Instructional Influences on the Implementation of the Curriculum for Physics for Secondary Schools in Kenya

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Abstract- Implementation of the curriculum is a critical stage in the curriculum development cycle. Yet over the years 2011 to 2015 students' achievement in Physics at Kenya Certificate of Secondary Education (KCSE) has been low coupled with low students' enrollment. This study sought to determine the influence of teaching methods and learners' motivation on implementation of Physics curriculum. This study was guided by cognitive constructivism theory of learning. This study targeted 224 teachers of Physics and 4140 Form three Physics students in 283 public secondary schools in Bungoma County. Stratified and simple random techniques were used to select 22 schools. The sample size was 22 teachers and 393 students making a total of 415 respondents. Data was using Teacher Questionnaire (TQ), Student Questionnaire (SQ), Lesson Observation Schedule (LOS) and Observation Checklists (OC). Data was presented using frequency tables, figures and analyzed using both descriptive and inferential statistics. Descriptive statistics used to analyze quantitative data include; percentages and means while the inferential statistics used include; Chi-square and Pearson product moment correlation coefficient. Qualitative data was analyzed thematically. Statistical Package for Social Sciences (SPSS) version 20 was used to compute the analysis at $\alpha = 0.05$ level of significance. Both quantitative and qualitative results showed that non-use of student-centered teaching methods and lack of learners' motivation influenced the implementation of the curriculum for Physics. The study concluded that for effective implementation of the curriculum; students-centered teaching methods should be employed and learners' be motivated. The study recommended that the teachers of Physic should be in-serviced on learner-centered methods and they should focus more on arousing learner's motivation. Further, the findings provide a guide to the government on enhancing the implementation of the curriculum for Physics for improved performance.

Index Terms- Instructional influences, implementation of curriculum, teaching methods, learners' motivation, Kenya

I. Introduction

In this era of globalization and technological revolution, education is considered as a first step for every activity. The world leaders' summit held in New York in September, 2015 set new goals for social and economic development that countries (Kenya included), should pursue in the next 15years (Sustainable Development Goals [SDGs], 2015). The Sustainable Development Goals are aimed at transforming our world by the year 2030 (SDGs, 2015). The summit identified 17 goals out of which five goals are related to this study and states as follow: (a) end poverty in all its' forms everywhere, (b) ensure inclusive and equitable education; promote lifelong learning opportunities for all, (c) build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation, (d) make cities and human settlements inclusive, safe, resilient and sustainable; and (e) take urgent action to combat climate change and its' impact (SDGs, 2015).

The SDGs' main aim is to achieve three main objectives namely; end extreme poverty, fighting inequality and injustice, and fixing climate change by the year 2030 (SDGs, 2015). The new goals take over from the previous Millennium Development Goals (MDGs) that had been set up at the turn of the Century. It was acknowledged by the SDGs summit that; sadly most African Countries had not met a number of the MDGs; education included. Human development is one of the strategic objectives according to Kenya vision 2030 (Republic of Kenya, 2010) in the vision; Kenya endeavor to expand her development, industrially and infrastructure which is to lead to urbanization. If the Kenyan government is to meet her goal of industrialization by the year 2030 then she must expand her Education in science and technology and improve efficacy in curriculum implementation in order to produce the required human resource.

Although Physics is essential for industrialization, there has been a decline in academic achievement as well as low enrolments in the subject (Kenya National Examination Council [KNEC], 2014). The Kenya vision 2030 recognizes that social and economic development ultimately depends on the quality of education offered. People with quality basic education are more productive and more likely to play an active role in development. It is universally recognized that investment in human development through Education is an essential component of any development plan (The Common Wealth of Learning & Asian Development Bank, 2009). Within the education sector, it has been understood that quality and access are perhaps the two most critical issues.

An evaluation of the Kenyan education system by UNESCO (2010) noted that the secondary school curriculum objectives have not been fully achieved as envisaged in 2002 syllabus. With regard to aspects that relate to innovation and application of technology,

curriculum implementation is visibly deficient as the majority of its products do not exhibit those attributes after school.

Physics Curriculum implementation challenges range from methodological issues, lack of personnel, political, economic and cultural factors (Okere, 2000). This affects delivery of Physics syllabus content and in turn leads to negative attitudes among learners and hence poor performance in national examinations and low enrollment in the subject.

The government of Kenya has invested a lot of resources in the curriculum implementation process through free secondary Education and Strengthening Mathematics and Sciences in Secondary Education (SMASSE) project. Yet students' achievement and enrolment in Physics KCSE remains alarmingly low at 39.0 and 26.6 percent respectively over the years 2011 to 2015. Enrollment in Physics does not match the overall candidature growth; instead it has been declining from 39.15% to 24.83% within the same period.

This is a worrying trend since much effort has been put in by the stakeholders through a number of initiatives and programs. A typical example is the SMASSE programme that was a joint agreement between the government of Kenya and Japan through the support of the Japanese International Cooperation Agency (JICA). The programme was piloted in 1998 and implemented in 2002 and has made significant steps in advocating for learner-centered approaches in teaching of sciences and mathematics in secondary schools and learners' motivation.

Curriculum implementation is influenced by several factors. For example, teaching methods are capable to enhance and improve content delivery (Njoroge, Changeiywo & Ndirangu, 2014; Muriithi, Odundo, Origa & Gatumu, 2013), and motivation is needed for enthusiasm to take Physics in secondary school (Semela, 2010; Amunga, Amadalo & Musere, 2011).UNESCO (2010) noted that many factors play a role in effective curriculum implementation.

Thus, this study sought to establish the influence of teaching methods on implementation of the curriculum for Physics and determine the influence of learners' motivating on implementation of the curriculum for Physics for secondary schools.

II. Objectives of the Study

The objectives of this study were to:

1. Establish the influence of teaching methods on the implementation of the curriculum for Physics for secondary schools in Kenya.
2. Determine the influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools in Kenya.

III. Research Hypotheses

The following were research hypotheses:

$H0_1$: Teaching methods do not influence the implementation of the curriculum for Physics for secondary schools in Kenya.

$H0_2$: Learners' motivation does not influence the implementation of the curriculum for Physics for secondary schools in Kenya.

IV. Theoretical Framework

This study was guided by the cognitive constructivism theory of learning developed by Jean piaget (1967). Constructivism theory emerged in the late 1980s, although its roots are much older. The basic belief of constructivism is that knowledge is actively constructed by learners rather than transmitted by the teacher (Hirumi, 2002). Nevertheless, there are minor distinctions between cognitive constructivism and social constructivism, which are two representative types of constructivism (Liaw, 2004).

Cognitive constructivists believe learners construct knowledge individually based on their prior experience and new information. Therefore, learning is considered as an internal cognitive activity. Social constructivists, however, argue that knowledge is the outcome of collaborative construction in a social context through interactive processes of information sharing, negotiation and discussion (Qiyun, 2008). Therefore the social constructivist views learning as knowledge constructed through social interaction and discourse (Liaw, 2004) . Although varying constructivist theories exist, there is agreement between the theories "that learning is a process of constructing meaning, it is how people make sense of their experience"(Hirumi, 2002).

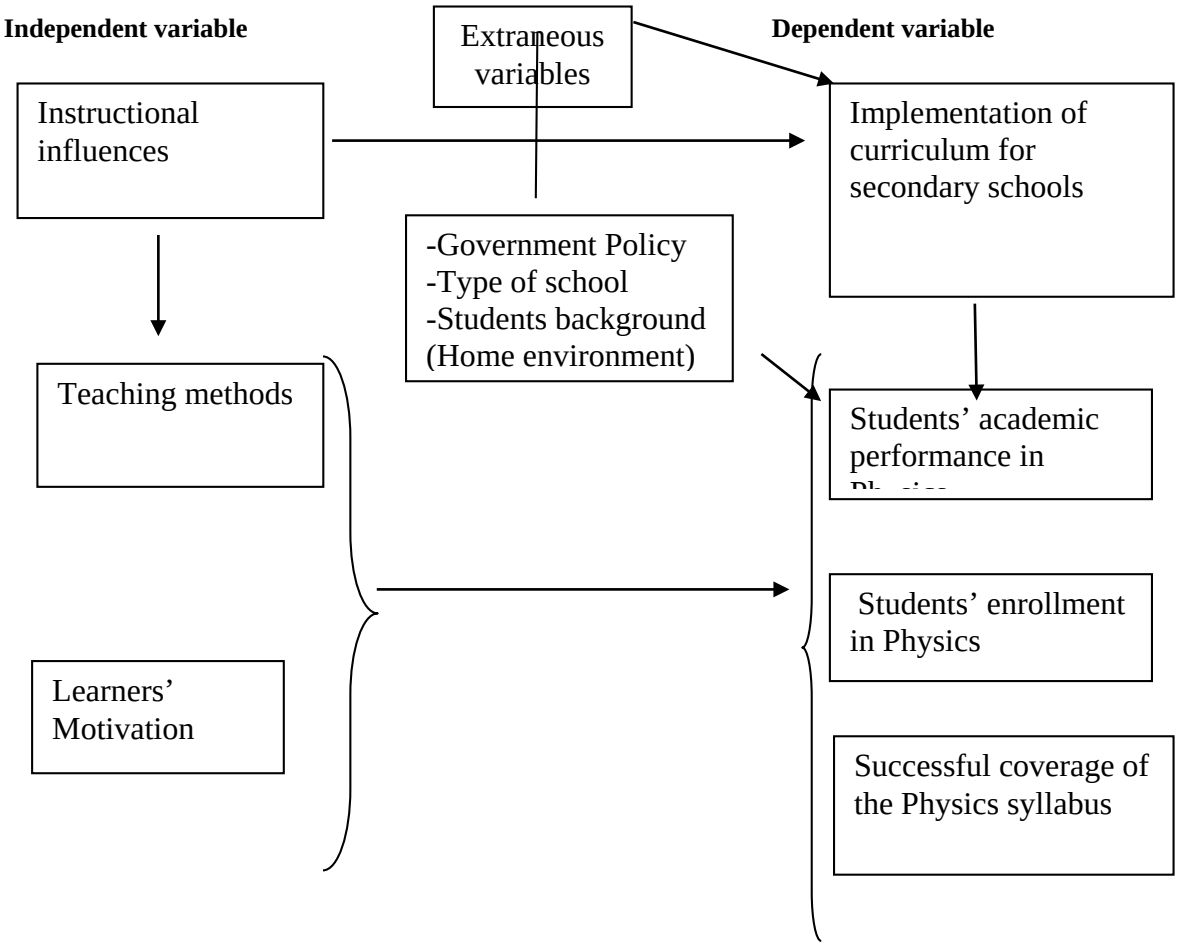
This study was inclined to cognitive constructivism in which Physics as a science subject require learner centered activities using learning materials for effective learning and curriculum implementation. Cognitive constructivists believe learner centric instructional methods in the classroom will strengthen the commitment and involvement of self-motivated learners because of their high level of interaction. In adapting this theory, this study views teaching methods like; Inquiry-Based Teaching, laboratory method, Project method, Discovery method, Mastery Learning Approach and ICT integration as methods that allow Knowledge construction in the teaching and learning process. This theory is related to this study in that the study sought to establish the influence of teaching methods on the implementation of the curriculum for Physics for secondary schools in Kenya.

The cognitive constructivist learning theory relates to this study by reminding teachers to look for different ways to engage and motivate an individual learner by preparing coherent problem sets and challenges that focus the model building effort and interpretations (Qiyun, 2008). In line with cognitive constructivists theory this study sought to determine the influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools in Kenya.

V. Conceptual Framework

This study was guided by a schematic model. In this model research variables and the relationship between them is shown diagrammatically. Independent variables (IVs) are placed on the left and dependent variables (DVs) on the right separated by the intervening variables at the middle. The conceptual framework is shown in figure 1.

Figure 1. A Conceptual Framework for the Relationship between Instructional influences and Implementation of the curriculum for Physics.



Source: Researcher (2015)

In the conceptual framework in Figure1, instructional influences are hypothesized to influence implementation of the curriculum for Physics. The framework postulates that teaching methods and learners' motivation directly influenced students' academic performance, students' enrollment in Physics and successful coverage of the syllabus. However, this relationship may be modified by government policy, type of school and family background from which the student comes.

VI. Research Methodology

Research design

This study adopted a descriptive survey design, which involved the use of questionnaire and observation methods for data collection. Descriptive survey design provided numeric descriptions of some part of the population (Miles & Huberman, 1994). In this design the study described and explains events as they are, as they were or as they will be. This design enabled the researcher to have a rapid data collection and ability to understand a population from a part of it (Creswell, 2009). Descriptive survey design was deemed appropriate for this study since this study sought to develop relevant true statements, ones that can serve to explain the situation that is of concern or that describe the casual relationship of interest (Neuendorf, 2002).

Population and Sample

The study population comprised all students in 283 public secondary schools in Bungoma County. The sample consisted of Form 3 students of Physics in the sampled schools, assumed to represent the student population because they had selected the subject, as well as accurately report on the matter under study. The schools were categorized as mixed and single gender schools. Out of 283 public secondary schools in the County, a stratified random sample of 22(10%) schools participated. Stratified sampling technique was used to ensure that three categories of schools (boys, girls, and mixed) were represented in the sample in the proportion in which they appear in the population. The use of this technique was to improve representativeness and to bring on board any differences that could exist between the school categories (Tuckman, 1978). Thus, the sample comprised seven boys'

schools, seven girls' schools and eight mixed schools. One teacher for Physics was selected from each sampled school. A simple random sample of 10, 15 or 20 respondent from each single streamed, double streamed or a three and more streamed schools respectively participated in the study. In total, the study involved 415 respondents, 22 teachers (16 male and 6 female) and 393 students (236 boys and 157 girls).

Research instruments

The instruments used in this study were questionnaires, lesson observation guide and observation checklist. The selection of these tools was guided by the nature of data to be collected, the time available as well as the objectives of the study (Bergman, 2008). This study was mainly concerned with teachers' and students' views, opinions, and attitudes about implementation of the curriculum for Physics for secondary schools in Kenya. Such data could best be collected through the use of questionnaire, lesson observation and observation checklist (Kothari, 2009).

Questionnaires

In this study two sets of questionnaires were used: one for Physics teachers and another for Physics students. Both the Teachers' Questionnaire (TQ) and students' Questionnaires (SQ) were structured to incorporate both closed-ended and open-ended questions. This was to enable the study balance between the quality and quantity of data collected (Bergman, 2008). But on the other hand, provide more information.

The investigator adapted some items on curriculum implementation from standardized and validated item from Fiske and Taylor (2008). Some of the items were modified to fit the present study. The respondent was asked "How often do you use the following teaching methods in teaching and learning Physics?" The response was on likert scale having four degree of agreement such as; Very often = 4; Often = 3; Rarely = 2; Never = 1. On motivation, the respondent was asked " Rate the following statements to indicate learners' motivation in Physics" The response was on likert scale having five degree of agreement such as; Strongly agree = 5; Agree = 4; Undecided = 3; Disagree = 2; Strongly disagree = 1.

Finally, there were two open-end questions. The first asked respondents "What do you think are the major influences on the implementation of the curriculum for Physics in your school?" and the second question was "What do you think should be done in order to manage these influences in your school?" Open-ended questions gave respondents complete freedom of response in their own words but the amount of space provided desired a brief answer.

Lesson Observations Schedule (LOS)

This study employed Lesson Observation Schedule (LOS) meant to assess the extent to which the teaching methods used were student-centered, as well as find out the degree to which learners are motivated in classrooms. LOS was used to obtain primary data during classroom lessons or laboratory lessons. In the first part of the schedule the observer filled in data on: name of the school, class, time, subject and roll of boys and girls in the class. The Second, third and forth sections of the schedule were the introduction, lesson development and the conclusion of the lesson. In each of these sections the observer filled in data on teaching methods and learners' motivation during the lesson.

Some photographs and video tapes were also taken during lesson observation with the consent from the school principal to show the situation in Physics classrooms in Kenyan secondary schools.

Data analysis

Data collected was analyzed using both descriptive and inferential statistics. The descriptive statistics used were percentages and means, whereas, the inferential statistics used were chi-square and Pearson product moment correlation. Data was analyzed by using Statistical Package for Social Sciences (SPSS) version 20 at $\alpha = 0.05$ level of significance. Qualitative data was organized in narrative format and analyzed in themes. Chi-square was employed to establish relationship between instructional influences and implementation of the curriculum for Physics for secondary schools. If the probability of the computed Chi-square value was less than the level of significance set, the null hypothesis was rejected and concluded that the two variables were not independent of each other and vice versa (Kothari, 2009). Pearson product moment correlation coefficient was used to measure the relationship between instructional influences and implementation of the curriculum for Physics. For all statistical tests conducted in this study, the alpha level was set at .05.

VII. Results

Influence of teaching methods on the implementation of the curriculum for Physics for secondary schools

The first objective of this study was to investigate the influence of teaching methods on the implementation of the curriculum for Physics for secondary schools in Kenya. To achieve this objective, the respondents were asked to indicate how often the listed methods are used in implementing Physics curriculum in their respective schools. The responses were recorded on a four-point likert scale ranging from: Very often = 4 to Never = 1. Data on this objective was analyzed under the hypothesis "teaching methods do not influence implementation of the curriculum for Physics for secondary schools."

Data from Teachers' and Students' closed-ended Questions

Data from Teachers' and Students' questionnaire are presented on Table 1.

Table 1. Influence of teaching methods on the implementation of the curriculum for Physics for secondary schools

Teaching method	Response: Very often		Often		Rarely		Never	
	N	%	N	%	N	%	N	%
B1. Inquiry-based	159	38.3	160	38.6	59	14.2	36	8.7
B2. Laboratory	117	28.2	192	47.5	92	22.2	9	2.2
B3. Project	28	6.7	71	17.1	147	35.4	169	40.7
B4. Discovery	62	14.9	99	23.9	123	29.6	131	31.6
B5. ICT integrated	31	7.6	67	16.1	110	26.5	207	49.9
B6. Mastery learning	117	28.2	155	37.3	76	18.3	67	16.1
B7. Lecture	227	54.7	119	28.7	45	10.8	22	5.5
B8. Discussion	167	40.2	168	40.5	67	16.1	12	2.9
B9. Question-answer	234	56.4	142	34.2	29	7.0	9	2.2
B10. Problem solving	209	50.4	160	38.6	33	8.0	10	2.4
B11.Demonstration	172	41.4	169	40.7	53	12.8	19	4.6
Mean	**138**	**33.3**	**137**	**33.0**	**76**	**18.3**	**63**	**15.1**

As can be discerned from Table 1, a majority 275 (66.3%) of the respondents indicated that teaching methods influenced implementation of the curriculum for Physics. These results suggest relationship between teaching methods and implementation of the curriculum for Physics. Although more than half of the respondents indicated that teaching methods influenced the implementation of the curriculum for Physics, a significant proportion 139(33.4%) indicated opposite; that teaching methods have no influence on implementation of the curriculum for Physics.

Data from Teaches' and Students' open-ended Questions

The narrative report from open-ended questions concurred with the questionnaire finding in which one student had written:

In class teachers don't allow students to participate or give their ideas. Teachers prefer to give the answer and move to the next concept without the understanding of the students. This causes confusion among the students and they end up dropping the subject when it becomes optional at form Three. Some students in my school choose to take Physics but fail in examination due to poor implementation of the curriculum.

Data from lesson observation

Classroom and laboratory lesson observation revealed that the teaching methods used in Physics are predominantly theoretical with traditional lecture, question-answer, teacher demonstration and problem solving methods being widely used. Traditional methods of teaching were observed in seven (63.6%) out of the eleven lessons observations made while student-centered teaching methods like: IBT, laboratory practical, project, discovery and ICT integration were observed in only four (36.4%) out of eleven observations. Hence, it clearly emerged from lesson observations that student-centered teaching is lacking in Physics classrooms in Kenyan schools.

The laboratory lesson observation further revealed how lack of students' direct interaction with equipments impacted negatively on their practical skills in curriculum implementation (. In this connection observer II reported:

Physics curriculum implementation is negatively impacted by theoretical approaches to the teaching of practical skills instead of using student-centered approaches. This is due to the limited time for the lesson and inadequate apparatus for doing practical. This as a result de-motivates students and low academic achievement is observed in the subject in KCSE examinations.

Based on the questionnaire and lesson observation findings, data analyzed using chi-square to test the null hypothesis that, "*Teaching methods do not significantly influence implementation of the curriculum for Physics for secondary schools.*" The results of chi-square are summarized in Table 2.

Table 2. Chi-square test results on influence of teaching methods on implementation of the curriculum for Physics

	Chi-square	observed frequency (O)	Expected frequency (E)	sig.
	254.296	5	16	0.01
df	25			

0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 16.0

The results on Table 2, shows computed chi-square value; F (5,254) = 16.0; df = 25*; p*<.05). This gave a significant value of 0.01 which is below the P value = 0.05, hence the researcher rejected the null hypothesis that stated that "*There is no significant influence of teaching methods on implementation of the curriculum for Physics for secondary schools.*" Therefore the alternative hypothesis which states that there is significant influence of teaching methods on implementation of the curriculum for Physics for secondary schools was accepted.

Influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools

The second objective posed in this study was to determine the influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools in Kenya. To achieve this objective, the respondents were asked to rate statements to indicate motivation in Physics. The responses were recorded on a five-point likert scale ranging from: Strongly agree = 5 to Strongly disagree = 1. Data on this objective was analyzed under the hypothesis "learners' motivation does not influence the implementation of the curriculum for Physics for secondary schools in Kenya."

Data from Teachers' and Students' closed-ended Questions

Data from Teachers' and Students' questionnaire are presented on Table 3.

Table 3. Influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools

Response Learners' motivational	SA		A		U		D		SD	
	N	%	N	%	N	%	N	%	N	%
C1. Excellent performance	254	60.7	10	2.4	84	20.2	61	14.7	8	1.9
C2. Rewarding good performance	204	49.1	6	1.4	33	7.9	89	21.4	83	20.0
C3. Enjoy Physics lessons	232	55.9	26	6.3	46	11.0	7	1.7	4	1.0
C4. Love revising Physics at free time	259	62.1	62	14.9	73	17.5	19	4.6	2	0.5
Mean	**237**	**57.1**	**26**	**6.2**	**59**	**14.7**	**44**	**10.6**	**24**	**5.7**

Key:SA= strongly agree; A= Agree; U= Undecided; D= Disgree; SD= Stronglydisagree

The findings in Table 3, indicate that a majority of the respondents 263 (63.3%), of the respondents generally held that motivation influences implementation of the curriculum for Physics for secondary schools.

Data from Teaches' and Students' open-ended Questions

The finding from teachers' and students' open-ended questions seemed to support the data reported in the closed–ended questions. For instance, one of the teachers wrote that:

Motivation is an important drive for learning and achievement in KCSE examination. Teachers cultivate a learning habit and self-responsibility within their students. This is through rewards and positive reinforcement in classroom by encouraging each and every student to be part of the learning process. Therefore, motivation is an important factor that affect implementation of the curriculum.

One of the student was also in agreed with the teachers' sentments by reporting that teachers gave them moral support and confidence to revise well for the examinations through rewards and career guidence. This became a driving force for academic exellence. The respondent clearly explained this as follows:

My teacher motivates me by rewarding me through comments he makes in class when I answer a question correctly. One day the teacher said, " that is good, your future career is very bright". I feel this influences my interest in the subject. But when teachers make negative comments to the students in class, students gets scared and discouraged from learning.

Data from lesson observation

Lesson observation results showed that learners' motivation greatly influenced curriculum imlementation for Physics. It was revealed that a teacher who reinforce and reward learners through positive comments, makes them make more efforts in classs hence raising their interest to learn. Rewards and reinforcement cultvate extrinsic motivation and interest in students to learn by themselves.

Regarding this observer I briefly describes the scenario as follows:

In class learners who had answered a question correctly and were positively reiforced tended to lifted up their hands to make another attempt, unlike those who had previously answered wrongly or had not made any attempted. It was only in two classes that the teacher encouraged other students to also try. But in most cases the teachers kept on giving chance to the same students to answer questions which impacted negatively on implementation of the curriculum.

Based on questionnaire and lesson observation findings, data analyzed using chi-square to test the null hypothesis that, "*Learners' motivation does not significantly influence the implementation of the curriculum for Physics for secondary schools*. The results of chi-square are summarized in Table 4.

Table 4. Chi-square results on influence of learners' motivation on the implementation of the curriculum for Physics

Chi-square	observed frequency (O)	Expected frequency (E)	sig.
129.337	5	34.6	0.021
df	11		

0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 34.6

The results on Table 4, shows computed chi-square values; F (5,129) = 34.6; df = 11*; p*<.05). This gave a significant value of 0.021 which is below the P value = 0.05, hence the researcher rejected the null hypothesis that stated that *"There is no significant influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools."* Therefore the alternative hypothesis which states that there is significant influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools was accepted.

Furthermore, Pearson product moment correlation coefficient was used to establish the degree of relationship between instructional influences and implementation of the curriculum for Physics for secondary schools. The findings are shown in Table 5.

Table 5. Pearson product moment correlations coefficient on instructional influences on the implementation of the curriculum for Physics for secondary schools

Variable	r	r^2
Teaching method	0.277**	0.076
Learners' motivation	0.321**	0.103

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

*. Correlation is significant at the 0.05 level (2-tailed).

Results presented in Table 5, shows that there was a significant positive correlation between instructional influences and the implementation of the curriculum for Physics. Teaching methods were found to have a significant influence on the implementation of the curriculum for Physics (r = 0.277, *p*< 0.05). The results indicated r^2 to be 0.076 this imply that 7.6 percent implementation of the curriculum for Physics was predicted by teaching methods.

Similarly, learners' motivation was found to have a significant influence on the implementation of the curriculum for Physics as show on Table 5, (r = 0.321, *p*< 0.05). The results shows r^2 to be 0.103 implying that 10.3 percent implementation of the curriculum for Physics was predicted by learners' motivation.

VIII. Discussion of the Study Findings

The first objective for this study was to establish the influence of teaching methods on the implementation of the curriculum for Physics for secondary schools in Kenya. Results obtained in Table 1, showed that nearly 66.3 percent of teachers and students in secondary schools held that teaching methods influenced the implementation of the curriculum for Physics for secondary schools. The results of the Chi-square test obtained in Table 2, reveals that p value = 0.01 less than the alpha value level of significance of 0.05, therefore there is strong relationship between teaching methods and implementation of the curriculum for Physics. The Pearson product moment correlation coefficient on Table 5, showed that teaching methods influenced up to 7.6 percent implementation of the curriculum. These findings are in agreement with the findings reported by Muriithi et al., (2013); Uside et al., (2013), and Njoroge et al., (2014) who noted that teaching methods influenced curriculum implementation for Physics hence students' achievement in the subject.

Muriithi et al., (2013, p.8) in the study on project method and learner achievement in Physics in Kenyan secondary schools documented that project method improved Physics performance by 7.6 percent. Uside et al., (2013) studied effect of discovery method on secondary school students' achievement in physics in secondary schools in Kenya and established that discovery method has the potential to improve learners' achievement mean from 53.0% to 62.9% for the high achievers while for the low achievers the mean improved from 15.0% to 25.0%. The study reported an average performance gain of 10.0% which agrees with this study which has found out a close average percentage gain of 7.6percent. Njoroge et al., (2014) studied the effect of Inquiry Based Teaching (IBT) and found a mean performance gain of 12.6% when IBT is used instead of traditional teaching methods like lecture and question answer methods. The researcher argued that IBT enhances the achievement of learners. This study is consistent with the findings by Njoroge et al., (2014).

Secondly, this study sought to determine the influence of learners' motivation on the implementation of the curriculum for Physics for secondary schools in Kenya. A majority 63.3 percent of the respondents as shown on Table 3, indicated that learners' motivation influenced the implementation of the curriculum for Physics for secondary schools. The Chi-square results in Table 4,

showed that p value = 0.021 less than the alpha value level of significance of 0.05, therefore there is strong relationship between learners' motivation and implementation of the curriculum for Physics. The Pearson product moment correlation coefficient shown on Table 5, indicated that learners' motivation influence the implementation of the curriculum for Physics by 10.3percent. These study findings are consistent with findings by the study by Changeiywo et al., (2010) who found out that MLA boosts learners' motivation towards learning Physics in secondary schools, which in turn improved performance in the mean score for Physics by between 18.71% and 23.3%.

Lastly, the Pearson product moment correlation coefficient showed a significant positive relationship between instructional influences and implementation of the curriculum for physics. It can therefore be argued that schools could improve implementation of the curriculum by using student-centered teaching methods and boosting learners' motivation. The challenge posed to educators is to identify ways through which the instructional influences can be managed for better implementation of the curriculum.

IX. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The following conclusions were made on the basis of the research findings:

1. Teaching methods influenced the implementation of the curriculum for Physics for secondary schools. The use of student-centered teaching methods enhanced curriculum implementation. Students taught through this approaches had better academic achievements than those taught through regular methods. Therefore for effective implementation of the curriculum for Physics teachers should continue to embrace learner-centered approaches.
2. Learners' motivation influenced the implementation of the curriculum for Physics for secondary schools. Rewards motivated learners and made them work had hence achieved superior grades in examinations. Motivation also made students interested to learn more especially at free time which resulted in better academic achievement. Teachers should therefore ensure they work on students' intrinsic and extrinsic motivation for effective curriculum implementation.

X. RECOMMENDATIONS

In view of the findings and conclusions, the study made the following recommends:

1. Teachers should be provided with in-service education on modern learner-centered teaching methods like; IBT, ICT integration and discovery.
2. Teachers should focus more on arousing learner's motivation (intrinsic and extrinsic) in Physics by reinforcing and rewarding students. Career guidance should also be provided.

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