

# Teachers challenge of physical facilities on curriculum implementation in public day secondary schools in Hamisi Sub-County, Kenya

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**Abstract:** The main objective of this study was to investigate teachers' challenge of physical facilities on curriculum implementation in day secondary schools in Hamisi Sub County, Kenya. The study adopted descriptive research design and the systems theory (Ludwing Von Bertalanffy, 1968). The study had a sample of 12 principals and 108 teachers selected through stratified random sampling and simple random sampling techniques. The instruments used to collect data were questionnaire, interview and observation guides. The study tested for face and content validity. Test-retest technique enhanced instruments reliability. A pilot study was conducted IN TWO schools. Descriptive data was analysed in form of frequencies, percentages, mean and standard deviation and presented in pie charts and tables. The inferential statistics t-test was used to test relationship of variables at 0.05 significant levels. The qualitative data was analysed in form of narratives and excerpts form. The findings established that most teachers in in day secondary schools in Hamisi Sub County had a challenge of inadequate physical facilities that limited effective curriculum implementation. The study recommended that the government should increase secondary school capitation and provide adequate physical facilities aimed at improving teacher efficiency during teaching and learning process and also ensure promote female gender in school leadership position.

**Key Words:** Principals, teachers, secondary school curriculum, implementation, challenges, physical facilities

## I. INTRODUCTION

The secondary school curriculum is an integral part for national social and economic development. It is considered as an economic, political and social growth of any nation (World Bank, 2005; Selina, 2012). According to Torado (2004) nations that do not invest in the expansion of her peoples' skills and knowledge and ensure full potential for their social and economic development is doomed to offer nothing to its citizens. In Kenya, students' grade achievement at the end of secondary examination performance determines students higher institutional of learning and future career choice. To achieve this, teachers play pivotal role in determining students' performance. The challenge of accessibility and efficacy of physical facilities and equipment has a negative influence on teacher efficiency in methodological dispensation and a focal point on students' performance (Orodho, Waweru, Ndichu & Nthinguri, 2013).

Effective teaching and learning demand the interplay between students and learning facilities. Lumuli (2009) opine that availability of enough learning facilities during teaching and learning provide pertinent and quality skills, attitude and knowledge required by students. In a school learning facilities incorporate text books, laboratory, and classrooms, dining hall, library, play fields, furniture and equipment. Teachers' interactions with learning facilities get along with pivotal environment for to facilitate effective teaching and learning. Teachers regularly perceive insufficient teaching and learning facilities; these present a considerable challenge to successful curriculum implementation (Crawford, 2004).

Previous studies indicate that most schools do not have adequate learning facilities to facilitate teacher's effectiveness in methodological methods. This results in great concern among teachers. In absence of learning facilities effective curriculum implementation during teaching and learning becomes cumbersome (Lyons, 2012). According to Fonseca and Conboy (2006) physical environment and structuring of any school would either promote or impede success of school.

Suleman and Hussain (2014) conducted a study on impact of classroom environment on students' academic performance in secondary schools. The study used experimental design. Students were the only respondents of the study. The study used both descriptive and inferential statistics to analyse data. The study established that classroom environment had a significant influence on both teachers and students performance. In contrast to the current study, teacher's, education officers and head teachers constituted the study participants. Similarly, the presents study adopted descriptive design and data was analysed descriptively.

Whereas deficient and insufficient school facilities negatively affect teachers and students performance, adequate facilities encourage students' academic outcomes and teacher's performance, hence increase and sustainable schools academic performance. Suleman and Hussain (2014) established that most of learning institutions in Pakistan had inadequate physical facilities such as; classrooms, furniture, laboratories, libraries, toilets, water and electricity supply, transport system, play grounds and eating facilities that has greatly affected teacher performance meant to improve students' talents and academic outcomes. Bandele and Faremi (2012)

note that inadequate lack of modern library; workshops and instructional materials are a barrier to effective curriculum implementation in Technical and Vocational Education and Training (TVET) institutions.

Inadequate furniture such as; desks, chairs, tables or lockers make teachers implementation of the curriculum cumbersome. When some students learn while standing or crowding to share a table or desk this slows down their concentration during learning. Higgins, Hall, Wall, Woolner and McCaughy (2005) opine that that classroom arrangement of the desks and tables has adverse effect on student's attention and performance. Patton, Snell, Knight, Willis, and Gerken (2001) established that the students sitting arrangement enable learners to fully engage during learning process. According to VSO Ethiopia (2010:40) inadequate physical facilities for instance chairs, desks, cupboards, tables and benches made teachers facilitation of the curriculum implementation difficult. This therefore makes learners to develop cooperative relationship with their peers in class as they can easily form group teaching and learning. These enhance teacher's confidence and motivation as taught concepts could easily be grasped the students.

Taylor and Vlastos (2009) note that the physical facilities can either promote or impede teacher's effective curriculum facilitation. Dilapidated facilities and overcrowding in classes negatively affect teachers' morale during curriculum implementation. This leads to underperformance of teachers, hence students' low academic achievement. Uncomfortable school physical facilities negatively influence teacher's effectiveness in curriculum delivery. Accordingly it adversely influences student's performance.

Lack of special laboratory equipment that includes aprons, chemicals, microscopes, levers and safety goggles obstructs teachers' successful implementation of the curriculum. Singer et al., (2000) noted that teachers use of learning materials during science teaching enable students to develop the understanding and knowledge in an environment that is readily conducive for their full potential. In the absence of science equipment, teachers' implementation of the curriculum cannot effectively be achieved. Therefore, teachers need to maximize their classroom competency and capabilities if only the school administration can provide this equipment.

Badri, Mohaidat, Ferrandino and El Mourad (2013) stated that the significance of taking into consideration conditions, standard and design of school physical plant and administrative offices in regards to teacher's needs shouldn't be underrated. The school learning conditions should incorporate lighting, temperature, cleanliness, ventilation, the level of noise, humidity and sufficient equipment and tools. According to Raziq and Maulabakhsh (2015) satisfactory learning environment allows teachers to successfully implement the curriculum without any eminent challenges.

In Nigeria, Adegbesan (2007) assert that, regrettably, most schools do not have sufficient facilities and those that have are

poorly maintained due to government's inability to provide adequate funds. This makes teacher's process of teaching and learning difficult to implement the curriculum objectives. In spite of teachers effort to achieve the stated goals and objectives of school curriculum, teaching facilities are neither adequate nor sufficient to enable efficient curriculum implementation. Bukola and Alonge (2011) opine that teachers in Nigeria work under insecure and unhealthy environment like; unsafe infrastructure, broken furniture and tiny classroom, libraries, laboratories and toileting facilities that make teachers process of teaching and learners performance challenging.

A study by Ukpong and Okon (2020) on influence of physical environment and teacher's job satisfaction in Nigeria noted a positive significant impact of sufficient physical facilities for instance tables, cupboards and chairs, staff rooms, teachers toilet facilities, accessible classroom space, and standardized science laboratories and equipment on teacher's job performance of curriculum implementation. It should be noted that availability of sufficient physical facilities are functional inputs in a functional school system. This is premised on the fact that little can be achieved without sufficient and operational facilities. Thus, modern instructional materials and equipment such as computers and books are deemed necessary for effective teacher's curriculum implementation.

Ololube (2006) averred that teachers feel comfortable in their teaching profession when schools have adequate facilities, equipment and favourable working environment while unavailability of adequate facilities, equipment and materials creates strain and suffering leading teachers ineffectiveness of curriculum implementation and students low performances. Kyongo (2006) adds that in the presents of unconducive environment, teachers are likely to seek other greener opportunities elsewhere. Otube (2004) further note that teacher's value teaching environment that is comfortable, clean, and safe, with sufficient and functional equipment and materials. Therefore teachers prefer stimulating conditions that are comfortable and reliable that enables facilitation of the secondary school curriculum and students educational attainments.

Wamukuru (2006) point out that teachers in Kenya face the problem of excessive enrollment in relation to the available physical facilities The Ministry of Education MOEST, (2010) established that there was an influx of teacher-student ratio from the recommended threshold of 1:40 to 1:90 students per class. A study by Okongo, Ngao, Rop and Wesonga (2015) established that lack of adequate physical facilities due to financial constraints and procurement bureaucracy hampers teacher's successful implementation of special needs curriculum. Shiundu and Omulando (1992) point out that the most suitable way of achieving the goals and objectives of the curriculum is teacher's use of the instructional materials that is pivotal ingredients to students' academic achievement during teaching and learning. The inadequate use of text books, charts, wall maps, pictures, laboratory apparatus and

equipment and information communication technology is a barrier to effective implementation of the curriculum. This lead to students low academic performance which further pose as teachers challenge to improved school’s outcomes.

*Statement of the Problem*

The actualization of Kenya’s Vision 2030 is premised on students’ provisions of quality education in secondary schools. In spite of the importance of the secondary school curriculum, an inadequate physical facility, high student’s enrollment, 100% transition rate, inadequate teacher professional advancement and unclear government policy guidelines on curriculum change and teacher training in Kenya create some teachers challenge in curriculum delivery that aim to spur student’s achievement. It is against this backdrop that formulated the present investigation in Hamisi Sub County, Kenya.

*Objective of the Study*

To investigate on how teachers’ challenge of physical facilities influence curriculum implementation in public day secondary schools.

*Research question*

How do physical facilities cause a challenge to teachers’ curriculum implementation in day secondary schools?

II. THEORETICAL FRAMEWORK

The study adopted the System theory by Von Bertalanffy (1968) which stipulates that an institution is an open system that has inter-related parts with specific function. Accordingly, the system theory has inputs (physical facilities) that are transformed (effective teachers curriculum implementation) into outputs (Syllabus coverage, teachers satisfaction and students high test scores). Therefore, the school provision of physical facilities enhance effective implementation of the secondary school curriculum and students’ high academic performance while its reverse result to incomplete syllabus coverage, teachers dissatisfaction and students low test scores.

*Conceptual framework*

The conceptual framework indicates the interplay between independent variable (physical facilities that are inputs) and the dependent variable (students’ performance that is inputs). The process is effective teaching and learning and conducive teaching environment. This is illustrated in Figure 2.1.

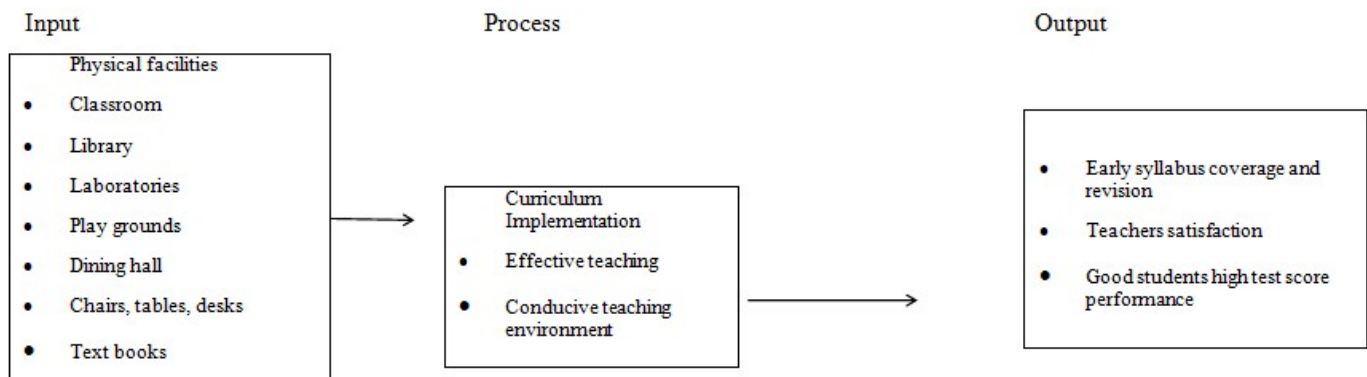


Figure 2.1: Conceptual Framework

III. METHODOLOGY

*i. Design*

The study adapted descriptive research design because of its combination of qualitative and quantitative paradigm.

*ii. Target Population*

The study had a target population of 40 principals and 360 teachers

*iii. Sample Size and Sampling Procedure*

Based on Mugenda and Mugenda (2003) a sample of 10% to 30% is an ideal representative sample for the target population and generalization of the study findings. A sample of 12 principals and 108 teachers was selected for the study.

Stratified sampling technique and simple random sampling was used to select head teachers and teachers’ participants.

*iv. Study Instruments*

The instruments used to collect and aid in data analysis were teacher’s questionnaire, principal’s interview schedule and an observation guide.

*v. Pilot Study*

The pilot study was conducted from the neighbouring Kakamega South Sub County in order to refine the weaknesses of the instruments before the actual study.

vi. *Validity*

The face and content validity enhanced the study instruments. The Content Validity Index for the instruments was 0.75 and deemed appropriate for the study.

vii. *Reliability*

The test-retest technique was used to to enhance instruments reliability after a period of two weeks. The Reliability correlation coefficient of 0.8 was determined which was suitable for instruments adaptability.

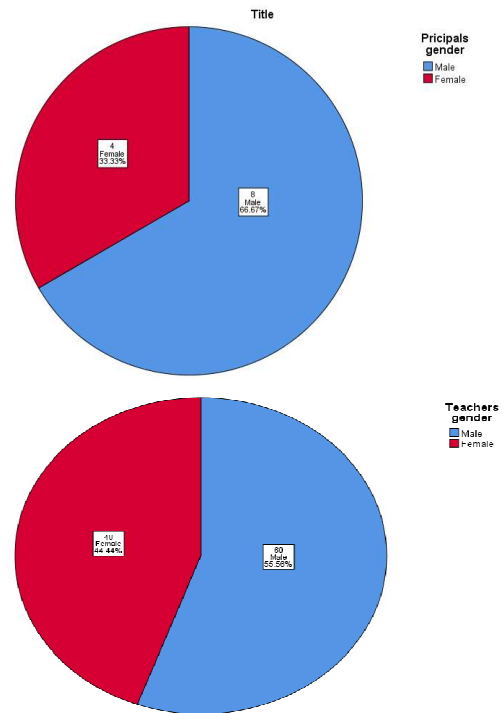
viii. *Data Analysis*

Quantitative data was analysed by using descriptive statistics; frequencies, mean, percentages and standard deviation and finding presented in pie charts and Tables. The inferential statistics t-test was used to test on the relationship between teachers’ challenges of physical facilities and curriculum implementation at 0.05 significant levels. The qualitative data was presented in form of excerpts and narratives. The researcher put into consideration the ethical issues before undertaking the actual study.

IV. FINDINGS AND DISCUSSIONS

4.1 *Respondents response rate*

The respondent’s response return rate was 100% which was deemed suitable for representative sample of the population. This was possible because the researcher personally conducted on the study participants with an assurance of ethical consideration. It emerged from the study that 8 (67%) were males principals while 4 (33%) were females principals. On flip flop 60 (56%) of the teachers were males while 48 (44%) were females. Thus, male teachers’ and principals had a higher percentage of representation than females indicating gender disparity. This is represented in Figure 4.1.



4.2 *Availability of Physical Facilities and teachers Curriculum Implementation*

In order to determine the adequacy of physical facilities and teachers curriculum implementation a 3-point Likert scale was utilized in order to provide direct participants response. The teacher’s response was rated as Adequate (3), moderately adequate (2) and inadequate (1). After computation, a mean of 1.75  $\geq$  3.00 was rated as adequate, 1.74  $\geq$  1.5 moderately adequate and  $\leq$  0.5 inadequate. This is shown in Table 1.1.

Table 1.1: Teachers response on physical facilities (108)

Description	Adequate		Moderately adequate		Inadequate		Mean	Std Dev
	f	%	f	%	f	%		
Schools have adequate classrooms	12	11.1	16	14.8	80	74.1	1.37	0.677
Classrooms are adequately spaced	15	13.8	10	9.3	83	76.9	1.37	0.718
Classrooms are well-ventilated with shutters	53	49.1	8	7.4	47	43.5	2.05	0.965
Classrooms are attractive and comfort with plastered floored, painted walls and roof ceiling	5	4.6	2	1.9	101	93.5	1.11	0.439
There is a library with varied instructional materials for students self-study	14	13.0	0	0.0	94	87.0	1.25	0.674
The library lessons are time-tabled	00	00.0	00	0.0	108	100.0	1.00	0.000
The school has laboratories for science subjects	6	5.6	14	12.9	88	81.5	1.24	0.544
Laboratories are well equipped with laboratory equipment for teaching	12	11.1	10	9.3	86	79.6	1.31	0.664
The school has spacious dining hall for students meals	10	9.3	21	19.4	77	71.3	1.37	0.651
Students and teachers chairs, tables, lockers and desks are sufficient	36	33.3	5	4.6	67	62.1	1.71	0.937
The playground is available and spacious for co-curricular, sports and games activities	30	27.8	24	22.2	54	50.0	1.77	0.857
The student: textbook ratio is 1:1 to ease teaching	29	26.9	8	7.4	71	65.7	1.61	0.884



From the Table it can be deduced that majority of teachers 67 (74.1%) noted that their schools do not have adequate classrooms as reflected by inadequate mean of 1.37. The study also observed that most schools had insufficient classrooms with an accommodation average of up to 70 students. Teachers only feel comfortable to attend to individual's students concerns and assistance when classroom are adequate and accommodative with students average ration of 1:40 per class. One of the principals retorted *"My school has inadequate and incomplete classrooms due to financial constrains as the government seems to have neglected secondary schools infrastructural programmes (Principal, 3)"*. The importance of classrooms cannot be overestimated. Classrooms provide favourable shelter to both students and teachers during the harsh climatic conditions such as cold, sunny, rainy and windy that impedes consistence teaching and learning process. In the presence of severe weather conditions, this frustrates teacher's effort in curriculum implementation. The finding is affirm Adegbesan (2007) who assert that inadequate physical facilities such as classrooms makes teacher's process of teaching and learning difficult to implement the curriculum objectives.

It can observed from the findings that most teachers 83 (76.9%) had the perception that most of the available classrooms are not spacious enough. This is indicated by an inadequate mean of 1.37. The researcher further noted that most classrooms were constructed in disregards to the Ministry of Education guidelines measure of 9ft by 8 ft. It was further observed that most students crowded in classes due to small sized classrooms. One principal had this to say *"Most of the classrooms are too small to accommodate high student's enrollment due to government policy on 100% transition rate and subsidized free secondary education. We only depend on funding from the Constituency Development Fund (CDF) that is inadequate to meet the high demands of schools. Constructing standard classroom demands a lot of funding that is not forth coming (Principal, 6)"*. This implies that teachers cannot freely move in the class freely in order to attend to each individual's student needs implying that the rote methods of teaching is applied and do not enable students to comprehend the learned concepts. This is an indication of teachers' inability to fully implement the secondary school curriculum. The findings concur with Bukola and Alonge (2011) who attest that teachers in Nigeria work under insecure and unhealthy environment like tiny classroom that makes teachers process of teaching and learners performance challenging.

The Table shows that a majority of teacher 101 (93.5%) were of the opinion that their classrooms are plastered, painted and furnished as shown by a mean an adequate mean of 2.05. One of the principal during an interview submitted that *"How do I spent the limited school finances on ceiling and paint when other facilities are in great demand (Principal, 11)?"* It was also observed that classrooms that were plastered had not been painted and ceiling made. Without ceiling in classes is an

indication of noise during the rainy season implying lesson presentation has to come to a halt or suspended hence, incomplete syllabus coverage and teacher's frustration. This is an implication that classrooms are not attractive enough to facilitate effective teacher retention and curriculum execution. The finding are in line with that of Raziq and Maulabakhsh (2015) who stated that satisfactory learning environment allows teachers to successfully implement the curriculum without any eminent challenges.

On the flip flop, the results from the findings reveal that majority 94 (87.0%) of the teachers affirmed that their schools lacked library facilities. This is depicted by an inadequate mean of 1.1. The researcher observed that most of the schools had not put up library facilities and those with the facility lacked essential instructional materials. Another principal contend that *"My school has a library b building but the cost of equipping and employing librarians is unmanageable to afford."* This implies that students cannot access self-individual materials for study and find extra subject matter to augment on teacher's content". Therefore teachers becomes frustrated when students only depend on their subject matter and unable to provide more class assignments. The finding corroborate that of Shiundu and Omulando (1992) who point out that the most suitable way of achieving the goals and objectives of the curriculum is teacher's use of adequate instructional materials that is pivotal ingredients students' academic achievement during teaching and learning.

It emerged from the study that all the study respondents 100 (100.0%) agree that the library lessons are not adequately timetabled as shown by a mean of 1.0. The researcher also observed that the timetabled lessons were those that are academically oriented meant for passing examination. Another head teacher 5 confirmed by saying *"The library is only meant for students study when they are not occupied with subjects examined at the Kenya Certificate of Secondary Education."* This is a clear indication that library facility has not been accorded due emphasis despite the role it plays on students' academic performance. The findings agree with Bandele and Faremi (2012) that inadequate lack of modern library; workshops and instructional materials are is a barrier to effective curriculum implementation in TIVET institutions.

It came out from the findings that only a small proportion of [6 (5.6%)] out of 108 teachers affirmed that their schools have laboratories for the science subjects that are Chemistry, Biology and Physics. Thus, a majority of teachers 88 {81.5%} with a mean of 1.24 indicated that their schools had inadequate laboratories to successfully implement day secondary school curriculum. The researcher also observed that most of the schools had only one laboratory to carter for science practical oriented subjects. Head teacher 8 also alluded that *"Inadequate financial income is difficult to meet the demand for putting up three laboratories as required by the Ministry of Education. Furthermore, inadequate funding from the government and its policy on subsidized free secondary education and 100 % transition has made parents*

not contribute towards infrastructural development of schools.” This implies that the performance of science subjects is negatively affected because they are basically practical oriented that requires practical approach to teaching and learning. This creates a tendency of teachers demotivation, negative attitudes and theoretical methodology hence, poor students’ academic achievement. This confirms Adegbesan (2007) who assert that, regrettably, most schools in Nigeria do not have sufficient facilities and those that have are poorly maintained due to government’s inability to provide adequate funds.

The findings established that majority of teachers 86 (79.6%) with a mean of 1.31 gave a response indicating that their schools had inadequate laboratory equipment’s. A further observation showed that most laboratories had inadequate equipment and tools to enable teachers to effectively facilitate the teaching of science subjects. This impacted negatively to the students’ comprehension of the intended concepts taught by teachers. This frustrates teacher’s effort in curriculum implementation as most lessons are teacher-centered in place of students-centered lessons. The findings are in line with Orodho, Waweru, Ndichu and Nthinguri (2013) who noted that the challenge of accessibility and efficacy of physical facilities and equipment has a negative influence on teacher efficiency in methodological dispensation and a focal point on students’ performance.

However, another group of teachers 77 (71.3%) with a mean of 1.37 provided the response that showed that their schools have inadequate dining hall facility for students. It was further observed that in most schools students took meals in the open fields and in classrooms while some did not take lunch as a result of not paying fees. One of the principal retorted “The cost of constructing a dining hall is high which my school cannot afford. Besides most students cannot afford to cater for school meals and they are frequently send home to bring funds for lunch”. Lack of or inadequate eating facility indicate that some students do not take meals at schools, take long to have their meals, are hungry to sustain the learning process, are disrupted by weather conditions and lead to frequent absenteeism cases because of being send at home to bring funds for the lunch programmes. This does inhibit teachers’ effectiveness on implementation of the secondary schools curriculum.

From the findings of the study, most teachers 67 (62.1%) and a mean of 1.71 disagree that their schools have adequate furniture for both students and teaching staff. Additionally, it was observed that some students had substandard desks, tables and chairs that were too small for students and teachers size besides poorly maintained. It was further observed that most teachers used students’ desks, chairs and tables and in some schools, teachers had heap of student’s exercise books on their tables and on floors that cause teachers frustration due to lack of storage facility. The findings corroborate UNESCO (2010) that dependence on outdated facilities hinders effective

training of students for economic and self-fulfillment development.

The study findings show that half of the respondents’ 54 (50%) reveals that they have adequate and spacious play fields. This is shown by a mean of 1.77=std 0.857. However, the study observed that most secondary schools share play grounds with their immediate primary schools. One principal retorted “My school was established on the primary field as such we share the resource because we cannot expand because we neighbor individual’s lands which are not for sale.” Sharing of school grounds by both primary and secondary can cause conflicts of interest especially when handling physical education activity and preparing for students games and sports competitions at the two levels of institutions. It is in the school play grounds that both teachers and students exploit their individual’s talents for future career progression and self-reliance. Thus, inadequate play grounds may cause disruptions to co-curriculum activity learning that makes teacher’s curriculum implementation difficult and challenging. The study findings agree with Suleman and Hussain (2014) who established that most of learning institutions in Pakistan had inadequate physical facilities such as play grounds that have greatly affected teacher performance to improve students’ talents and academic outcomes.

It is deduced from the Table that 71 (65.7%) and a mean of 1.61 of the teachers opined that student: textbook ratio is not 1:1. An observation disclosed that at least two students shared a single course text book. One principal retorted, “the government policy of single handedly supplying text books to schools has compromised the choice and use of single course book for various subjects especially the core subjects of Mathematics, Kiswahili and English (Principal, 12.” Thus, schools are stocked with books that are not fully utilized that cause teachers ineffectiveness in implementation of day secondary school curriculum. This relates to Shiundu and Omulando (1992) who pointed out that the most suitable way of achieving the goals and objectives of the school curriculum is teacher’s use of adequate instructional materials that is pivotal ingredients to students’ academic achievement during teaching and learning.

#### Teachers challenges of physical facilities and teaching

Table 4.2 shows teachers perception on challenges related to implementation of day secondary school curriculum.

Table 4.2 Teachers challenges in day secondary school curriculum implementation.

	N	Minimum	Maximum	Mean	Std. Deviation	Std. Error Mean
Adequacy	108	1.00	3.00	1.5463	.77802	0.7486

When teachers' responses to the statements on challenges of physical facilities and implementation of day secondary school curriculum are examined, although it lies within the mean of moderate level [1.5463], teachers perceived their

schools to have inadequate physical facilities that impact negatively to effective teaching and learning.

Table 4.3: Teachers' sample T-test on challenges of physical facilities on curriculum

Challenge of physical facilities	t	df	Sig. (2-tailed)	Mean difference	95% Confidence Interval of the Difference	
					Lower	Upper
	20.654	107	0	1.5463	1.3979	1.6947

Table 4.3 shows that t [20.654] and P value [0.000] which are less than 0.05 and a moderate mean [1.54630] demonstrate a statistic significance of physical facilities on effective curriculum implementation in day secondary schools in Hamisi Sub County, Kenya. The study confirms inadequacy of physical facilities to efficient and effective facilitation of curriculum implementation in day secondary schools. This finding is in line with Ukpong and Okon (2020) in Nigeria who conducted a study and noted that availability of sufficient physical facilities are functional inputs in a functional school system. Similarly, Lyons (2012) established that in absence of learning facilities, effective curriculum implementation during teaching and learning becomes cumbersome.

## V. CONCLUSIONS

Based on the findings of the study, it can be concluded that most schools had inadequate physical facilities that paused a challenge to teacher's effective facilitation of day secondary schools curriculum implementation in Hamisi Sub County, Kenya.

## VI. RECOMMENDATIONS

It is recommended that the Ministry of Education, Constituency Development Fund and County governments should increase school financial funding to provide adequate physical facilities in day secondary schools to facilitate teacher's efficient teaching and learning and improve students' performance.

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