New Small learning Communities: Findings from Recent Research. Portland, OR: Northwest Regional Education Laboratory. Retrieved 03/03/04 from: http://www.nwrel.org/scpd/sirs/nslc.pdf

Earthman G.I and L. Lemasters. "Review of Research on the Relationship between School Buildings, Student Achievement, and Student Behavior." Paper presented at the Annual meeting of the Council of Educational Facility Planners International., Tarpon Springs, FL 1996.

Greene, W. H. 2000. Econometric Analysis, 4th Edition. New York: Prentice-Hall.

Harvey, A. C. 1976. Estimating Regression Models with Multiplicative Hetero scedasticity. Econometrica 44: 461-465.

Lackney, J. A. "Assessing School Facilities for Learning/Assessing the Impact of the Physical Environment on the Educational Process." Mississippi State, Miss.: Educational Design Institute. 1999.

Schneider, M. "Do School Facilities Affect Academic Outcomes?" Washington, D.C.: National Clearinghouse for Educational Facilities, 2002.

UN PUBLISHED MATERIAL

Cash, C. "A Study of the Relationship between School Building Condition and Student Achievement and Behavior." Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University, 1993.

Lemasters, L. K. "A Synthesis of Studies Pertaining to Facilities, Student Achievement, and Student Behavior." Unpublished doctoral dissertation. (ED447687), Virginia Polytechnic State University. 1997.

QUESTIONNAIRE FOR THE STUDENTS

The purpose of this study is to determine physical facilities of schools in relation to academic performance of science students. You are requested to fill in this set of questions and tick where appropriate with much sincerity.

1. Personal information

Age

13-17yrs ☐

18-22yrs ☐

2. Relationship between lighting and academic performance of science students

1. Lack of lights stops me from reading

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

2. Because of that I don't pass my exams

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

3. Poor lighting affects my eyes

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

4. Poor lighting affects my eyes

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

5. I cannot read with my eyes paining

Strongly agree ☐

☐

Agree

Disagree ☐

Strongly disagree ☐

6. We miss classes because of darkness

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

7. Therefore we don't perform well because of poor lighting

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

3. Relation ship between building age and quality of academic performance

1. poor buildings stop teachers from coming to teach us

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

2. We therefore perform poorly

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

3. The old and poor quality building the management from buying equipments

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

4. Therefore we don't do well our practicals

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

5. Poor quality buildings do not attract bright students

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

6. Poor quality buildings do not attract good teachers to our school

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

7. Therefore we miss out on people who could have helped us do better in academics

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

4. Relationship between class size and academic performance

1. We perform poorly in academics because the class size is big

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

2. We can't hear what the teacher is teaching because of the big size of the class

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

3. Teachers do not mind who misses class because it is big

We therefore perform poorly

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

4. Teachers do not give test exams because of the class size

Students therefore fail exams

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐

Class size is a major cause for exam failure

Strongly agree ☐

Agree ☐

Disagree ☐

Strongly disagree ☐