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INFLUENCE OF PHYSICAL RESOURCE MANAGEMENT ON ACADEMIC PERFORMANCE OF TRAINEES IN PUBLIC PRIMARY TEACHER TRAINING COLLEGES IN KENYA

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INFLUENCE OF PHYSICAL RESOURCE MANAGEMENT ON ACADEMIC PERFORMANCE OF TRAINEES IN PUBLIC PRIMARY TEACHER TRAINING COLLEGES IN KENYA

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Abstract

Purpose: Importance of physical resource management on academic performance of teacher-trainees in teacher training colleges cannot be over-emphasized. However, academic performance of teacher-trainees has been dismal and continues to be on a downward trend. The purpose of this study was to investigate the influence of physical resource management on academic performance of trainees in public PTTCs in Kenya.

Methodology: The target population was 22, 279 respondents comprising of 25 principals, 25 Deans of Curriculum, 1389 tutors and 20, 840 trainees. A sample of 372 respondents was calculated using Yamane's Formula. This comprised of eight principals, eight deans of curriculum, 160 tutors and 196 teacher-trainees. Questionnaires were used to collect data from tutors and trainees whereas interview guides were used to gather information from principals and deans of curriculum. The study was guided by the human capital theory. Qualitative data were analyzed thematically along the objectives and presented in narrative forms. Quantitative data was analyzed descriptively and inferentially using linear regression using Statistical Packages for Social Science (SPSS Version 23) and presented using tables and charts.

Findings: The findings confirmed that the availability and management of physical facilities such as libraries and lecture halls are core in attaining the educational objectives. This implies that the poor condition of college facilities brings about critical concerns on college tutors' and trainees' general welfare. The study established that physical resource management do effectively influence teacher trainees' academic performance in public TTCs in Kenya.

Unique contribution to theory, practice and policy: The study findings conclude that curriculum implementers need to be aware of the phenomena of mismanagement of physical resources in public PTTCs as it leads to straining of the tutors, overstretching the available resources and substandard training of students. The study recommends that there is need to supply colleges with adequate resources, ensure effective utilization of resources and ensure proper maintenance of resource through supervision by teachers' service commission.

Keywords: *Physical Resource Management, Academic performance, teacher-trainees, public teacher training colleges.*

1.0 INTRODUCTION

Physical facilities include; buildings, land, resource centers, laboratories and furniture. It also includes teaching spaces and ancillary rooms. Beynon (2012) posits that physical facilities have been observed as a potent factor in quantitative education. The importance to teaching and learning of the provision of adequate instructional facilities for education cannot be over-emphasized. Bell and Rhodes (2003) also enumerate physical facilities as the offices, staff rooms, laboratories and classrooms. These physical facilities have had major impacts on the academic performance of trainees in primary college teacher colleges. Rivkin, Hanushek and Kain (2005) conducted a study in the US which showed the relationship between availability of physical facilities and trainees' academic performance in examinations.

In Sub-Saharan Africa, physical conditions of most public primary teacher training colleges influence teacher trainee achievement. To corroborate these assertions, Earthman, Cash and Van Berkum (2013) found that 2th grade teacher trainees in standard buildings scored higher as measured by the Comprehensive Test of Basic Skills than did their counterparts attending lectures in substandard facilities. In Nigeria at large and in Ondo State in particular, tertiary institutions, causes of the poor academic performance could include inadequate facilities (Adeogu, 2008). In Uganda, various studies conducted on effect of the college environment on academic performance attest to the fact that college environment that is not conducive for learning may lead to under performance (Nansereko, 2010). Luchali (2007) observes that the situation in Kenyan public PTTCs has been worsened since the time government stopped remitting subsidy to the middle level colleges. This points to the fact that managing physical facilities in public PTTCs in Kenya is a big challenge because most of them have old buildings that were built by missionaries, some look condemned, yet students are admitted year in year out with little or no repair done to them.

Sarah, Mutsotso and Nasongo (2013) report that right from the gate there isn't much that is appealing and attractive deserving such important institution that produce teachers for the entire country as it is with the gates in the universities and some private academies. To lend credence to these assertions, Oluoch (2010) explains that curriculum implementers need to be aware of the phenomena of mismanagement of physical resources in public PTTCs as it leads to straining of the tutors, overstretching the available resources and substandard training of students. Oluoch (2010) argued for the need to supply colleges with adequate resources and ensure proper maintenance through supervision in all public training colleges.

However, Oluoch (2010) does not mention other support variables such as the parents, guardians, sponsors and community and how they should be involved in providing and managing resources required by teacher training colleges in curriculum implementation. Despite these observations, studies have not indicated how having well-stocked and equipped libraries, designed and conducive classrooms or equipped laboratories have relevance in the academic outcomes of teacher-trainees. The studies have not shown how the degree or frequency of usage of physical facilities enhances quality education, hence, the study.

Statement of the Problem

Importance of physical resource management on academic performance of teacher-trainees in teacher training colleges cannot be over-emphasized. However, academic performance of teacher-trainees has been dismal and continues to be on a downward trend. As stated in the background, performance of teacher-trainees in CATs, mock examinations, teaching practice

and PTE examinations is very low. Despite the concerted efforts by the Government of Kenya to provide resources to public PTTCs such as money (subsidy) to improve condition in the classrooms, libraries and library lab equipment, it is not yet known how those resources are managed in relation to teacher-trainees' academic performance, thus, the study.

From the previous literature reviewed it is noted that most of the studies deal with the presence or absence of educational resources (Gore & Dowd, 2014). Furthermore, it is also rare that teacher colleges' report mentions about the problem of physical resources management and how it influences academic performance of teacher-trainees. Of course, this may be due to the reason that physical resources are absent or inadequate in their teacher colleges.

Therefore, this condition shows how the control and management of institutional resources is a neglected function among other functions of the physical resource management as a strategy towards improving academic performance of teacher-trainees in such institutions. In other words, much still needs to be done to interrogate how physical resource management influence academic performance of teacher-trainees in PPTTCs in Kenya. The study sort to establish why in the recent past teacher-trainees perform poorly in PTE examination in Kenya. The researcher sort find out whether management of physical resources affects academic performance.

Delimitations of the Study

This study was conducted in public PTTCs in Kenya. In this study, data was collected from principals, dean of curriculum, college tutors and teacher-trainees. The study focused on the influence of physical resource management on academic performance of teacher-trainees in public PTTCs in Kenya. Questionnaires were used to collect data from college tutors and teacher-trainees, interview guide for principals and Dean of Curriculum.

2.0 THEORETICAL FRAMEWORK

This study was guided by the Educational Production Function (EPF) Theory (Coleman, 1966). One of the premises of this theory is that students' learning outcomes are impacted by changes in institutional resources. Coleman (1966) holds that by evaluating the net effect of changes in assets, there is a cost-benefit assessment which supports educational policy. Proponents of EFP theory compare students' academic performance process with a firm's production process which invests in inputs so as to get better outputs (Coleman, 1966). This theory takes physical resources as the input while academic performance of teacher-trainees is the output.

3.0 RESEARCH METHODOLOGY

The study applied mixed methodology and thus, applied concurrent triangulation design. The study targeted 22,279 respondents comprising of 25 principals, 1389 college tutors, 25 deans of curriculum and 20, 840 teacher-trainees. The Yamane's formula was used to sample 372 respondents comprising of eight principals, 160 college tutors, eight deans of curriculum and 196 trainees. Stratified sampling was used to create 8 different strata based on the number of former regions (provinces) in Kenya. The researcher sampled 8 principals, 160 college tutors, 8 deans of curriculum and 196 teacher-trainees. Questionnaires were used to collect data from college tutors and teacher-trainees, interview guide from principals and the deans of

curriculum. Qualitative data were analyzed thematically along the study objectives and presented in narrative forms. Quantitative data was analyzed using descriptive statistics and inferentially using linear regression analysis with the help of Statistical Package for Social Science (SPSS 23) and presented using tables.

4.0 RESULTS AND DISCUSSION

4.1 Response Rate

In this study, 160 questionnaires for tutors and 196 questionnaires for teacher-trainees were administered from 156 questionnaires for tutors and 192 questionnaires for teacher-trainees were filled and returned. The researcher also conducted interviews amongst eight principals and seven deans of curriculum. This yielded response rates as shown in Table 1;

Table 1: Response Rates

Respondents	Sampled Respondents	Those Who Participated	Achieved Return Rate (%)
Principals	8	8	100.0
College Tutors	160	156	97.5
Dean of Curriculum	8	7	87.5
Teacher-Trainees	196	192	98.0
Total	372	363	97.6

From Table 1, principals, college tutors, deans of curriculum and teacher-trainees registered a response rate of 97.6%. This confirmed the findings of Creswell (2009) that a response rate above 75.0% is adequate and of suitable levels to allow for generalization of the outcomes to the target population.

4.2 Physical Resource Management and Academic Performance of Trainees in PTTCs

The study sought to establish the adequacy of physical resources available in primary teacher training colleges and their influence on academic performance of teacher-trainees in such colleges. Descriptive data collected from college tutors and teacher-trainees was organized and summarized and results are shown in Table 2:

Table 2: Views of Tutors and Trainees on the Influence of Physical Resource Management of Academic Performance of Trainees in PTTCs

Test Items	RESP.	Ratings				
		SA %	A %	U %	D %	SD %
There are few well-stocked libraries in PTTCs with enough textbooks	CT	75.0	11.5	4.5	7.5	1.5
	TT	87.5	7.5	1.1	3.1	0.8
Most PTTCs do not have conducive lecture halls	CT	65.0	10.5	3.0	11.5	10.0
	TT	75.0	17.1	1.2	3.2	3.5
Safe playgrounds are not common in many public PTTCs	CT	75.0	10.5	2.5	9.0	3.5
	TT	62.5	19.8	2.8	10.2	4.7
Many laboratories in public TTCS are not equipped with necessary apparatus	CT	88.5	2.5	1.5	4.5	3.0
	TT	62.5	9.9	3.7	13.7	10.2
Furniture in public TTCs are not enough to cater for all trainees	CT	65.5	11.5	4.0	13.0	15.9
	TT	75.0	10.9	3.6		4.6
Health facilities in public TTCs are not well-maintained	CT	70.0	15.5	4.5	7.0	3.5
	TT	62.5	19.8	2.8	10.2	4.7

Key: RESP-Respondents; CT-College tutors; TT-Teacher-Trainees

Source: Field Data (2018)

Table 2 reveals that majority 117(75.0%CT) and 168(87.5%TT) strongly agreed with the view that there are few well-stocked libraries in PTTCs with enough textbooks as did 18(11.5%CT) and 15(7.5%TT) who agreed. However, only a paltry 7(4.5%) of the college tutors as well as 2(1.1%) of teacher-trainees were undecided, 12(7.5%) of college tutors as did 6(3.1%) of the teacher-trainees disagreed whereas 3(1.5%) of college tutors and 2(0.8%) of the teacher-trainees strongly disagreed. These findings lend credence to the assertions of Malaba (2004) that learning resource centers are no longer functional. This lends credence to the fact that trained library staff support teaching and learning by providing a relevant curriculum-related resources, provide numerous materials for reading and help school community to develop necessary skills to maximize the use of information. Majority 101(65.0%CT) and 144(75.0%TT) strongly agreed with the view that most PTTCs do not have conducive lecture halls. At the same time, 16(10.5%) of the college tutors as did 33(17.1%) of the teacher-trainees agreed. However, 5(3.0%) of college tutors and 3(1.2%) of the teacher-trainees were undecided, 18(11.5%) of college tutors and 6(3.2%) of the teacher-trainees disagreed whereas 16(10.0%) of the college tutors as did 7(3.5%) of the teacher-trainees strongly disagreed.

This was consistent with the findings of a study conducted in Venezuela by Wakeham (2010) which revealed that overcrowded classrooms and colleges have consistently been linked to increased levels of aggression in trainees. Wakeham (2010) further found that overcrowded classrooms are also associated with decreased levels of trainee engagement and, therefore,

decreased levels of learning. These findings point to the fact that the poor condition of college facilities brings about critical concerns on college tutors' and trainees' general welfare. Majority 117(75.0%CT) and 120(62.5%TT) strongly agreed with the view that safe playgrounds are not common in many public TTCs. 16(10.5%) of the college tutors as did 38(19.8%) of the teacher-trainees agreed. 4(2.5%) of college tutors and 5(2.8%) of the teacher-trainees were undecided, 14(9.0%) of college tutors and 20(10.2%) of the teacher-trainees disagreed whereas 5(3.5%) of the college tutors as did 9(4.7%) of the teacher-trainees strongly disagreed.

These findings are consistent with the assertions of Abenga (2009) that schools must be safe, have acceptable level of learning resources, get parents' and communities' support, have curriculum connected to the reality of children's lives, prepare them for future and focus on development of problem-solving and higher order thinking skills. Majority 138(88.5%CT) and 120(62.5%TT) strongly agreed with the view that many laboratories in public TTCS are not equipped with necessary apparatus. 4(2.5%) of the college tutors and 19(9.9%) of the teacher-trainees agreed. 2(1.5%) of the college tutors and 7(3.7%) of teacher-trainees were undecided, 7(4.5%) of college tutors and 26(13.7%) of the teacher-trainees disagreed whereas 3.0% of the college tutors as did 10.2% of the teacher-trainees strongly disagreed. These findings thus corroborate the assertions of Abagi (2012) that having well-equipped laboratories have relevance in the academic outcomes of teacher-trainees. This points to the fact that provision of laboratories to trainees in any college is critical for effective teaching and learning process.

Majority 102(65.5%CT) and 144(75.0%TT) strongly agreed with the view that furniture in public TTCs are not enough to cater for all trainees. 18(11.5%) of the tutors and 21(10.9%) of the trainees agreed. 6(4.0%) of the tutors and 7(3.6%) of teacher-trainees were undecided, 20(13.0%) of tutors and 31(15.9%) of the trainees disagreed whereas 10(6.0%) of the college tutors as did 9(4.6%) of the teacher-trainees strongly disagreed. These findings corroborate the assertions of Sarah *et al* (2013) that, in many colleges, students sit on desks and tables which are in pieces in an overcrowded room of about 50 -70 students.

Majority 109((70.0%CT) and 120(62.5%TT) strongly agreed with the view that health facilities in public TTCs are not well-maintained. 24(15.5%) of the tutors and 19(9.8%) of the teacher-trainees agreed. 7(4.5%) of the college tutors and 5(2.8%) of teacher-trainees were undecided, 11(7.0%) of college tutors and 20(10.2%) of the teacher-trainees disagreed whereas 6(3.5%) of the college tutors as did 9(4.7%) of the teacher-trainees strongly disagreed. These findings lend credence to the findings of a study conducted by United Kingdom Department of Education (2011) which revealed that classroom space is particularly relevant with the current emphasis on 21st century learning such as ensuring trainees can work in teams, problem solve, and communicate effectively. This implies that air conditioning, absence of graffiti, condition of science laboratories, locker accommodations, condition of classroom furniture, wall color and acoustic levels are correlated with teacher trainee achievement at a significant level. In a nutshell, these findings affirm the fact that prudent utilization of available physical resources guarantees an improvement in educational quality and standards.

4.3 Inferential Findings on the Influence of Physical Resource Management on Academic Performance in Primary Teacher Colleges

In order to further ascertain the relationship between physical resources and teacher-trainees' academic performance, data were collected on levels of adequacy of physical resources in public TTCs (adequate = 3, not adequate = 2 and not sure = 1) and teacher-trainees' academic performance in national PTE examinations and results are shown in Table 3:

Table 3: Levels of Adequacy of Physical Resources in PTTCs and Teacher-Trainees' Performance in PTE Results From 2011-2015

Levels of Adequacy of Physical Resources in PTTCs	Average PTE Results in Percentages From 2011-2015
1	33
1	36
2	65
2	68
2	71
2	73
2	74
3	77

Source: Field Data (2018)

Table 3 indicates that public primary teacher colleges which have adequate physical resources such as well-stocked library facilities, conducive lecture halls, well-equipped laboratories, safe playgrounds and well-maintained health facilities have their teacher-trainees register impressive academic grades in PTE examination results. These data further corroborate the assertions of Abagi (2012) that inadequate and poorly managed facilities contribute to some colleges performing relatively weaker than others in PTE examinations. These results were subjected to linear regression analysis and results are shown in Table 4:

Table 4: Linear Regression Analysis Showing Relationship Between Levels of Adequacy of Physical Resources in Public TTCs and Teacher-Trainees' Academic Performance in PTE Results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.391	9.741		1.683	.143
	A	24.391	4.949	.896	4.929	.003

a. Dependent Variable: PTE Results

Source: SPSS Generated (2018)

From the Linear Regression Statistics in Table 4 a linear model was generated. It was of the following form; $PTE\ Results = 16.391 + 24.391 \text{Levels of Adequacy of Physical Resources}$ with a corresponding significance level of 0.003 which shows that the data is ideal for making a conclusion on the population's parameter. The significance value generated was less than 5%, that is, $p\text{-value} = 0.003 < 0.05$. This implies that for every additional improvement in the levels of physical resources, the PTE results are expected to increase by 24.391 marks.

These results indicate that there is significant relationship between adequacy of physical resources in primary teacher colleges and teacher-trainees' academic performance. These results were consistent with the findings of a study conducted by Abagi (2012) which generated a p-value of $0.03 < 0.05$. This result corroborates with various studies such as World Bank (2008) and Onyango (2013) which established that physical and material resources in teacher colleges are inadequate in the world all over.

These results also corroborate the findings of a study conducted by Asiabaka (2008) on effective management of teacher training schools noted that the government's failure to establish policy directive on minimum standards in relation to schools' physical facilities had led to disparities in academic performance of teacher-trainees. This is because while some have well equipped laboratories, libraries and other facilities for effective teaching and learning others have none and where they exist, such facilities are poorly equipped. This is supported by Chiriswa (2012) who noted that effective teaching and learning depends on the availability of suitable adequate resources such as books, laboratories, library materials and host of other visual and audio media resources which enhance good performance in national examination.

Theoretically, these findings lend credence to the premises of education production function theory and resource-based theory since the study has established that adequacy of physical resources has a relationship with academic performance of teacher-trainees in PTE examinations results. Thus, these findings affirm the fact that inadequate and poorly managed facilities contribute to some colleges performing relatively weaker than others in PTE examinations. These physical facilities have had major impacts on the academic performance of trainees in primary college tutor colleges. Thus, inadequate facilities and resources in public primary teacher colleges leads to poor academic performances amongst the trainees.

4.3.1 Thematic Analysis of Qualitative Findings on the Influence of Physical Resource Management on Academic Performance of Trainees in PTTCs

The researcher also interviewed college principals and deans of curriculum on the influence of physical resource management on academic performance of teacher-trainees in public TTCs. The interviewees also responded in favor of the view that physical resources in public TTCs are not adequate. Principal, P1, noted;

My TTC does not have sufficient physical resources. In other words, libraries are not well-stocked, laboratories not well-equipped, lecture halls not conducive nor are health facilities up to standard for use by trainees. This is attributed to inadequate finances to ensure that such facilities are provided. This has had deleterious effects on trainees' performance in CATs, RATs, mocks, mid-course and PTE examinations, (P1, Med, Male, February, 2015).

Just like quantitative findings, these views further corroborate the views expressed by Malaba (2004) that learning resource centers are no longer functional. Most learning resource Centre in teachers' colleges are currently full of outdated initially denoted bulky books. This has not been in line with the present needs of training whereby learning resource centers should be ICT compliant. Similar views were shared by the deans of curriculum who also admitted that their public training colleges do not have adequate physical resources mean to enhance trainees' academic performance. On further probing, dean of curriculum, DOC1, noted;

The library, classroom, laboratories and playground facilities in our TTC are up to date nor are they enough to cater for all students' needs. Libraries have no relevant and up to date books, laboratories have no modern apparatus, lecture halls are not conducive, playgrounds are not safe nor are health facilities conducive for students' use. This condition has made it difficult to ensure that teacher-trainees perform well in their internal and national examinations (DOC1, Female, Bed, February, 2015).

The interviewees also agreed with the viewpoints held by Thomas and Martin (2011) that there exist different types of libraries for use by the school community and education. Thomas and Martin (2011) opined that teacher colleges with well stocked libraries registered impressive educational outcomes compared to their counterparts which had no such resource centers. This finding agrees with the fact that trained library staff support teaching and learning by providing a relevant curriculum-related resources, provide numerous materials for reading and help school community to develop necessary skills to maximize the use of information. Thus, views affirm the fact that public primary teacher colleges have insufficient, old worn out and unutilized facilities such as laboratory, workshops, home science rooms and music.

This concurs with the fact that trained library staff support teaching and learning by providing a relevant curriculum-related resources, provide numerous materials for reading and help school community to develop necessary skills to maximize the use of information. Thus, views affirm the fact that public primary teacher training colleges have insufficient, old worn out and unutilized facilities such as laboratory, workshops, home science rooms and music. Principals as did the deans of curriculum responded in favor most PTTCs do not have conducive lecture halls. Principal, P2, noted;

Most of my lecture halls are not conducive for learning. They do not have good ventilation, have several potholes and have broken and dilapidated windows and walls. This makes learning so difficult especially during rainy and windy seasons. This has, in turn, impacted negatively on trainees' academic performance (P2, Female, Med, February, 2015)

Deans of curriculum also indicated that classrooms in public TTCs are old, in pathetic conditions and cannot enhance any meaningful learning. Most of these lecture halls have not decent and good roofing, lighting, ventilation, proper doors and windows. Deans of curriculum further noted that many lectures halls lack air conditioning nor do they have sufficient space to accommodate all the students without any hitches. Dean of curriculum, DOC2, observed;

In my TTC, classrooms are in bad shape and thus need fixing. They are not spacious enough to cater for influx of trainees. They do not have proper doors, seats, chairs nor are they well-ventilated. This has, indeed, affected students' performance in mocks, mid-course and PTE examinations, (DOC2, Male, Med, February, 2015).

These views agreed with the assertions of Wakeham (2010) that overcrowded classrooms in colleges have consistently been linked to increased levels of aggression in trainees. Wakeham (2010) further found that overcrowded classrooms are also associated with decreased levels of trainee engagement and, therefore, decreased levels of learning. The interviewees also

concurrent with the views expressed by Aijaz (2002) which revealed that the availability of physical facilities such as classes is core in attaining the educational objectives as important. Just like quantitative findings, these views concur to the fact that poor condition of college facilities brings about critical concerns on college tutors' and trainees' general welfare. On further probing, the interviewees also responded in favor of the view that safe playgrounds are not common in many public TTCs. Principal, P3, reported;

Despite our efforts, our TTC still need do not have safe playgrounds for students' co-curricular activities. We still do not have playground for every sport in our institution. Sometimes, students playing different games have to share, (P3, Male, Med, February, 2015).

Deans of curriculum also indicated that safe playgrounds are not a common feature in public primary teacher training colleges. The only available playgrounds, do not have leveled grounds, no goal posts, no clear markings nor does my TTC has adequate number of playgrounds for proper planning for co-curricular activities. These views agrees with the assertions of Abenga (2009) that training colleges must be safe, have acceptable level of learning resources, get parents' and communities' support, have curriculum connected to the reality of teacher trainee's lives, prepare them for future and focus on development of problem-solving and higher order thinking skills. This has affected trainees' academic performance in both internal and national examinations.

The interviewees also noted that experiences show that some of the colleges of education do not have enough and standard workspace such as workshops, laboratories, classrooms or lecture theatre to train the students, while some consumable and non-consumable materials needed for practical exercises are not available, some of the available material resources in some of these colleges of education appear not to be functioning. When asked about the status of laboratories, principals and deans of curriculum noted that their science laboratories are yet to have adequate apparatus for all students. principal, P4, and dean of curriculum, DOC4, confessed;

Most of our labs are not fully functional with all the necessary apparatus for all students. The laboratories are not well-equipped with necessary apparatus to enable trainees perform better in their internal and national examinations (DOC4, Male, BEd, February, 2015).

Just like in quantitative findings, these views are consistent with the views expressed by Abagi (2012) that having well-equipped laboratories have relevance in the academic outcomes of teacher-trainees. This points to the fact that provision of laboratories to trainees in any college is critical for effective teaching and learning process. When probed further, the interviewees also responded in favor of the view that furniture in public TTCs are not enough to cater for all trainees and has negatively affected their performance. The need to supply colleges with adequate resources and ensure proper maintenance through supervision in all public training colleges. On the same breath, principal, P5, as did dean of curriculum, DOC5, further noted;

Health facilities in our PTTCs are not well-maintained to enhance performance of teacher-trainees in mocks, mid-course and PTE examinations (DOC5, Male, Bed, February, 2015).

These views are also consistent with the assertions of Moore (2008) that, in India, healthy facilities are important for learning and a sealed classroom space, without the availability of fresh air from outside, the occupants of that space suffer from asphyxiation. Hence, these views affirm the fact that air conditioning, absence of graffiti, condition of science laboratories, locker accommodations, condition of classroom furniture, wall color and acoustic levels are correlated with teacher trainee achievement at a significant level. The interviewees affirm the fact that prudent utilization of available physical resources guarantees an improvement in educational quality and standards.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

From the study findings, it is evident that physical resource management influences academic performance of teacher-trainees. The study established that many PTTCs have inadequate and non-conducive physical facilities college tutors to help improve performance of trainees in mocks, mid-course and PTE examinations. These findings affirm the fact that the management of physical resources should establish and maintain a work-place environment that is conducive to achieving academic performance.

Conclusions

From the study findings, prudent physical resource management influence academic performance of teacher-trainees in public TTCs. However, the attest to the fact that many PTTC do not have sufficient physical resources. Libraries are not well-stocked, laboratories not well-equipped, lecture halls not conducive nor are health facilities up to standard for use by trainees. This is attributed to inadequate finances to ensure that such facilities are provided. This has had deleterious effects on trainees' performance in CATs, RATs, mocks, mid-course and PTE examinations.

Recommendations

The study recommends that TTCs should improve on the management, effective utilization of physical resources provided by the government. This should be done by having approved followed structures in the administration of the colleges. The colleges should also procure the enough physical resources to promote the core business of the college. The college administration should also have well maintained, adequate relevant physical resources to address the urgent issues teacher trainees require in order to become qualified teachers in the society. The teachers Service commission should always supervise activities of the colleges.

The theory associates diverse inputs affecting a student's learning such as college physical facilities and learning environments with measured outputs including subsequent labor market success, transit from one level of education to the next. The Coleman idea prompted interest for further research which concluded that the marginal effect of different college inputs on teacher trainee's achievement was low. Eric Hanushek, Richard Murnane, and other economists in later studies introduced the structure of production to the consideration of student learning outcomes. Several successive studies, increasingly involving economists, gave rise to inconsistent results about the impact of college physical resources on student's academic performance, leading to considerable controversy in policy discussions.

The resources in TTCs which includes Tutors, libraries, laboratories, fields, equipment's, structures and teaching materials are all inputs which are expected to make positive returns as outputs. Summers and Wolfe (2007), for example, argue that the impact of teacher quality and class size differ by the race of the student. The public funding, the input as supporters of public education argue, ought to promote equality, social cohesion and quality education as an output. Human capital is another input in education expected to bring change in behavior, knowledge and skills as an output.

Recommendations For Further Research

- i. A study could be conducted to assess the influence of principals' management training on academic performance of trainees in public primary teacher colleges in Kenya.
- ii. A study could be conducted to examine the extent to which teacher-trainees are involved in institutional resource management and its influence on academic performance in public primary teacher colleges in Kenya.

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