INFLUENCE OF TEACHING AND LEARNING RESOURCES ON STUDENTS' CHOICE OF AGRICULTURE SUBJECT IN SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA

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ABSTRACT

Subject choice leading to post secondary school career choice for school leavers in Kenya has become more challenging in the light of competition for admissions to relevant University, tertiary institutions' courses and access to job opportunities. Many students miss relevant placement for agricultural courses and employment opportunities due to wrong subject combinations in secondary school. This study investigated the influence of school-related factors such as; performance of agriculture subject in the previous KSCE results, availability of teaching and learning resources and the category of the school on the students' choice of agriculture subject in secondary schools in Nakuru County, Kenya. The study used the ex-post facto research design, as the researcher only reported on the influences of school-related factors on the choice of agriculture subject among secondary students. Stratified sampling was used to ensure that all the school categories; National, County and Sub County schools were initially included in the study. A sample of 18 schools was employed using purposive and simple random sampling technique. The sample size of 367 students was derived using a table of random numbers to determine a finite population out of an accessible population of 7955. Proportionate sampling techniques were used to determine the number of students drawn from each school category.

The questionnaires had both closed and open ended items and comprised likert scale rating items, where the respondents would tick their points of concurrence. The questionnaires were completed by 367 Form three students in the public secondary school of Nakuru County. Data was analyzed using Statistical Package for Social Sciences (SPSS). Pearson Moments Correlations (r) test was used to examine and analyze relationships among study factors. Hypotheses were tested at 0.05 alpha levels. The study revealed that agriculture learning facilities influence students' choice of agriculture subject. The study recommended that the subject should have relevant resources and facilities to reflect its practical nature and promote subject choice. The findings of the study may be useful to curriculum developers and policy planners in developing policies and strategies that will increase and sustain secondary school students' interest and participation in agriculture subject in Nakuru County and the entire country, Kenya.

INTRODUCTION

Education systems worldwide are characterized by several optional subjects that students have to choose from for their future careers. There is a need for every student choosing a subject leading to a career to understand the implications and consequences of making such choices. In USA for example, the students choosing vocationally oriented subjects tend to do it, having been fully exposed to the implications of their choices and having acquired a substantially better understanding of general educational skills in their future occupations (Mustapha & Greenan, 2007). A choice in agriculture as a learning subject at a high school level in the USA is motivated by three main categories of learning experiences: classroom instruction, Supervised Agricultural Experience (SAE), and learning by doing through youth agricultural activities such as the Young Farmers Association (YFC) and the Future Farmers of America Organization (FFA) as argued by (Phipps, Osborne, Dyer, Ball, Lloyd, Edward., 2008 & Konyango, 2010) has led to increased number of students pursuing the course. In Malaysia, vocational agricultural education has produced educated, skilled and motivated workforce in the agricultural industry. This finding is based on the view that technical and vocational education is considered as an important measure for development of workforce (Syeda, 2011). In Bangladesh, technical subjects, agriculture included, are highly recognized due to their contribution to national development in areas of man-power creation and running of industries (Gazi, 2008).The vocational education in other parts of the world, for example, in Europe is characterized by students taking vocational courses with a substantially better understanding of general educational skills (Mustapha & Greenan, 2007).

RESEARCH OBJECTIVE

To determine the influence of secondary school's availability of agriculture learning and teaching resources on the choice of the subject by students in Nakuru County.

RESEARCH METHOD

The study used *ex-post facto* research design. According to (Kothari, 2004)the main characteristic of this method is that the researcher has no control over the variables; he or she only reports what has happened or what is happening. The choice of agriculture subject by students has been undertaken in schools over the years and there could be school-related factors that influence their choice of the subject. The influence of teaching and learning resources on the choice of agriculture by students of Nakuru County was collected and reported by the researcher without manipulating any variables.

THE DATA

Nakuru County had 185 public secondary schools, out of this number four were national schools, seventeen are extra-county and one hundred and sixty four were district schools (County Director of Education [CDE], 2014). The schools had a total of 7955 Agriculture students of the subject. The target population of this study will be all the 7955 students taking agriculture in the county. The accessible population were all form three students taking agriculture in the all the public schools. The form three students have been targeted because selection of optional subjects is done in the third year.

The population of the research comprises of all the elements (individuals, subjects, animals, things) that are likely to be affected in one way or another by the outcome of the investigation in a given environment (Gay & Airasian, 2000). A target population defines those units for which the findings of the study are meant to generalize (Dempsey, 2003). (Orodho, Waweru, Ndichu, & Nthinguri, 2013) recommends use of the largest sample possible because the main interest is learning about the population from which the sample is drawn. The number of schools which took part in the study was determined using the recommendations of (Kasomo, 2006). Kasomo recommends 10% of the accessible population for a descriptive survey research design. Given that Nakuru County had 185 schools 18 schools were involved in the study. A purposive and simple random sampling technique was used to select the 18 schools. The sample size (n) of the students was determined using the table (appendix d) for determining a sample of a finite population developed by (Kathuri & Pals, 1993). The sample size of the students was 367given that their accessible population was 7955 Stratified sampling was used to ensure that all the school categories; National, County and district were included in the study. Proportionate sampling techniques were used to determine the number of students drawn from each school category. The students who took in the study from each school were selected using simple random sampling techniques

DATA ANALYSIS APPROACH

The collected data was first cleaned up for any errors then coded and recorded to reduce mass for ease of analysis. Data was then analyzed using SPSS version 21. Data on the influence of teaching and learning resources on Agriculture subject choice was summarized by use of descriptive statistics (frequencies and percentages). Data on the influence of teaching and learning resources on Agriculture subject choice was measured as an index generated from respondent's rating of five statements, each with a maximum of 5. The maximum score would be 25 implying that the higher the score, the higher the influence of the influence of teaching and learning resources on Agriculture subject choice of agriculture subject by the students. This data was analyzed using Pearson Moments Correlations (r) at α=0.05 significance level. It is for these reasons that the statistic was used to analyze the data collected on the influence of the influence of teaching and learning resources on Agriculture subject choice of agriculture subject by students in Nakuru County.

EMPIRICAL RESULTS AND DISCUSSION

The Influence of learning facilities on students' choice of agriculture was determined by examining the relationship between the two variables. Data on learning facilities was collected using a set of 7 statements in the agriculture students' questionnaire. The statements measured students' perceptions of availability of the facilities on a 1 to 5 scale. An overall mean score of the students' responses to the items was computed as shown in table 4.6.

Table 1
Means and Standard Deviations on Learning Facilities

Learning facilities	N	Mean	Std. Deviation
I enrolled for agriculture subject because the school has a demonstration farm	334	2.95	1.50
I enrolled for agriculture because the school has a well equipped agricultural workshop	330	1.96	1.30
I enrolled for agriculture because the school is well stocked with agriculture text-books	329	2.96	1.50
I enrolled for agriculture because the school has library and laboratories	324	2.14	1.47
I enrolled for agriculture subject because the school has a well staffed agriculture department	332	3.20	1.47
I enrolled for agriculture subject because the school gave me adequate information on careers in agriculture	336	4.23	1.20
My selection of agriculture was informed by the availability of qualified and experienced teachers in the school	325	3.17	1.50
Learning facilities overall mean	339	2.87	0.84

The results in Table 1 show that mean scores of most of the items were below 3.00 with 1.96 (SD = 1.30) being the lowest and 4.23 (SD= 1.20) being the highest. The overall mean of the 7 items was 2.87 (SD = 0.84) out of a maximum of 5. This suggests that the students were of the view that schools did not have adequate agriculture learning facilities. Further analysis was done to find out the level of facilities by school category. The summary of the mean scores are in table 4.7

Table 2

Learning Facilities Means and Standard Deviations by School Category

School category	**N**	**Mean**	**Standard Deviations**
National	31	3.06	0.85
County	64	2.85	0.80
District	244	2.70	0.85
Total	339	2.87	0.84

The results in table 2 show that national schools had the highest mean (M = 3.06, SD = 0.85) score while the sub-county schools had the lowest mean (M = 2.70, SD = 0.85). The results in the table show that the agriculture learning facilities in all the three school categories were low and comparable. This is an indicator that availability of agriculture facilities in schools is independent of the school category. The relationship between learning facilities and students' choice of agriculture was determined by running a multivariate test. The results of the test in given in table 3

Table 3

Relationship between Learning Facilities and Students choice of Agriculture

Scale		Students choice of the subject ratio
Learning facilities	Pearson's correlation (r)	-0.232*
	p-value	0.000
	N	339

The results in Table 3 shows that the relationship between agriculture leaning facilities and students choice of agriculture ratio was negative and significant at the 0.05 level, r (339) = -0.232, p = 0.000. This implies that agriculture learning facilities influence students' choice of the subject. The negative relationship is an indicator that a high number of students who chose agriculture are in schools with few facilities for learning the subject. The second hypothesis which stated that there is no significant relationship between agriculture

leaning facilities and students choice of the subject was rejected. Therefore we accept there is a relationship between the availability of learning resources and students' choice of agriculture.

CONCLUSION AND RECOMMENDATION

Data on learning facilities was collected using a set of 7 statements in the agriculture students' questionnaire. The statements measured students' perceptions of availability of the facilities on a 1 to 5 scale. An overall mean score of the students' responses to the items was computed. The results showed that national schools had the highest mean (M = 3.06, SD = 0.85) score while the district schools had the lowest mean (M = 2.70, SD = 0.85). The results showed that the agriculture learning facilities in all the three school categories were low and comparable. This is an indicator that availability of agriculture facilities in schools is independent of the school category.

The relationship between agriculture leaning facilities and students choice of agriculture ratio was negative and significant at the 0.05 level, r (339) = -0.232, p = 0.000. This implies that agriculture learning facilities influence students' choice of the subject. The negative relationship is an indicator that a high number of students who chose agriculture are in schools with few facilities for learning the subject. The second hypothesis which stated that there is no significant relationship between agriculture leaning facilities and students choice of the subject was rejected.

Based on the findings made in the course of this study, the following recommendations are
Hereby suggested:
The subject should have adequate relevant resources and facilities to reflect its practical nature and promote subject choice.

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