

**Determinants of Academic Performance in Public Secondary Schools in Kapenguria
Division-Kenya: Assessing the Effect of Participation in Selected Co-
Curricular Activities**

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Abstract

The relationship between learners' participation in co-curricular activities and their performance in academics remains confusing. Although, some studies report positive impacts of co-curricular activities, a significant number reports negative impacts. The present study therefore examined determinants of academic performance in public secondary schools by drawing upon the effect of selected co-curricular activities. The study adopted the concurrent mixed methods design for purposes of examining both quantitative and qualitative data. Both stratified and simple random sampling techniques were used to draw a sample comprising of 250 students, 15 co-curricular teachers, and 5 Principals. Descriptive statistics were used to explore quantitative data while thematic analysis was used to examine qualitative data. Multiple regressions model was used to establish determinants of academic performance from the selected co-curricular activities. The study concluded that athletics, music, and soccer were positive and significant determinants of students' academic performance. There is therefore need for provision of facilities that could promote these activities.

Keywords: Determinants, Co-curricular activities, academic performance, participation

INTRODUCTION

The desire for student's holistic development has led to the integration of co-curricular activities into main stream school curriculum to play a complementary role. In Kenya, most secondary schools have invested a lot of resources in co-curricular activities perhaps buoyed by the interest generated through the East African Secondary School Games that brings together schools from the region. Contradicting findings however exist with regards to the influence participation in co-curricular activities on students' performance in academics.

A number of studies associate participation in co-curricular activities with academic performance positively. Abdul-Sitra and Sasidhar (2005) for instance, posit that students who are active participants in co-curricular activities are more competent. Bashir and Hussain (2012) argue that co-curricular activities have the potential to contribute towards enhanced academic achievement of secondary school students in Pakistan. Daniyal et al (2012) contend that involvement in co-curriculum activities correlates positively with academic performance. However, this depends on the particular co-curricular activity. Ngerem, Esobhawan and Modebelu (2017) posit that some co-curricular activities have positive impacts while others tend to elicit negative impacts. Munuve (2011) contend that individual co-curricular activities have varying positive influences on students' academic performance.

Several studies however report mixed impacts of participation in co-curricular activities on academic performance. For instance, Leung, Ng and Chan (2011) argue that participation in co-curricular activities has no influence on academic performance among sub-degree students in Hong-Kong. Saat *et al.*, (2015) report a weak negative correlation between time spent participating in co-curricular activities and grades attained among university students in Indonesia. In another study conducted in Malaysia, Shamsudin *et al.*, (2014) fail to find significant positive correlations between student participation in co-curricular activities and academics performance among public university students. Apaak *et al.*, (2015) on the other hand find no significant differences in academic performance for students who participated in athletics and those who did not among Junior High School Students in Ghana. Anyango (2012) in a study conducted in public primary schools in Kisumu finds a negative correlation between participation in co-curricular activities and academic achievement.

The contradictions regarding the utility of participation in co-curricular activities towards academic performance, coupled with the fact that most studies that show negative impacts are mainly reported among university students, requires that such studies be replicated in different contexts if generalization can be reached. The present study therefore sought to examine co-curricular activities that determine academic performance in public secondary schools. The particular focus was on schools drawn from Kapenguria division of West Pokot County which as other ASAL regions hardly feature among existing studies on co-curricular activities. The researchers set out to determine student participation in co-curricular activities in public secondary schools in the division, and the effects participation in athletics, music and soccer had on their academic performance.

METHODOLOGY

The study was conducted in public secondary schools located in Kapenguria division of West Pokot County in Kenya's North Rift. The study adopted the concurrent mixed methods design as a way of deviating from the descriptive survey design that has previously been preferred in existing studies. Choice of the mixed methods design was informed by the knowledge that in today's world, research practices tend to lie somewhere on a continuum between quantitative and qualitative approaches (Newman & Benz as cited in Creswell, 2007). The study used a sample of 250 students drawn from a target population of 11,300 students; 15 co-curricular teachers drawn from a target population of 60 Co-curricular teachers; and 5 principals drawn from a target population of 20 principals. Both stratified and simple random sampling techniques were used to obtain the required sample.

For purposes of triangulating data collection methods, three instruments namely: student questionnaire, co-curricular teacher questionnaire, and principals' interview schedule were used to collect both quantitative and qualitative data. For quantitative data, means were used to identify typical responses among respondents while standard deviations were used to examine consistencies in responses, effects of each of the selected co-curricular activities on academic performance were then examined using a multiple regressions model. In the case of qualitative data, recurrent themes were drawn from responses made and presented in thematic matrices.

RESULTS

Students' participation in co-curricular activities in secondary schools in Kapenguria division was analyzed in terms of students', co-curricular teachers' and principals' perspectives.

Participation in Co-Curricular Activities

Students Perspective

Results presented in Table 1 show that students in public secondary schools in Kapenguria division are often encouraged to participate in co-curricular activities such as athletics, music and soccer. To this end, schools organize inter class and house competitions in these activities, ostensibly to get many students to embrace them. It was also found out that students who participated in these activities do so voluntarily, and get inspiration from previous school mates who had gone on to excel both in academics and sports. In addition, it emerged that despite their devotion to the mentioned co-curricular activities, students still found time to complete their academic work. The bottom line is that even though they participated in athletics, they recognized their academic responsibility as students.

Table 1: Student Perspectives

Items	M	SD
<u>Participation in Athletics</u>		
1. Athletics is popular among students in this school	1.81	.501
2. Students are encouraged to participate in cross-country	1.90	.522
3. The school organizes inter class athletics competitions	2.02	.649
4. Students create time away from athletics sessions to complete homework	2.08	.599
5. Participation in athletics is on voluntary basis.	2.12	.595
6. My participation in athletics does not interfere with my academic programme.	2.17	.925
Overall Participation in Athletics	2.02	.632
<u>Participation in Music Activities</u>		
1. I enjoy participating in singing	1.73	.591
2. I am an active member of the school choir	1.90	.702
3. Learning of music instruments and singing makes me feel refreshed.	2.03	.731
4. I balance my time practicing singing with my academic work	2.04	.887
5. My choir requirements do not interfere with my class attendance	2.08	.893
Overall Participation in Music	1.96	.761
<u>Participation in Soccer Activities</u>		
1. The school encourages participation in football tournaments	1.17	.290
2. The school organizes inter house football competitions	1.25	.424
3. The number of national football stars the school has produced is our inspiration	1.45	.563
4. Students willingly participate in football activities	1.46	.621
5. Participation in football is appreciated by all students	1.56	.647
6. Participation in football activities does not affect my studies	2.21	.828
Overall Participation in soccer	1.52	.562
Response Threshold: 0.5<R<1.5-strong agreement; 1.5<R<2.5-agreement; 2.5<R<3.5-moderate agreement; 3.5<R<4.5-disagreement, and 4.5<R<5-strong agreement		

Co-Curricular Teachers' Perspective

Results of the analysis of co-curricular teachers' responses shown in Table 2 revealed moderate agreement with students' participation in co-curricular activities in public secondary schools in Kapenguria division ($M=2.70$, $SD=.985$). Teachers charged with the responsibility of overseeing co-curricular activities agreed that students were required to participate in at least one activity and that the administration fully supported the activities. It however emerged that co-curricular teachers were not enough and that core curricular subjects were not paired with co-curricular activities

Table 2: Co-Curricular Teachers' Perspectives

	M	SD
1. The school requires a student to participate in at least one co-curricular activities	1.23	.439
2. The functional playing fields are adequate for co-curricular activities	2.31	.855
3.Students voluntarily participate in co-curricular activities	2.46	1.330
4.The administration supports students in selection of co-curricular activities	2.46	1.330
5Co-curricular teachers are instrumental in students choice of co-curricular activities to participate	2.92	1.754
6. Co-curricular teachers are enough for the school requirements	3.69	1.251
7. Certain core subjects are paired to co-curricular activities in school.	3.85	1.345
Overall response	2.70	.985
Response Threshold: 0.5<R<1.5-strong agreement; 1.5<R<2.5-agreement; 2.5<R<3.5-moderate agreement; 3.5<R<4.5-disagreement, and 4.5<R<5-strong agreement		

Principals' Perspective

Thematic analysis of Principal's responses revealed results compressed in the thematic matrix in Table 3. The Principals noted that co-curricular activity teachers were tasked with the duty to encourage learner participation and identify and nurture talents. Respondents also identified factors such as learner ability, background information, interest and motivation as criteria for selection to participate in specific co-curricular activities. The Principals lamented the poor state and inadequacy of facilities which tend to limit student participation in the identified co-curricular activities.

Table 3: Principals' Perspectives

Question	Typology of responses
In your view, what role does the co-curricular activities teacher play in the enrolment of students to participate in co-curricular activities?	Encourages students to participate in co-curricular activities Groups them according to their field of specialization where they can excel Orientates learners to the various co-curricular activities available
What are the school selection criteria for students to participate in co-curricular activities?	Ability of students Data captured during admission to the school Selection is according to the learner interest and teachers identification Students capabilities based on their various talents
Are the fields available up to standard?	A field for each activity has been created though in a makeshift way Some fields like for handball are being finalized Fields available are scarce and definitely not to standard
In your view, how adequate are the field facilities in the school for full participation in co-curricular activities?	not adequate not yet adequate compared to the student population

Inferential Statistics

Inferential statistics were conducted in order to ascertain the effect of participation in the selected co-curricular activities on student's academic performance. The principal inferential statistic used was multiple regressions that were intended to find out the effect of each of the selected co-curricular activities on academic performance. Correlations were first conducted to show if linearity between the independent and dependent variables actually existed.

Correlation Analysis

Results of the correlation analysis presented in Table 4 indicate that linearity existed between participation in selected co-curricular activities and academic performance. More specifically, there were moderate positive correlations between participation in athletics and academic performance ($r=0.632$, $p<0.01$); participation in music and academic performance ($r=0.519$, $p<0.01$) and between participation in soccer and academic performance ($r=0.508$, $p<0.01$).

Table 4: Correlations

	Participation in Athletics	Participation in Music	Participation in Soccer	Academic Performance
1. Participation in Athletics	1			
2. Participation in Music	.711**	1		
3. Participation in Soccer	.343**	.192**	1	
4. Academic Performance	.632**	.519**	.508**	1

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

Regression Analysis

The regression model summary statistics displayed in Table 5 reveal that variation in participation in the three co-curricular activities explained 51.1% of variation in academic performance (R-square = 0.511). This implies that there are other key factors not considered in the present study that explains a variation of 48.9% in academic performance.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.715 ^a	.511	.504	7.256	1.686

a. Predictors: (Constant), Participation in soccer, Participation in Music, Participation in Soccer

b. Dependent Variable: Academic Performance

The ANOVA output in Table 6 revealed that the multiple regressions model was statistically adequate. The significant F-value revealed that the regression coefficients were significantly different from zero ($F_{3, 200} = 69.634$, $p < 0.01$).

Table 6: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	11000.005	3	3666.668	69.634	.000 ^b
Residual	10531.277	200	52.656		
Total	21531.282	203			

a. Dependent Variable: Academic Performance

b. Predictors: (Constant), Participation in soccer, Participation in Music, Participation in Athletics

Modeling Academic Performance as a Function of Co-Curricular Activities

Results of the regression analysis shown in Table 7 revealed that participation in co-curricular activities impacts positively on students' academic performance in Kapenguria division. Participation in athletics for instance had a positive and significant effect on academic performance ($\beta = 0.390$, $p < 0.01$). Similarly, participation in music positively and significantly affected academic performance ($\beta = 0.176$, $p < 0.05$), and

participation in soccer also positively and significantly affected academic performance ($\beta = 0.341$, $p < 0.01$).

Table 7: Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Collinearity Statistics	
	B	Std. Error			Sig.	Tolerance VIF
1 (Constant)	17.566	2.834		6.199	.000	
Participation in Athletics	7.663	1.448	.390	5.291	.000	.450 2.223
Participation in Music	3.546	1.425	.176	2.488	.014	.491 2.037
Participation in Soccer	7.381	1.143	.341	6.455	.000	.877 1.140

a. Dependent Variable: Academic Performance

Consequently, it could be argued that students' academic performance is a function of the three selected co-curricular activities expressed by the following equation.

$$Y = 0.319 \text{ athletics participation} + 0.276 \text{ music participation} + 0.241 \text{ soccer participation} + \varepsilon$$

Where

$$Y = \text{Academic Performance}$$

$$\varepsilon = \text{regression errors}$$

DISCUSSIONS AND CONCLUSIONS

The findings showing a positive influence of participation in athletics on academic performance and the supportive role schools play are consistent with Griffith (2007) whose discourse regarding the role of athletics on learner development recognizes that official school involvement has had an influence on the way the youths and communities perceive athletics. The finding that participation in athletics predicts academic performance among public secondary students in the division perhaps explains why some of the former students' have been excelling both in sports and academics. While this may be coincidental, it is good to appreciate and recognize contributions made by athletics activities towards physical and mental concentration (Thomas, Keely & Kenneth, 2009). Moreover, athletics has previously been found to have both direct and indirect impacts on learner performance (Baucom & Lantz, 2000; Clark, 2002; Coleman 2006).

The study finding that participation in soccer has a direct influence on academic performance among students in West Pokot County is consistent with findings which suggest that despite literature being sparse on the direct influence of participation in soccer on academic performance, Kenya has produced a good number of soccer stars who have also excelled in academics (Eshitemi, 2014). Moreover, the finding showing

that participation in music has a positive effect on academic performance supports a plethora of existing studies on music participation and various aspects of academic performance. Such studies posit that participation in music correlate positively with perceptual skills in music, as well as non-verbal reasoning and phonemic awareness (Moreno *et al.*, 2009; Norton *et al.*, 2005).

CONCLUSIONS

Public secondary schools in Kapenguria division take participation in co-curricular activities seriously knowing their utility in learners' holistic development. Athletics, Music and Soccer are among the main co-curricular activities on offer in these schools. Schools through co-curricular activity teachers encourage students to participate in at least one of the co-curricular activities. Participation in co-curricular activities does not in any way interfere with the ability to deal with academic expectation. If anything, it has potential to lead to improved academic performance by stimulating fine and gross motor growth, learner concentration, and cognitive development among others. Despite the desire of as many students to participate in athletics, music and soccer, their participation is often curtailed by lack or poor state of facilities. The study therefore recommends that facilities be availed so that the potential benefits to academic performance that accrues from participation in co-curricular activities could be optimized. In addition, future studies need to explore more co-curricular activities in order to improve the coefficient of determination.

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