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STUDENTS' PERCEPTION OF SECONDARY SCHOOL AGRICULTURE: A CASE OF MERU CENTRAL DISTRICT, KENYA

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ABSTRACT

The purpose of this study was to determine students' perception of secondary school agriculture. The study specifically sought to determine how students perceive the usefulness of secondary school agriculture. The study also determined the relationship between perception of secondary school agriculture and student's gender and their parent's residence. Proportional stratified random sampling was used to select 400 agriculture students from, provincial, district and private schools of Meru Central district, Kenya. The study employed an ex post-facto design in data collection using questionnaires. Beside descriptive statistics, t-test of independent samples was used in data analysis. Results indicated that students perceive agriculture as a useful secondary school subject. Agriculture student's gender and their parent's residence had no significant relationship with their perception of secondary school agriculture. It was concluded that students had positive perception of agriculture. However, it was recommended that efforts should be made by agriculture teachers to improve and maintain the positive perception of the subject.

Keywords: Perceptions, students, secondary school agriculture

INTRODUCTION

Agriculture plays a very important role in the economy of Kenya. The sector contributes about 24 per cent Gross Domestic Product (GDP) and about 19 per cent formal wage employment (KIPPRA, 2009). Despite occasional shortages of food due to deficiency in rainfall during certain years, agriculture guarantees food security to the nation (GOK, 2007, 2009). Agriculture contributes over 60% of exports and provides 80% of all industrial raw materials (GOK, 2009).

Agriculture became officially established in schools curriculum at several phases in the slow development of colonial education (Sheffield, Moris, & Hermans, 1976). With the introduction of the 8-4-4 system of education in Kenya in 1985, all the schools started offering agriculture (Republic of Kenya, 1984; Ngugi, Isinka, Temu, % Kitalyi, 2002). The subject is taught so that the youth can appreciate the role agriculture plays in the economy of the country. In primary school curriculum, agriculture is integrated into the science curriculum (KIE, 2006). In secondary schools, it is a separate subject in the school curriculum (KIE, 2006). Agriculture is an elective subject right from Form One; however those who choose it have an opportunity of dropping it in Form Three. However, if the importance of agriculture is to be realized as many students as possible should be encouraged to study it. This is only possible if the students have the right perception of how useful agriculture as a subject is. However, there is limited information on the perceptions which students have on the usefulness of agriculture as a subject in the school curriculum.

Agriculture is a useful subject in the secondary school curriculum. One of the objectives of teaching the subject in secondary schools is for students to develop an understanding of

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agriculture and its importance to the family and the nation. A second objective is to promote interest in agriculture as an industry and create awareness of opportunities existing in agriculture and related fields (KIE, 2006). These objectives have both the educational and social economic dimensions. Achievement of these objectives can assist the country towards realization of Vision 2030 (Republic of Kenya, 2007).They can also assist the country towards realization of Millenium Development Goals (MDGs). The first MDG is to eradicate extreme poverty and hunger (UN, 2002). Hunger and poverty can partly be eradicated by increasing food production. Sufficient quality food to a nation is viewed as dependent on a large number of individuals being adequately educated in agriculture (Talbert, Vaughun, Croom & Lee, 2007). School agriculture is viewed as a major component to this education. Research findings indicate secondary school agriculture broadens the farmer's capacity, makes them more effective, self-reliant, resourceful and capable of solving farming problems (Saina et al, 2012). All this emphasis the importance of secondary school agriculture.

The importance of agriculture can be realized if students have adequate perceptions of the subject. During the colonial era, the subject was held in low esteem by both parents and students (Sabler, 1969). The subject was perceived as preparation for farm work and also for keeping children economically backwards (Ngumy, 1984; Sifuna, 1990). Such perception was and still is detrimental for economic growth of the country. This therefore justified a need to investigate into the current status of agriculture in secondary schools. A thorough understanding of students perception of the subject was felt, could help improve implementation of agriculture curriculum.

PURPOSE AND OBJECTIVES

The main purpose of the study was to identify the perceptions of students regarding the usefulness of secondary school agriculture. The specific objectives of the study were:

1. Determine how students perceive the usefulness of secondary school agriculture.
2. Determine the relationship between perception of secondary school agriculture and students':
   a. Gender
   b. Parents' Residence

MATERIALS AND METHODS

Ex-post facto research design was adopted for the study. This design involves an experiment in which the researcher, rather than creating the treatment examines the effects of a naturally occurring treatment after the treatment has occurred. Agriculture has been taught in Kenya secondary schools over the years (Sheffield et al, 1976; Republic of Kenya, 1984). This means after the fact (Kathuri & Pals, 1993; Cohen & Manion, 1994; Borg & Gall, 1996). Adoption of ex-post facto design was supported by the fact that the researcher examined the perception of students towards secondary school agriculture after they had been taught the subject. No treatment was given.

The target population for the study was Meru Central District secondary schools. At the time of the study, the district had 60 secondary schools, comprising of 12 provincial, 36 district and 12 private schools. Proportional stratified random sampling procedure was used to select schools for the study. Twenty secondary schools were proportionately selected for inclusion in the study as per Table 1.

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Table 1. Distribution of Schools in the Population and the Sample

	School Category			
	Provincial	*District*	*Private*	*Total*
N in Population	12	36	12	60
N in Sample	4	12	4	20

In each selected school, a random sample of five agriculture students per Form was made making a sample of 400 agriculture students. This was in line with the guidelines given by Kathuri and Pals (1993) for a minimum sample size. Stratified random sampling is necessary when the population to be sampled is not homogenous in terms of certain require characteristics (Nkapa, 1997).

A questionnaire was developed as a measurement instrument. This was used to measure agriculture students' perception of agriculture. The measurement instrument had two sections. Section I had demographic items for the students and section II had 20 statements on the usefulness of secondary school agriculture. The statements were on a five point Likert scale where: 1- Strongly Disagree, 2- Disagree, 3- Uncertain, 4- Agree and 5- Strongly Agree. Respondents were required to indicate on this scale the extent to which they agreed or disagreed with the given statements. Agricultural education experts examined the instrument for content validity. Piloting of the instrument was done to examine its reliability. Cronbach's alpha was used to estimate reliability of the items. Reliability coefficient of 0.79 was obtained and this was considered high enough for internal consistency (Koul, 1993).

Data was analysed using the Statistical Package for Social Sciences (SPSS) version 11.5. Descriptive and inferential statistics were employed in reporting the findings. Means were used to describe the agriculture student's perception of secondary school agriculture. A T-test of statistical significance was used in testing the relationship between student's gender, their parent's residence and their perception of secondary school agriculture. All tests of significance were performed at α level of 0.05.

RESULTS AND DISCUSSIONS

Student's Perception of Secondary School Agriculture

Objective one of the study was designed to determine how students perceive the usefulness of secondary school agriculture. In order to measure perception, all the respondents were asked to respond to items about secondary school agriculture. Each item in the questionnaire was rated by each respondent on a five point scale (Strongly Agree- 5, Agree- 4, Uncertain- 3, Disagree- 2, and Strongly Disagree 1). This was used to calculate a mean rating score for each individual and the mean rating score for all the students. Therefore, the maximum mean rating score an individual respondent could have was five and the minimum one. This mean rating score reflected the respondents' perception. High mean rating scores were associated with positive perception and low mean rating scores with negative perception. If the mean rating score was 2.5 or below, the perception was termed negative and positive if it was above 2.5. The five point scale was also used to calculate the mean rating score for each item. Each item had a possible rating score of five, and a minimum raring score of one. The students's perception scores are presented in Table 2.

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Table 2. Perception Scores of Agriculture Students regarding the Usefulness of Secondary School Agriculture

	Statements Related to Secondary School Agriculture	*Mean*	*Std.Dev.*
1.	Learning agriculture helps students to contribute to economic development in the community	4.28	0.350
2.	Agriculture should be taught in all education institutions	4.48	0.517
3.	Learning agriculture helps students develop a positive attitude towards farming	4.32	0.440
4.	Secondary school agriculture enables students develop skills necessary for self-reliance and self-employment	4.52	0.52
5.	Teaching agriculture in secondary schools makes the youth have positive attitude towards manual work	4.28	0.706
6.	Agriculture projects in the school promote better understanding among the learners on what has been taught in the classroom	4.42	0.584
7.	Agriculture is an important school subject	4.370	0.487
8.	Teaching agriculture in secondary schools has contributed to the society developing a positive attitude towards farming	4.16	0.663
9.	Agriculture should be taught to students of all academic abilities	4.42	0.814
10.	Teaching agriculture in secondary schools has contributed positively to improved production in agriculture	4.10	0.800
11.	Secondary school agriculture contributes to a basic understanding of agriculture, which is Kenya's most important industry	4.37	0.67
12.	Agriculture as a secondary school subject should be examined at Form Four level	4.54	0.792
13.	Agriculture in secondary school prepares students for further studies in agriculture	4.23	0.640
14.	Learning agriculture promotes students career opportunities	3.93	0.892
15.	Teaching agriculture makes urban students aware of agriculture	3.73	1.074
16.	Products from students agricultural projects lowers the schools food expenses	3.15	1.386
17.	Participation of students in agricultural activities promotes good relations among the members of the school and the surrounding community	3.61	1.078
18.	Agriculture should be taught to all students regardless of whether they wish to join farming after leaving school	3.96	1.072
19.	Agriculture should be compulsory for all students in Form One and Two	3.33	1.343
20.	Teaching agriculture in secondary school ensures that schools take an active part in rural development	3.70	1.135

Agriculture students had a mean rating score of 4.04 and standard deviation of 0.323. These results show that the students perceive agriculture as a useful subject. Three out of the 20 items were rated above 4.45. Of the remaining 17, only two were rated below 3.45.

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Majority of the agriculture students agreed that agriculture as a subject should be examined at Form Four level. This item was rated highest with a mean rating score of 4.54. Products from students agricultural projects lowers the school's food expenses, was the lowest rated item with a mean rating score of 3.15. These results suggests that students understand the subject more from an academic point of view than economic, and this is expected since they do not control expenses in school. Finances in school are controlled by principals. These results indicate that the students have positive perception of secondary school agriculture. This is in contrast to what several authors (Stabler, 1969; Sheffield et al, 1976) had noted that agriculture had been held in low esteem. The subject was perceived as meant to prepare learners for manual jobs. The results concur with what several reports emphasized that secondary school agriculture should make the youth appreciate the role played by agriculture (Republic of Kenya, 1976).

The general positive perception suggests that the objectives of teaching agriculture are being achieved. Students perceive the subject as promoting their career opportunities and providing a background for further studies in agriculture. Students seem to appreciate the fact that secondary school agriculture ensures that schools take an active part in rural development.

Relationship between Perception of Secondary School Agriculture and Students' Gender

The agriculture students were asked to indicate their gender. A t-test for independent samples was then used using mean scores on perception to check whether the boys and girls differ in their perception of secondary school agriculture. Results from the analysis are presented in Table 3.

Table 3. The Relationship between Gender and Perception of Secondary School Agriculture

Gender	*N*	*Mean*	*STD*
Boys	233	4.0545	0.313
Girls	162	4.0783	0.337

$T_{cal.}$ =-0.72, $t_{crit.}$ =1.649, df= 393, $p<0.05$

The overall mean for boys was 4.0545 while that of girls was 4.0784. A non significant t value of -0.72 was obtained. These findings indicate no difference in the way boys and girls perceive agriculture. This is in contrast to Maccoby and Jacklin (1974), who while studying attitudinal and value differences between sexes, noted that girls have different interest, express different attitudes and hold different values in regard to learning what is important to them. These findings indicate that once students start learning agriculture there is no difference between boys and girls on the way the subject is perceived. This means the expected learning outcomes from teaching agriculture are being realized. These results concur with Kanyi (2007), who found no significant difference in perception towards natural resources management between boys and girls that were involved in Farmers of the Future (FoF) programme in Kenya secondary schools.

Relationship Parents Residence and their Children's Perception of Secondary School Agriculture

The students were asked to indicate where their parents (Guardians) lived most of the time. The residential areas were put into two categories, that is, rural and urban. A t-test of

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independent samples was then used using scores on perception to check whether the two groups differ in their perception. Results from analysis are presented in Table 4.

Table 4. The Relationship Between Parents Residence and their Children's Perception of Secondary School Agriculture

Parents Residence	*N*	*Mean*	*STD*
Rural	332	4.0684	0.330
Urban	63	4.0684	0.282

T_{cal}= 0.57, t_{crit}=1.649, df= 393, $p<0.05$

The overall mean for students whose parents resided in rural areas was 4.0684 and for those whose parents resided in urban areas was 4.0429. A non significant t value of 0.57 was obtained. These results indicate that perception differences between students whose parents reside in rural areas and those whose parents reside in urban areas are insignificant. These results are in contrast to Kathuri (1990) who showed that parents' residence had an influence on students' interest in secondary school agriculture. In the present study, a proportionately high number of students had their parents living in rural areas.

CONCLUSIONS

Based on the findings of the study, it was concluded that students perceive agriculture as a useful subject to them, school and surrounding community. Results from analysis showed no significance difference in perception of secondary school agriculture between students whose parents lived in rural areas and those whose parents lived in urban areas. It was concluded that parents' residence did not influence perception of secondary school agriculture. It was also shown that boys did not significantly differ from girls in their perception of secondary school agriculture. It was concluded that gender did not influence perception of secondary school agriculture. Based on the findings from the study it was recommended that efforts should be made by agriculture teachers to improve and maintain the observed positive perception of the subject.

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