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Influence of Teacher Preparation for Instruction and Educational Resource Provision on Students' Academic Achievement in Public Day Secondary Schools in Chesumei Sub-County Nandi County Kenya

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ABSTRACT

Curriculum leadership in its entirety plays a vital role in academic achievement in educational institutions. However, majority of studies show that administrators have insignificant impact on learners' academic achievement. This is not the case since school principals are curriculum leaders and are responsible for learners' performance in many ways. This study investigated the influence of curriculum leadership on learners' academic achievement in public day secondary schools in Chesumei Sub-County, Kenya. The research focused on two specific objectives: (1) examining the influence of teacher preparation for instruction on students' academic achievements and (2) exploring the influence of educational resources' provision on students' academic achievement. The study drew theoretical inspiration from Fielder's contingency theory, which posits that a leader's efficacy is determined by the alignment between their dominant traits and the situational context. To accomplish these objectives, the researcher employed a descriptive survey research design, offering a comprehensive understanding of the current state of curriculum leadership and its impact on academic achievement. The target population was from 19 day schools in Chesumei. Pilot study was conducted in two schools. The study utilized purposive sampling, whereby 17 principals, 17 deputies, 17 directors of studies and 85 heads of departments were sampled. Random sampling technique was used to select a representative sample from the 10 % of form four students in each day school in Chesumei Sub-County. There were no adequate textbooks for all subjects in the school which had negatively affected learners' academic achievement. The study concluded that teacher preparation and educational resource provision enhances students' academic achievement. Schools should have adequate textbooks for all subjects, enough laboratories, enough teachers and adequate number of classrooms. The findings from this research endeavour may provide valuable insights into the dynamics of curriculum leadership in the context of Kenyan public day secondary schools. It is expected that the results may aid educational policymakers, school administrators, and teachers in refining strategies and practices to enhance students' academic achievement, consequently contributing to the overall improvement of the education system in Chesumei Sub-County and Kenya at large.

KEYWORDS:

Teacher Preparation for Instruction, Student Resource Provision, Academic Achievement, Curriculum Leadership.



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Background of the Study

Since the 1960's, school leadership and particularly curriculum leadership has been the subject of research, but neither the definition of leadership nor agreement on its precise function and applicability in the educational setting have been obtained (Harris,2005). By encouraging teachers' motivation, participation and coordination, effective curriculum leadership can undoubtedly contribute to school improvement. Recent studies have expanded the scope of school leadership research to include the various organizational levels, including school managers, department heads, coordinators and teachers (Harris, 2005).

In Kenya, 8-4-4 system of education which was introduced in January 1985 is still being used, even as it is gradually being replaced by CBC (Competence Based Curriculum). The 8-4-4 system is performance oriented and therefore students are expected to work very hard as their performance determines their next course of life. Their (Kenya Certificate of Secondary Education) KCSE grade determines the kind of course they take at the university or college level. Currently, all the students who score C+ and above gain direct entry into the university through government sponsorship as per the Kenya Universities and Colleges Central Placement Service(KUCCPS) with the most desired courses by the top performers being medicine, architecture and engineering (Livumbaze, & Achoka, 2017). One of the Millennium Development Goals and a major national objective is education. Every child in the world is required to complete primary school as part of the educational aim (Pont et al., 2008). In emerging regions, primary enrollment increased from 83% in 2000 to 91% in 2015. This goal was highlighted in 2015 by the Kenyan government. The youth are provided with socio economic opportunities to exploit their potential (Harris, 2005). To achieve the educational goals, every country that cares about its citizens, should at least adopt the law that was enacted by the government of USA that no child will be left behind by 2020. Many academicians assert that the role of curriculum leadership is crucial in improving student achievement and academic achievement (Hallinger, P., Heck, R. H., & Murphy, J. (2014). Over time, the roles of both teachers and principals have been transformed.

Curriculum leadership is now a major focus of educational policy agendas everywhere. It plays a significant part in improving a school's performance by influencing instructors' capacity for motivation as well as the climate and environment of the classrooms (Goldhaber, 2002). Effective curriculum leadership is required to improve educational effectiveness and equity (Pont et al., 2008). In a number of nations, most notably the United States, Canada and Australia, the idea of teacher leadership is not new, and scholars have long documented the leadership roles and responsibilities of teachers in the development of effective school reforms (Silins et al., 2000).

Statement of the problem

In Kenya, performance in K.C.S.E is of utmost importance as it helps one secure placement in institutions of higher learning depending on what they score. In this regard, those who score C+ and above are able to secure themselves a position in the university whereas the rest who do not manage to score that can get into tertiary colleges and polytechnics. In Chesumei Sub-County, in the previous three years there's a general low performance in day schools which are categorized as sub-county schools as compared to their counterparts in national and extra-county schools as shown in Appendix 7. This scenario has prompted the need for extended revision time guided by teachers. One wonders whether this is as a result of how teachers prepare for lessons, how they teach/deliver curriculum, resources available in schools and how these teachers are motivated by the curriculum leader. It is for this reason that it is now pertinent to seek to know the extent to which school's curriculum leadership influences academic achievement.

Objectives of the study

The following objectives guided the study.

1. To examine how teacher planning for instruction influence students' academic achievement in public day secondary schools in Chesumei Sub-County, in K.C.S.E.
2. To establish the influence of educational resources provision on students' academic achievement in Chesumei Sub-County, in K.C.S.E.

Literature Review

Prior to the start of class, the administrator must ensure that teachers create lesson plans and that the material is appropriate for the students' developmental phases (Adalikwu et al., 2022). Due to the common presence of students with various learning styles in the classrooms, the principal must make sure that there's inclusion (Okendu, 2022). Some people learn best by hearing or seeing something, while others learn best by seeing or doing something (kinesthetic learners) (Aguisiobo, 2018).

Principals, who serve as the curriculum instructional leaders, are responsible for encouraging growth in their staff (Likoko et al., 2023). This is by planning professional development programmes and conducting in-service training for teachers (Onasanya, & Omosewo, 2021). Principals can use faculty meetings to spark talks about particular curriculum components that aren't being used as they should be and to make space for staff development initiatives to address pressing problems (Ambogo, 2022). They could also train them in ICT (Information Communication and Technology) since we are now in the digital era and there has been massive technological shift in the recent years (Anderson & Dexter, 2005).

Since education is the driving force behind advancement in all nations, it is essential for a nation's development (Demir, 2019). As a result, it is one of the reasons why UNESCO (2010) named education as a tool for and a measure of growth in (2011) and, in particular, as a reason for parents to be concerned about their kids' academic progress. Material resources, physical facilities, and human resources are three main categories of learning resources (DFID, 2007). Resources for teaching and learning are not always available in schools, according to studies done in the past about this topic (Card & Krueger, 2016). Educators have expressed critical concern about the inadequate nature of teaching-learning resources (Adeogun, & Osifila, 2018).

Resources for teaching and learning contribute to better access and educational results because students are less likely to skip class when their experiences in school are engaging, meaningful and pertinent (Hakkinen, Kirjavainen, & Uusitalo, 2019). To ensure a successful teaching and learning environment, these materials should be made available in schools in both quality and quantity. Momoh (2010) conducted research on the effect of instructional resources on students' performance on the West African School Certificate Examination (WASCE) which has also been the subject of several studies. The teaching resources that were available had an impact on the students' WASCE performance. Since they make it easier for kids to learn abstract ideas and concepts and prohibit rote learning, he came to the conclusion that material resources had a substantial impact on students' accomplishment (Hanushek, Rivkin, & Taylor, 2016). Education is compromised when teaching and learning resources are insufficient, and this is seen in poor academic performance, high drop-out rates, problem behaviors, low teacher motivation and unmet educational objectives (Hanushek, 2017).

Research Methodology

The goal of the study was to determine how curriculum leadership affects academic attainment. This study employed a descriptive research design with a quantitative approach based on a close-ended questionnaire and open interviews. As explained by Nassaji (2015), the descriptive research’s goal is to describe a phenomenon, but also its characteristics. A descriptive study reports the way a phenomenon or fact is in regards to a certain population, area, or reality. It was applied in getting data on the influence of curriculum leadership on the learner’s academic achievement in public day secondary schools.

The study was carried out in Chesumei Sub-County due to the lower academic performance in its schools as compared to the boarding schools in the same sub-county bearing in mind that the government provides teaching and learning materials to all government schools. This is in line with the results of their counterparts in boarding school. The purpose of this study was to ascertain the effects of curriculum leadership on academic achievement. Chesumei Sub-County is one of the five sub-counties in Nandi County. It borders Nandi central, Nandi North and Nandi East sub-counties. According to the records at the Nandi-county education office as of June 2022, Nandi-county has 240 public secondary schools spread across the six sub-counties present. Chesumei Sub-County has 40 schools in total comprising of two national schools, two extra county schools, six county schools and thirty subcounty schools.

The study utilized purposive sampling whereby 17 principals, 17 deputies, 17 director of studies and 85 heads of departments were sampled. Random sampling techniques was used to select a representative sample from the 10 % of form four students in each day school in Chesumei Sub-County. Simple random sampling technique was used so as to ensure equal chances are given to all of them to participate, meaning they’ll be 132 respondents in total. This was achieved using Krejcie and Morgan Table as shown in the table on appendix 5.

Achieved by using the Krejcie and Morgan sampling determination table as shown in appendix 5 where, N is population size and n is the sample size and e is the level of precision of sampling error which is 0.05%. Therefore, $n = \frac{N}{1+N(e)^2}$

Results

Influence of Teacher Preparation for Instruction on Learners’ Academic Achievement

The first objective of the study was to determine how teacher preparation for instruction influences students’ academic achievement in public day secondary schools in Chesumei Sub-County, Kenya. Two sets of questionnaires were used to collect data that was used to analyse this construct. Interview guide was also used to collect data on the same construct. For the questionnaire for teachers, a 4-point Likert scale was adopted to collect data from the respondents. Findings were presented in table 1 below.

Table 1: Teachers Responses on Teacher Preparation for Instruction

n=66		Always	Sometimes	Rarely	Never	Mean	Std. Deviation
How often do you use a lesson plan	F	52	14	0	0	1.2121	.41194
	%	78.8	21.2	0.0	0.0		
How often do you test content understanding during classroom teaching	F	38	26	1	1	1.4697	.61318

	%	57.6	39.4	1.5	1.5		
How often do you write the records of work	F	35	26	5	0	1.6970	.91095
	%	53.0	39.4	7.6	0.0		
Do you check lesson notes	F	37	29	0	0	1.8939	.91364
	%	56.1	43.9	0.0	0.0		
How often do you give continuous assessment tests	F	59	7	0	0	1.1818	.52357
	%	89.4	10.6	0.0	0.0		
Do you write and adhere to the schemes of work	F	66	0	0	0	1.7273	.81421
	%	100.0	0.0	0.0	0.0		
Aggregate Mean						1.5303	

The study had sought to determine how often teachers used a lesson plan, 52(78.8%) of the respondents revealed always while 14(21.2%) sometimes. How often a lesson plan was used was further established to affect learners' academic achievement with (mean=1.2121, std. Dev.=0.41194). Findings resemble that of Anderson and Dexter (2005) that how often a lesson plan is used affect learners' academic achievement. On how often teachers test content understanding during classroom teaching, 38(57.6%) stated always, 26(39.4%) sometimes, 1(1.5%) rarely and 1(1.5%) never. How often teachers test content understanding during classroom teaching was further established to affect learners' academic achievement with (mean=1.4697, std. Dev.=0.61318). The study is in agreement with that of Baptiste (2019) on the frequency that teachers tested content understanding during classroom teaching and how this affects learners' academic achievement. In relation to how often teachers wrote the records of work, 35(53.0%) revealed always, 26(39.4%) sometimes, and 5(7.6%) rarely. On how often teachers wrote the records of work was further established to affect learners' academic achievement with (mean=1.6970, std. Dev.=0.91095). Findings resemble that of May and Supovitz (2011) on the frequency of teachers writing the records of work and how it affects learners' academic achievement.

On whether the teachers checked lesson notes, 37(56.1%) always while 29(43.9%) sometimes. Checking of lesson notes was further established to affect learners' academic achievement with (mean=1.8939, std. Dev.=0.91364). The study agrees with that of Farnham (2000) that checking of lesson notes affected learners' academic achievement. In regard to the oftenness teachers gave continuous assessment tests, 59(89.4%) revealed always while 7(10.6%) sometimes. On how often teachers gave continuous assessment tests it was further established to affect learners' academic achievement with (mean=1.1818, std. Dev.=0.52357). Table 2 shows the students' responses on teacher planning for instruction.

Table 2: Students' responses on Teacher planning for instruction

n=119		Frequently	Always	Rarely	Never	Mean	Std. Deviation
How often do your teachers complete the syllabus	F	95	14	10	0	1.3277	.74912
	%	79.8	11.8	8.4	0.0		
Do your teachers give you lesson notes	F	114	5	0	0	1.0420	.20148
	%	95.8	4.2	0.0	0.0		
Are your teachers available for consultation after classes	F	24	64	12	19	2.2185	.94922
	%	20.2	53.8	10.1	16.0		

Do you adhere to the school timetable	F	78	37	4	4	1.5210	.90991
	%	65.5	27.7	3.4	3.4		
Aggregate Mean						1.5273	

On how often students teachers completed the syllabus, 95(79.8%) stated frequently, 14(11.8%) always and 10(8.4%) rarely. On how often teachers completed the syllabus was further established to affect learners' academic achievement with (mean=1.3277, std. Dev.=0.74912). Hallinger and Walker (2015) also established that the frequency teachers completed the syllabus affected learners' academic achievement. In regard to whether the teachers gave students lesson notes, 114(95.8%) revealed frequently while 5(4.2%) always. Giving students lesson notes was further established to affect learners' academic achievement with (mean=1.0420, std. Dev.=.20148). Baptiste (2019) also established that giving students lesson notes affect learners' academic achievement.

On whether the teachers were available for consultation after classes, 24(20.2%) revealed frequently, 64(53.8%) always, 12(10.1%) rarely and 19(16.0%) never. Teachers' availability for consultation after classes was further established to affect learners' academic achievement with (mean=2.2185, std. Dev.=.94922). The study agrees with Anderson and Dexter (2005) that teachers' availability for consultation after classes affect learners' academic achievement. On whether there was adherence to the school timetable, 78(65.5%) stated frequently, 37(27.7%) always, 4(3.4%) rarely and 4(3.4%) never. Adherence to the school timetable was further established to affect learners' academic achievement with (mean=1.5210, std. Dev.=.90991). Findings resemble that of May and Supovitz (2011) that adherence to the school timetable affect learners' academic achievement. From the student's perspective, Teacher preparation for instruction was established to affect learners' academic achievement with (mean=1.5273). One of the respondents interviewed revealed that:

"When lesson notes are checked it affects learners' academic achievement. When teachers give continuous assessment tests frequently it enhances learners' academic achievement. Writing and adhering to the schemes of work affect learners' academic achievement."

Another respondent revealed that?

"When teachers complete the syllabus, learners' academic achievement improves. When the teachers give students lesson notes and also become available for consultation after classes, their academic achievement improves greatly."

From the findings above, the study can conclude that teachers should always strive to complete the syllabus, give notes, adhere to the school timetable and be available for consultations when need arises.

Influence of Educational Resource Provision on Learners' Academic Achievement

The third objective of the study was to determine the influence of educational resources on students' academic achievement in Chesumei Sub-County, Kenya. The study adopted two sets of questionnaires to collect data on the construct. Using the teacher's questionnaire, the study started by finding out the academic resources in the school and the findings were presented in the table 3 below.

Table 3: Academic resources in the school

		Frequency	Percent
Academic resources in the school	Laboratories	34	51.5
	Teaching personnel	22	33.3
	Textbooks	10	15.2
Total		119	100.0

The study established that laboratories were among the academic resources in the school. This information was revealed by 34(51.5%) of the respondents. Out of the total respondents, 22(33.3%) revealed teaching personnel and 10(15.2%) textbooks. The study by Momoh (2010) also established that laboratories, teaching personnel and textbooks were among the academic resources in a school. The respondents were requested to rate the importance of academic resources in the school. Findings were presented in table 4 below.

Table 4: Importance of Laboratories in the School and adequate teaching personnel in the school.

		Frequency	Percent
Laboratories Importance	High	34	51.5
	Moderate	26	39.4
	Low	6	9.1
Total		66	100.0
Adequate teaching personnel	High	45	68.2
	Moderate	14	21.2
	Low	7	10.6
Total		66	100.0

The respondents were requested to rate the importance of laboratories in the school, 34(51.5%) rated it high, 26(39.4%) moderate and 6(9.1%) low. This implies that majority of the respondents rate the importance of laboratories in the school as high. In the study by Lyons (2012), the importance of laboratories in schools was rated and it was established to be high. The teachers were also requested to rate the importance of adequate teaching personnel in the school. Findings were presented in Table 6 above.

In regards to importance of adequate teaching personnel, 45(68.2%) rated high, 14(21.2%) moderate and 7(10.6%) low. This implies that majority of the teachers rated the importance of adequate teaching personnel in the school as high. The study by Guclu (2002) also rated the importance of adequate teaching personnel in schools as high. On importance of adequacy of textbooks in the school, the respondents were asked to rate it and findings were provided in the table 5 below.

Table 5: Importance of adequacy of textbooks in the school

		Frequency	Percent
Adequacy of textbooks	High	34	51.5
	Moderate	16	24.2
	Low	16	24.2
Total		66	100.0

Findings on rating of the importance of adequacy of textbooks in the school revealed that 34(51.5%) stated high, 16(24.2%) moderate and 16(24.2%) low. This implies that majority of the respondents rated the importance of adequacy of textbooks in the school high. The study is in agreement with that of Korir & Kipkemboi, (2014) that the importance of adequacy of textbooks in schools is high. The study also sought to determine how often chalkboard was used for illustration. Findings were presented in Table 5.

Majority of the respondents, 57(86.4%) revealed that they always used chalkboard for illustration while 9(13.6%) rarely. On effectiveness of chalkboard use for illustration, the findings were presented in table 6 below.

Table 6: Effectiveness and frequency of chalkboard use for illustration

		Frequency	Percent
Chalkboard use for illustration	Yes	48	72.7
	No	18	27.3
Total		66	100.0
Chalkboard use	Always	57	86.4
	Rarely	9	13.6
Total		66	100.0

The findings revealed that most of the respondents, 48(72.7%) stated that chalkboard was effective for illustration while 18(27.3%) said No. Findings by Sama and Tarim (2007) also established that chalkboard is effective for illustration. The study also wanted to determine the influence of academic topical charts to overall understanding of lesson content and memory retention. Findings were presented in the table 7 below.

Table 7: Influence of academic topical charts to overall understanding of lesson content and memory retention

	Frequency	Percent
It provides a graphical view of information that is a powerful way to display evidence	56	84.8
It provides a series of resources for students to read, interpret and think critically in textbooks	10	15.2
Total	66	100.0

In regard to the influence of academic topical charts to overall understanding of lesson content and memory retention, 56(84.8%) revealed that they provide a graphical view of information that is a powerful way to display evidence while 10(15.2%) stated that academic topical charts provide a series of resources for students to read, interpret and think critically in textbooks. The study by Korir & Kipkemboi (2014) also established that academic topical charts provide a series of resources for students to read, interpret and think critically in textbooks.

Students' responses on educational resource provision in shown in table 8.

Table 8: Students' responses on educational resource provision

n=119		SD	D	U	A	SA	Mean	Std. Deviation
We have adequate textbooks for all subjects in our school.	F	106	10	1	1	1	1.1597	.55209
	%	89.1	8.4	0.8	0.8	0.8		
We have enough laboratories in our school.	F	51	53	5	5	5	1.8235	.99700
	%	42.9	44.5	4.2	4.2	4.2		
There are enough teachers in the school	F	83	21	7	4	4	1.5294	.98998
	%	69.7	17.6	5.9	3.4	3.4		
We have an adequate number of classrooms	F	65	35	7	8	4	1.7479	1.05941
	%	54.6	29.4	5.9	6.7	3.4		
Aggregate Mean							1.5651	

The students were asked whether they had adequate textbooks for all subjects in their school, 116(97.5%) agreed while 2(1.6%) disagreed. Having adequate textbooks for all subjects in their school was further established to affect learners' academic achievement with (mean=1.1597, std. Dev.=.55209).The study agrees with that of Lyons (2012) that having adequate textbooks for all subjects in school affect learners' academic achievement. On whether students have enough laboratories in school, 104(87.4%) disagreed while 10(8.4%) agreed. Having enough laboratories in the school was further established to affect learners' academic achievement with (mean=1.8235, std. Dev.=.99700). The study by Rivkin, et al. (2005) established that having enough laboratories in school affect learners' academic achievement.

In regard to whether there were enough teachers in school, 104(87.4%) disagreed while 8(6.8%) agreed. Enough teachers in the school were further established to affect learners' academic achievement with (mean=1.5294, std. Dev.=.98998).The study by Guclu (2002) established that having enough teachers in the school affect learners' academic achievement. On whether there was adequate number of classrooms in the schools, 100(84.0%) disagreed while 12(10.1%) agreed. Adequate number of classrooms in the school was further established to affect learners' academic achievement with (mean=1.7479, std. Dev.= 1.05941).Details on students' resources on educational resources are presented on table 10 above. The study is in agreement with that of Rivkin, et al. (2005) that adequate number of classrooms in the school affect learners' academic achievement. In summary, education resource provision was established to affect learners' academic achievement with (mean=1.5651). One of the respondents interviewed revealed that;

“There were no adequate textbooks for all subjects in the school which had affected learners' academic achievement. The school had no enough laboratories which had affected learners' academic achievement. The number of classrooms in the school were not adequate and this had an effect on learners' academic achievement.”

Another respondent revealed that:

“Learners' academic performance improves when they have adequate textbooks for all the subjects in school. When there are enough laboratories in the school it enhances learners' academic achievement. The performance of the learners improves in those schools that have enough teachers.”

The study concluded that teacher preparation for instruction enhances students' academic achievement in public day secondary schools. The frequency of lesson plan use, frequency of teachers testing content understanding during classroom teaching, frequency of teachers writing the records of work and checking of lesson notes affects learners' academic achievement. On the frequency of teachers giving continuous assessment tests, writing and adhering to the schemes of work and the frequency of teachers completing the syllabus affects learners' academic achievement. Giving students lesson notes, Teachers' availability for consultation after classes and adherence to the school timetable affects learners' academic achievement.

With reference to education resource provision, the study concluded that it enhances students' academic achievement. Having adequate textbooks for all subjects in the school and having enough laboratories in the schools affect learners' academic achievement. Having enough teachers and adequate number of classrooms in the schools affect learners' academic achievement.

Recommendations

Based on the study findings and conclusions, the study came up with the following recommendations.

On teacher preparation for instruction, the study recommended that Teachers should continue using lesson plans as a guide when instructing students and Teachers should always test content understanding during classroom teaching. Teachers should always write the records of work and check lesson notes. Teachers should always give continuous assessment tests and they should continue to write as well as adhere to the schemes of work. Teachers should always complete the syllabus and they should always give students lesson notes. Teachers should always be available for consultation after classes and they should always adhere to the school timetable.

On educational resources, the study recommended that schools should have adequate textbooks for all subjects, enough laboratories, enough teachers and adequate number of classrooms. In a nutshell, teacher preparation for instruction and educational resources should always be considered when dealing with curriculum leadership.

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