



School Infrastructure Utilization and Pupils' Academic Performance in Government Primary Schools in Kichwamba Sub- County, Kabarole District, Uganda

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Abstract: *The study examined the influence of school infrastructure utilization on learners' academic performance in government primary schools in Kichwamba Sub County Kabarole District. The researcher used a cross-sectional survey design with both qualitative and quantitative approaches. The study population consisted of head teachers, teachers, health workers and students from candidate classes. A sample size of 148 respondents was used. The study used both questionnaires and interview as methods of data collection. After quantitative data was collected it was edited, coded and then the data entry was done using the Statistical Programme for Social Scientists (SPSS) version 26. The relationship between the independent and dependent variable was tested using the Pearson product moment correlation coefficient. Thematic analysis was used during qualitative data analysis. The study found out that there is a strong positive correlation between physical infrastructure and pupils' academic performance. The study further found out that there is a weak but significant relationship between co-curricular facilities and pupils' academic performance. The study further found out that there is a strong positive correlation between health facilities and pupils' academic performance. This is an indication that sanitation facilities in primary schools have a strong bearing towards pupil's academic performance. The study therefore concluded that there is a significant relationship between school infrastructure utilization and pupils' academic performance in government primary schools in Kichwamba Sub County Kabarole District. The study recommended that the department of quality assurance and standard officer should ensure primary schools implement the non-formal curriculum to aid talent development among primary school pupils.*

Keywords: *School, Infrastructure, Academic performance, Government, Uganda*

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1. Introduction

In both developed and developing nations, education is a very crucial process through which an individual's life chances are determined. Beyond the economic significance, education is viewed as a good in itself and indeed a basic human right with regard to the lower level of education (World Bank, 2015). Education is a universal investment in human beings and a value resource for economic benefit of the country. The governments all

over the world committed themselves to the provision of Education for All (EFA) at Dakar, Senegal in 2010 (UNESCO, 2013). Education does not exist in a vacuum but in an environment structured of physical facilities and material resources that are used in teaching and learning. There is a link between school architecture and its users, (pupils and teachers); Research has shown that a well-planned school with clean and safe learning environment is important for academic achievement (Cash 2013, Earthman & Lemaster, 2016). Physical facilities play a key role in the attainment of the school's intended

objectives and overall quality performance in national examinations. The Indian government has also banned child labour in order to ensure that the children do not enter unsafe working conditions. According to current estimates, 80% of all schools in Nigeria are government schools making the government the major provider of education (May, S and Aikman, S, 2013); because of poor quality of public education, 27% of Nigeria children are privately educated. Kenya began a campaign for free Primary Education after independence in 1963. Since then, her system of education has undergone transformation twice. Before independence elementary education was based on the colonial system of education. World Bank education report for African countries, show that academic performance in Uganda has been very low for the previous decades of years and this appears to be affected by the quality of school infrastructural facilities, although a lot has been done on enrolments and access to primary education. Academic performance in most primary schools in Uganda has been challenged by a crisis of high School dropouts and low performance (UNESCO, 2018). For that matter, this study aimed at establishing the influence of School infrastructure utilization on pupils' academic performance in Kabarole district. School infrastructure utilization was used as the independent variable. School infrastructure utilization is generally defined as the set of inter-connected structural element that provide framework supporting an entire structure of development. For purposes of the study, the researcher concentrated on physical infrastructure, Health and sanitation infrastructures as well as Co-curricular facilities and will concentrate on physical infrastructure and the main focused on the quality of libraries, quality of classrooms. This study was based on Classical Liberty Theory advanced by Roussean between 1712 and 1778. The classical liberty theory states that each person is born with a great amount of capacity to perform better. Thus, educational system should be designed so as to remove barriers of any nature (institutional or infrastructural) in a person's life. The classical liberal theory also states that social mobility will be promoted by providing equal opportunity to education access.

1.1 Statement of the problem

School infrastructure utilization is an essential part of primary schools to realizing the objectives of education. Government increased its funding to schools with the Uganda Education Sector Investment Plan making it mandatory that not less than 65% of the education budget must fund infrastructure development (Kakaire, 2018). This notwithstanding however, many reports have continued to reveal poor academic performance despite government's continued commitment and investment in

education (Tugineyo, 2018). The situation seems to worsen year by year as evidenced by NAPE findings (NAPE Reports, 2018). Most schools in Kabarole District have been endeavored to have the above infrastructural facilities in place, however, the district has continued to witness declining performance as indicated by nearly 30 percent of the total students failing Primary Leaving Examination (PLE) since 2018 (Rugyendo, 2018). This is blamed on the quality of school infrastructure. Basing on the above background, the researcher established the effect of school infrastructure utilization on learners' academic performance in government primary schools in Kichwamba Sub County Kabarole District

1.2 Purpose of the study

The purpose of the study was to examine how school infrastructure utilization affect learners' academic performance in Kichwamba Sub County Kabarole district

1.3 Objectives of the study

- i. To examine how physical infrastructure utilization affect pupils' performance in Kichwamba Sub County Kabarole district.
- ii. To establish how co-curricular infrastructure utilization affect learners' performance in Kichwamba Sub county Kabarole district.
- iii. To analyze how sanitation infrastructure utilization affect learners' performance in Kichwamba Sub County Kabarole district.

1.4 Scope of the study

The study was carried out among 6 selected primary schools in Kichwamba Sub County Kabarole district. This area was selected because of declining academic performance of learners. The study utilized information for the period from 2015 to 2022. According to 2015, 2016, 2017, 2018, 2019, 2020, and 2021 and 20122 MOES reports, this district has some of the best and worst academic performing schools in Uganda.

1.5 Significance of the study

It is hoped that this study findings will be useful to the Government should give refresher courses to the teachers and school administrators on how best to utilize the available infrastructures in the school so as to release

good performance of learners in all government schools. stakeholder like district inspector of schools, district education officer and head teacher should monitor and supervise to ensure proper utilization of infrastructure in government primary schools. It is hoped that this study findings will be useful to the school management committees because they may use the findings to provide the necessary physical infrastructure such as class rooms library, and sanitation facilities among others to enhance academic performance of learners in government primary schools in Kichwamba Sub county Kabarole District. The findings of this study will form a basis for further researchers who will be interested in advancing this study on the other regions of the country.

2. Literature Review

2.1 Physical Infrastructure utilization and Students' Academic Performance

In a school environment, learning infrastructure includes classrooms, and libraries. Fisher (2016) conducted research on the impact of school infrastructures on pupil's outcomes and behaviour in Georgia and established that academic achievement improves with improved building conditions, lighting levels air quality and temperatures. Mark (2014) in a study of factors affecting learners' performance in schools in Canada, maintained that one cannot expect high level of pupils' academic performance where school buildings are poorly located and substandard. Sanoff (2019) in his research on school building assessment methods, says that school buildings had an impact on the mental development of a student, lie explains that schools that are properly build and attractive to look at motivated the children to stay in school and learn as well. Kibui (2011) commented that education throughout the world has for many centuries emphasized a selective function regardless of available infrastructure in schools. Several studies have shown that many school systems, particularly those in urban and high-poverty areas, are plagued by poor planned infrastructures, decaying buildings that threaten the health, safety, and learning opportunities for students. Good facilities appear to be an important precondition for student learning, provided that other conditions are present that support a strong academic program in the school (Mononen-Aaltonen, 2018). The concept of the physical learning environment with respect to physical structures relates to spaces, equipment and tools within the school. A study by Lackey (2011) in overcrowded schools in New York City found that students in such schools scored significantly lower on both mathematics and reading examinations than did similar students in under-utilized schools. It is not unlikely that well planned learning infrastructures in terms of location, structures and facilities will affect

facilitate teaching and learning process and as well as enhance good academic performance of the students (Ayaji, 2017). A good infrastructure indicates a good school. A good infrastructure includes building in good shape of benches, chairs, access to drinking water, electricity, ventilation and light, fire exits and first aid kit canteen and computer facilities UNESCO (2012). Classroom Infrastructure facilities can be either permanent or temporary structures. The structures should be appropriate, adequate and properly located, devoid of any risks to users or to those around them.

2.2 Co-Curricular Infrastructure utilization and pupils' Academic Performance

Co-curricular infrastructure includes fields, music rooms, theater rooms among others, they help the students to participate in different activities which helps in developing the learner physically, socially mentally and emotionally (Ng'anga, 2013). The location and availability of adequate playing fields and necessary equipment are necessary for talent development. Co-curricular infrastructure should be well located and well-structured for nurturing talents in pupils, (Khaemba, 2017). According to Stephens and Schaben (2014) modern approaches of education emphasize on all round development of the pupils. It is believed that unless balancing both the curricular and co-curricular activities is done the very purpose of education would be left unrealized. Broh (2012) indicate that extracurricular activities when are well organized and supported by the school management do promote academic performance in pupils. Strong (2015) states that participation in co-curricular activities can help learners improve their concentration, memory and classroom behavior and that given competent providers, physical education can be added to the school curriculum by taking time from other subjects without the risk of hindering pupil academic performance. Trudeau and Shephard (2015) have demonstrated that quality physical education produces important physical education benefits like increased activity and fitness while having no ill effect on academic learning. Many researchers like Matano (2012) and Newman (2015) among others have showed that participation in sports and other sports related activities have a positive correlation with academic performance among students. According to Ekperigin and Uti (2016) participation in Co-curricular activities leads to good body physique or posture, that is, a balanced development of the whole body, the strength and fitness of all muscles. While commenting on re-introduction of sports in Afghanistan, Arnoldy (2015) observes that sports can be used as a vehicle for creating a safe space, and an entrance into the public sphere. Seaton et al (1965) and

Helms and Turner (2012) indicate that muscular effort is seen as one of the best antidotes for emotional stress. Exercise is associated with reduced state of anxiety, depression, reduced stress indices and beneficial emotional effects across all ages and both sexes. Sigmund Freud believe that play serves to resolve, channel or rid the child of inner conflicts and anxieties (Mohan, 2012). Clarke (1977) contended that sports should gradually lead to a sense of order and self-control. In Kenya, sports and recreation activities are seen as good ways of spending leisure time in a socially acceptable way and as a method of reducing time spent in imbibing intoxicants or engaging in crime and other anti-social activities (Republic of Kenya, 2018). In the Ugandan curriculum, sports are included formally through a subject called Physical Education. Less formally, every school is expected to have a games department and a games teacher. Various stakeholders in schools use two different ways of looking at sports (Bitamazire, 2011). The first position emphasizes that schools exist primarily for the pursuit of academic excellence and should focus on the transmission of formal education. For this reason, though sports are fun, they are not an important aspect of education. The other perspective suggests that experience gained through sports in terms of personal development is a vital part of the educational process. Therefore, the former believe that learners' participation in sports interfere with academic programmes in schools while the latter maintain that it is important as part of school curriculum.

2.3 Health and sanitation infrastructure utilization and pupils' Academic Performance

Sanitation facilities should include solid waste disposal, drainage and adequate water for personal hygiene and to clean toilets. According to Goggle (2014) materials used in constructions of school buildings and type of buildings determine the levels of cleanliness. A safe school must have sanitation facilities built up to the required standards and kept clean with high standards of hygiene. In order to enhance safety, the following must be observed: In cases where pit toilets are used these structures should be built at least 10 meters away classes and on the downwind side. Where ablution block is attached to the dormitory, a high degree of cleanliness must be maintained. Pit latrines should not be less than 6 meters (20ft) deep and should be regularly well disinfected. Pit latrines should be at least 15 meters (50 ft) away from a borehole or well or water supply point. Where there are boreholes or shallow wells in places with difficult soil types or landforms, the school management should seek the advice of the water department before the digging of a pit latrine. In mixed schools, girls' sanitation areas must be separate and offer

complete privacy. Each school should ensure safe and effective disposal of sanitary wear (Ministry of education, 2018).

School sanitation is very significant in the life of a student as Ddungu (2010) notes that general cleanliness is the foremost requirement for improved sanitation. The floor should be clean, windows washed and walls maintained clean. Attention should be given to general drainage system, water supply and toilet facilities. World Bank (2015) reports that in most developing countries, the sanitary conditions are often appalling, characterized by the absence of proper functioning water supply, sanitation and hand washing facilities. International Children's Education Fund (UNICEF) (2016) showed that around 5.4 million youths worldwide do not have access to safe drinking water and use mainly unprotected surface water from rivers, ponds, or dams. Findings further revealed that over two million youth did not have access to any kind of toilet facility. This lack of safe water, poor hygiene practices and lack of sanitation services were reported to be major causes of morbidity among children. Inadequate access to safe water and sanitation services coupled with poor hygiene practices kills and sickens thousands of people every day and leads to impoverishment and diminished opportunities for thousands more. When it comes to schools, the World Bank (2015) warns that schools that lack access to basic water supply and sanitation services will have an increased incidence of major illness among students. Poor health is an important underlying factor for low school enrollment, absenteeism, poor classroom performance and early school dropout. There was no evidence of regular cleaning and schools did not have cleaning materials most of the urinals were blocked and learners were forced to use outside the urinals and a sight of stagnant urine was common in most schools. It is however not clear whether the same situation prevails in Kabarole district. Once sanitation is substandard occupants are likely to spend more time in health facilities. This therefore makes the environment unsafe places where diseases are transmitted with mutually reinforcing negative impacts for the dwellers in this context learners, families and schools development. In this regard Ddungu's (2010) study conducted in Rakai pointed out that poor sanitary conditions in which people become accustomed to poor hygiene is dangerous to the psychological upbringing and to the learning process of children.

Njoku's (2014) study that aimed at investigating the Conditions affecting quality living and successful learning revealed that a clean environment allows learners time to concentrate on reading books usually in silent environment. These revelations were later confirmed by UNICEF (2016) which reiterated that good sanitation and hygienic standards have an influence on growth and

development of the child, school attendance and the rate of school dropouts. Whether the situation is the same with primary schools in Kabarole district will be the concern of this study.

3. Methodology

3.1 Research Design

The researcher used a cross-sectional survey design with both qualitative and quantitative approaches because the study intended to pick only some representative sample elements of the cross-section of the population. This was because the study examined the school infrastructure utilization affect learners' academic performance. The cross-sectional survey research design was used because the method gathers data from a relatively large number of different categories of respondents at a particular time.

3.2 Study population

The study consisted of head teachers, teachers, health workers and pupils in primary schools. A total of 240 target population was used. The above are believed to be informed about the variables under the study.

3.3 Sample Size

A total sample size of 148 out of 240 target population was selected or drawn from all categories of respondents. This population acted as a sample and provided relevant information for the study. The sample size was determined with the help of the formula forwarded by

Yamane (1967) as
$$n = \frac{N}{1 + N(e)^2}$$

Where:

N: Number of target population that conforms to the characteristics of the sample required,

E: Margin of error (5%).

Sn : sample size

Given the population of 240 respondents,

$$Sn = 240 / 1 + 240 \times (0.05)^2$$

$$Sn = 148$$

3.4 Sampling technique

Purposive sampling technique was employed because it facilitated the collection of data from specific types of people who were able to provide desired information. Purposive sampling involved identifying and selecting

individuals or groups of individuals that are knowledgeable about or experienced with a phenomenon of interest. This technique was employed to select the head teachers and health officers. Stratified sampling is a technique that recognizes the variations or sub-groups in the population. When sub-populations vary considerably, it is advantageous to sample each sub-population (stratum) independently. Sampling technique is most recommended technique as it considers the geographic diversity of a population. This method was used to select teachers and pupils.

3.5 Data Collection Methods and instruments

According to Ranjit Kumar (2011), interview is when an interviewer reads question to respondents and recording their answers. It also involved verbal interchange, often face to face, though the telephone may be used in which an interviewer tries to elicit the information, benefits, opinions from another person. Interviews gave an opportunity to the researcher to revisit some of the issues that were overlooked in other instruments and yet they were deemed vital for the study. Key informant interviews enabled the researcher to obtain quality data in a relatively short period of time from knowledgeable people. It also enabled one to obtain the same views which can be prohibitively time-consuming and expensive amount of information and insight from in-depth. This method was used to get information from pupils. Kothari (2014) defines questionnaire as a set of questions sent to a person concerned with a request to offer answers and return the questionnaire. This is an appropriate and cost-effective method that is free from the interviewer's bias. Questionnaire is a popular method of collecting data because researchers can gather information easily and responses are easily coded. Self-administered questionnaires with closed-ended questions were used to collect data from teachers Head teachers and health officers.

3.6 Data collection instruments

The interview guide had pre-designed questions about the issues that were discussed as a guide to the interview and to ensure that all relevant aspects are covered. The instrument intended to tap extra and detailed information on opinions, beliefs and perceptions on the topic. Interviews were held pupils. The interview guide also helped to get some answers to unanswered issues in the questionnaire.

3.7 Structured questionnaires

The researcher constructed a questionnaire that had closed ended questions, which was designed to obtain information and data from the teachers, Headteachers and health official. Structured questionnaires were preferred by the researcher because of its advantages like; easy to administer on a large population which is largely literate, teachers, and Headteachers and health officials who will be the main respondents are literate. Questionnaires require less time and money compared to other methods like focus group discussions.

3.8 Data analysis

After quantitative data was collected it was edited, coded and then the data entry was done using the Statistical Programme for Social Scientists (SPSS) version 26. After data entry is done, commands to present the data inform of tables of frequencies, percentages, standard deviations and means were made. The relationship between the independent and dependent variable was tested using the

Pearson product moment correlation coefficient. Data from questionnaires was presented in form of frequency tables and graphs for easy interpretation. Analyzing the qualitative data involved labeling and coding all in order to recognize their similarities and differences. Thematic analysis was used to categorize verbal or behavioral data, for purposes of classification, summarization and tabulation to make sense of the data that was collected and to highlight the important messages, features or findings. Some of the responses that were quoted during the interviews were disclosed by the researcher without alterations.

4. Results and Discussion

Physical infrastructure and students' academic performance in government primary schools in Kichwamba Sub County Kabarole District.

Results under this theme were sought in accordance with research objective one of this study which sought to examine the relationship between physical infrastructure and pupils' performance in primary schools in Kichwamba Sub County Kabarole District.

Table 1: shows descriptive statistics on Physical infrastructure and pupils' academic performance in government primary schools in Kichwamba Sub County. Kabarole District

Statement	SD	D	NS	A	SA	Mean	Std.
The library is equipped with up to date and relevant textbooks	35 (25.7%)	18 (13.2%)	6 (4.4%)	28 (20.6%)	49 (36%)	3.81	.732
Teaching aids, maps & Charts are adequate in the school	0 (0.0%)	7 (5.1%)	6 (4.4%)	82 (60.3%)	41 (30.1%)	4.00	.808
Classrooms have adequate ventilations	7 (5.1%)	13 (9.6%)	7 (5.1%)	27 (19.9%)	82 (60.3%)	3.90	.757
The number of students' desks, teacher's chairs and tables in the room are adequate	14 (10.3%)	20 (14.7%)	0 (0.0%)	67 (49.3%)	35 (25.7%)	3.94	.761
The school has enough space for wide range of teaching and learning approaches	7 (5.1%)	13 (9.6%)	0 (0.0%)	54 (39.7%)	62 (45.6%)	3.94	.745

Table 2: The relationship between physical infrastructure utilization and Pupils’ performance in government primary schools in Kichwamba Sub County Kabarole District.

		Physical infrastructure utilization	pupils’ academic performance
Physical infrastructure utilization	Pearson Correlation	1	.003
	Sig. (2-tailed)		.675**
	N	136	136
Pupils’ academic performance	Pearson Correlation	.003	1
	Sig. (2-tailed)	.675**	
	N	136	136

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2 indicate that there is a strong positive correlation between physical infrastructure and pupils’ academic performance ($r = .792^{**}$; $p < .003$). This is an indication that physical infrastructure strongly influences pupils’ academic performance. This practically implies that when the schools have adequate infrastructure in place, there is a high possibility that pupils will excel academically. This is an indication that any positive change in physical

infrastructure utilization leads to pupils’ academic performance by 67.5%.

Co-curricular infrastructure utilization and pupils’ performance in government primary schools in Kichwamba Sub County Kabarole District.

Results under this theme were sought in accordance with research objective one of this study which sought to examine the relationship between co-curricular infrastructure utilization and pupils’ performance in Kichwamba Sub County Kabarole district.

Table 3: Descriptive statistics on Co-curricular infrastructure utilization and pupils’ performance in government primary schools in Kichwamba Sub County Kabarole District.

Statement	SD	D	NS	A	SA	Mean	Std.
Pupils are allowed to participate in co-curricular activities of their choice	13 (9.6%)	14 (10.3%)	13 (9.6%)	47 (34.6%)	49 (36%)	3.31	.703
The school has enough sports equipment (ball, musical instruments etc)	7 (5.1%)	33 (24.3%)	7 (5.1%)	35 (25.7%)	54 (39.7%)	3.73	.583
Participation in co-curricular activities helps learners to relax and refresh the brain	7 (5.1%)	7 (5.1%)	12 (8.8%)	61 (44.9%)	49 (36%)	3.85	.683
Participation in co-curricular activities helps learners to reduce boredom due to overstay in long classes	7 (5.1%)	12 (8.8%)	6 (4.4%)	69 (50.7%)	42 (30.9%)	3.87	.774
Participation in co-curricular activities play a role in the health of learners	0 (0.0%)	0 (0.0%)	0 (0.0%)	87 (64%)	49 (36%)	3.66	.845
Participation in co-curricular activities enhances the attention and concentration levels of the learners	7 (5.1%)	7 (5.1%)	14 (10.3%)	80 (58.8%)	28 (20.6%)	3.80	.891
Co-curricular activities help learners to make friends	6 (4.4%)	13 (9.6%)	14 (10.3%)	61 (44.9%)	42 (30.9%)	3.72	.678

Source: Primary data, 2023

The relationship between co-curricular infrastructure utilization and pupils' performance in government primary schools in Kichwamba Sub County Kabarole District.

Table 4: Correlation coefficient co-curricular infrastructure utilization and pupils' performance in Kichwamba Sub County Kabarole district

		Co-curricular infrastructure	Pupils' academic performance
Co-curricular infrastructure	Pearson Correlation	1	.000
	Sig. (2-tailed)		.381**
	N	136	136
Pupils' academic performance	Pearson Correlation	.000	1
	Sig. (2-tailed)	.381**	
	N	136	136

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4 indicate that there is a weak but significant relationship between co-curricular infrastructure utilization and pupils' academic performance ($r = .381^{**}$, $P < .000$). This implies that availability of co-curricular infrastructure utilization in a school influences the academic performance of pupils in primary school. This implies that any positive change in co-curricular infrastructure in a primary school lead to change in academic performance of primary school pupils by 38.1%.

Health and sanitation infrastructure utilization and pupils' performance in Kabarole district

Results under this theme were sought in accordance with research objective one of this study which sought to examine the relationship between health and sanitation infrastructure utilization and pupils' performance in Kabarole district.

Table 5: descriptive statistics on Health and sanitation infrastructure utilization and pupils' performance in government primary schools in Kichwamba Sub County Kabarole District

Statement	SD	D	NS	A	SA	Mean	Std.
Classrooms are swept daily	7 (5.1%)	0 (0.0%)	0 (0.0%)	32 (23.5%)	97 (71.3%)	4.00	.870
The school compound is always kept clean	6 (4.4%)	7 (5.1%)	0 (0.0%)	54 (39.7%)	69 (50.7%)	4.58	.813
The school provides separate toilets blocks for boys and girls.	0 (0.0%)	7 (5.1%)	0 (0.0%)	40 (29.4%)	89 (65.4%)	4.01	.889
Bathrooms and toilets are always kept tidy	13 (9.6%)	7 (5.1%)	14 (10.3%)	62 (45.6%)	40 (29.4%)	4.06	.833
The school has got a well-stocked medical facility.	0 (0.0%)	14 (10.3%)	14 (10.3%)	81 (59.6%)	27 (19.9%)	3.73	.734
There are always anal cleansing materials in the latrines (toilet paper etc)	20 (14.7%)	28 (20.6%)	14 (10.3%)	53 (39%)	21 (15.4%)	3.81	.589
Sanitation facilities provide high level of hygiene	7 (5.1%)	0 (0.0%)	0 (0.0%)	33 (24.3%)	96 (70.6%)	4.56	.736

Source: Primary data, 2023

The relationship between health and sanitation facilities and pupils' performance in Kichwamba Sub County Kabarole district

Table 6: Correlation coefficient for sanitation facilities and pupils' performance in government primary schools in Kichwamba Sub County Kabarole District.

		Health and sanitation infrastructure	Pupils' academic performance
Health and sanitation infrastructure	Pearson Correlation	1	.040
	Sig. (2-tailed)		.642**
	N	136	136
Pupils' academic performance	Pearson Correlation	.040	1
	Sig. (2-tailed)	.642**	
	N	136	136

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6 indicate that there is a strong positive correlation between sanitation infrastructure utilization and pupils' academic performance ($r = .642^{**}$, $P < .040$). This is an indication that availability of sanitation facilities influences pupils' academic performance in primary schools. This shows that any positive change in health and sanitation facilities in a primary school leads to a positive change towards pupils' academic performance by 64.2%.

Indicators of Pupils' academic performance

To understand indicators of pupils' academic performance, the respondents gave their opinions based on a five-point Likert scale of "strongly agree" (SA), "agree" (A), "undecided" (UD), "disagree" (D) and "strongly disagree" (SD).

Table 7: showing Indicators of Pupils' academic performance in primary schools Kichwamba Sub County Kabarole district

Statement	SD	D	NS	A	SA	Mean	Std.
Pupils have computer knowledge	17 (12.5%)	11 (8.1%)	4 (2.9%)	96 (70.6%)	8 (5.9%)	3.81	.639
Pupils possess knowledge about the use of instructional materials	9 (6.6%)	8 (5.9%)	3 (2.2%)	116 (85.3%)	0 (0.0%)	4.06	.745
Performance standards in terms of grade scores in this school are high	8 (5.9%)	18 (13.2%)	6 (4.4%)	98 (72.1%)	6 (4.4%)	3.60	.617
Pupils level of self-awareness is high	11 (8.1%)	14 (10.3%)	4 (2.9%)	106 (77.9%)	1 (0.7%)	3.86	.813
Pupils perform better in weekly tests and end of term exams	12 (8.8%)	11 (8.1%)	6 (4.4%)	101 (74.3%)	6 (4.4%)	3.30	.694
I am satisfied with the level of Pupils' academic performance in this school	11 (8.1%)	11 (8.1%)	3 (2.2%)	103 (75.7%)	8 (5.9%)	3.66	.638
Students perform well in practical lessons	13 (9.6%)	9 (6.6%)	6 (4.4%)	99 (72.8%)	9 (6.6%)	3.78	.731

Source: Primary data, 2023

Table 7 shows that majority of respondents agreed with the statements rated on the questionnaire. This is explained by their mean which is above 3, and their standard deviations which is close to 1. This implies that the level of Pupils' academic performance in Kabarole District is somewhat good as portrayed by positive responses from the participants.

Discussion

Influence of physical infrastructure utilization on pupils' academic performance in government primary schools in Kichwamba Sub County Kabarole District.

The first objective sought to establish how physical infrastructure utilization affects pupils' academic performance in Kichwamba Sub County Kabarole District. Results from the study indicate that there is a strong positive correlation between physical infrastructure and pupils' academic performance in primary schools. Findings show that availability of spacious classrooms, equipped library, dormitories and enough space in the school have a strong bearing on pupils' academic performance. Results confirmed in the presence of adequate physical infrastructure in the school, there is a high possibility that primary school pupils will perform better provided other aspects are kept constant. These findings agree with Chan (2016) conducted a study on the impact of physical infrastructure on students' performance and concluded that technology and adaptabilities of physical infrastructure better equipped pupils for success and that to ignore that fact was to disregard the physical difficulties of learning.

Influence of co-curricular infrastructure utilization on Pupils' performance in Kabarole District in government primary schools in Kichwamba Sub County Kabarole District

The second objective of this study sought to establish how co-curricular infrastructure utilization affects pupils' academic performance in primary schools. Results revealed that there is a moderate but significant relationship between co-curricular infrastructure and pupils' academic performance. This moderate relationship shows that even when there are other factors influencing pupils' academic performance particularly physical infrastructure, co-curricular infrastructure is also partly important. Findings shows that the availability of playgrounds and allowing pupils to participate in co-curricular activities help in cognitive development and improve them participate actively during the teaching learning process. These findings are consistent with Strong (2015) who stated that participation in co-curricular activities can help learners improve their concentration, memory and classroom behavior and that given competent providers, physical education can be

added to the school curriculum by taking time from other subjects without the risk of hindering pupil academic performance.

Influence health and sanitation infrastructure utilization pupils' performance in government primary schools in Kichwamba Sub County Kabarole District.

The third objective in this study sought to establish how health and sanitation infrastructure utilization affect students' academic performance in Kichwamba Sub County Kabarole District. In this regard, results found out that there is a strong positive correlation between health and sanitation infrastructure and pupils' academic performance. Findings showed that regularly sweeping of the compound, keeping classrooms tidy and clean, having a well-stocked health facility, un-congested dormitories and having clean water in the school were some of the sanitation facilities and health practices that have a strong bearing on the academic performance of primary school pupils. These findings are in line with Ddungu (2010) who noted that general cleanliness is the foremost requirement for improved sanitation. The floor should be clean, windows washed and walls maintained clean. Attention should be given to general drainage system, water supply and toilet facilities.

5. Conclusion and Recommendations

5.1 Conclusion

The study found out that there is a strong positive correlation between physical infrastructure utilization and pupils' academic performance. The study found out that there is a weak but significant relationship between co-curricular facilities utilization and pupils' academic performance. The study further found out that there is a strong positive correlation between health and sanitation facilities utilization and pupils' academic performance. It can therefore be concluded that there is a strong significant relationship between school infrastructure utilization and pupils' academic performance in primary schools in government primary schools in Kichwamba Sub County Kabarole District.

5.2 Recommendations

1. The SMC members should be involved in sourcing for more funds from donors to acquire

- physical facilities that are important for the success of schools in academic performance.
2. The school administration should improve the infrastructural environment for the schools.
 3. The school administration should ensure that the number of toilets are adequate, kept clean and uphold privacy and that at no point should female pupils share such facilities with their male students.
 4. A specific land size and proper location should be a fundamental requirement for a school registration.
 5. The department of quality assurance and standard officer should ensure primary schools implement the non-formal curriculum to aid talent development among primary school pupils.
 6. The school administration should not only provide variety of co-curricular facilities but also ensure that they are well managed.
 7. The government should allocate more funding to public primary schools.

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