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RESEARCH ARTICLE

The Effect of School Administration and Management on Quality Assessment of Agriculture Projects in Secondary Schools, a case of Kakamega County, Kenya

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Abstract

The assessment of agriculture projects in secondary schools has been plagued by disparities between the school and the externally based assessments. School administration and management related factors being one of them. The purpose of the study was to investigate the effect of school administration and management on the quality assessment agricultures project based on the provision of material and equipment, provision of security for projects and provision of learning resource. The population of the study consisted of 310 teachers of agriculture. Simple random sampling was used to select 109 teachers of agriculture. Structured questionnaires were used to collect data. Results revealed that the level of administration and management commitment positively and significantly affected the quality assessment of agriculture projects in secondary schools in Kakamega County. Therefore school administration and management support in terms of provision of adequate land for project work, equipment, security and understanding of the agriculture project curriculum, and project requirements are vital to the improvement of the quality of assessment of agriculture projects in secondary schools. Thus, the school administration and management ought to provide adequate land, equipment, security and understand the agriculture project curriculum, and project requirements in view of improvement of quality of assessment of agricultural projects.

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INTRODUCTION

Global studies show that Educational Assessment in the form of tests and examinations has existed since time immemorial and, in the course of human events; no society has been able to do without some form of test or examination. Examinations are part of human culture, and the advancement of this culture requires the exploitation of examinations to assess the effect of teaching and learning and to distinguish and select talented people (Zhang, 1996). Worldwide, educational assessment in the form of tests and examinations remain the primary factor of access to the institutions of higher learning.

There is a critical need to examine the factors that enhance and ensure quality and uniformity in the assessment of agriculture projects. The challenge arises from the increased number of schools, learners, and limited resources. Project assessment is meant to cater for the inadequacies of assessing affective and psychomotor domains which are very subjective in measurement. In subjects where such school-based assessment does not exist, an examination culture pervades the entire syllabus. Consequently, teachers may not realize the value of such a school-based assessment, particularly if it is not seen as linked to improved performance in public examinations. There is,

therefore, need to research on the factors determining the quality of project work assessment and carefully monitor the gains made so as to ensure it is an authentic assessment (Ingolo and Wasanga, 2001).

The agriculture project work tests the knowledge, attitude and psychomotor skills of students of a given enterprise either in crop or livestock. The teachers of agriculture and external assessors evaluate the projects in the school on behalf of the examination council. The assessment of the agriculture projects poses unique challenges. There have been discrepancies in the evaluation of the agriculture projects. Over the years, some of the scores awarded in the school assessment do not correlate well with the score awarded externally. In order to empirically validate the school-based project assessment to enhance its growth, it is important to understand the factors that determine the quality of assessment in agriculture projects in secondary schools. This study, therefore, sought to investigate the factors that determine the quality of assessment of Kenya certificate of secondary school education agriculture projects.

The objective of the study was to determine the effect of school administration and management on the quality assessment of agriculture project based on the provision of material and equipment, provision of security for projects. The study was guided by the following hypothesis which was derived from the objectives of the study:

School Administration and Managements based on the provision of material, security for Projects and learning resources have no statistically significant effect on the quality assessment of KCSE agriculture project work.

This study was based on Achievement-Based Motivational Theory. This theory was developed by Mc Clelland in 1958. Mc Clelland Theory states that human beings are born with the need to achieve (or an-Ach Theory). Kabiru and Njenga (2008) hold the view that achieving-based motivational theory aims at improving assessment methods, advocating competency-based assessment and tests. This theory seeks for achievement, attainment of realistic but challenging goals and advancement. There is a strong need for feedback on the success and progress that may satisfy the need for a sense of accomplishment.

Rudman (2000) defines motivation as the psychological process that arouses, directs and maintain behavior towards set goals. In this study, quality assessment in agriculture project work can be realized where all stakeholders are motivated towards achieving better grades in school-based assessment and final examinations.

The teacher plays a noble role in ranking and maintaining interest in students with the desire to venture into agriculture practical work. Teachers help to build self-confidence and high self-esteem among agriculture students as they deal with each task in the project work. Focusing on the theory, the qualified and experienced teachers and other educational assessors become enthusiastic and more interested in their work, when they award genuine marks that are reflected in KCSE results thereafter (KNEC, 2008). Those involved in ensuring better performance in schools, take the lead in encouraging students in agriculture projects to be more critical, creative, hardworking, develop problem solving skills and excellence to enhance better assessment results (Kabiru and Njenga, 2008).

Diez, (2002) and Rennert-Ariev, (2005) have also added voice that assessment tasks designed for students should be more practical, realistic and, challenging; and that task, so designed, allow students to showcase their knowledge through hands-on activities and usually take place in a more formal setting when learners work in groups. In this way, students interact with their environment as active agents who build or construct a personal understanding of their experience. This is the real aspiration for the assessment of Agriculture as a subject in Kenyan secondary school syllabus (Rudman, 2000).

Raivoce and Pongi (2000) have also indicated that the format of assessment which encompasses the use of psychomotor, affective and cognitive skills of students gives useful feedback about the student's progress and knowledge of the necessary steps to take. Hence, an attempt to incorporate teachers' classroom assessment with project work in summative assessment is considered to have more merits (Raivoce and Pongi, 2000.)

This study finds value in McMillan, (2000) propositions on assessment thus, assessment of agriculture should be a comprehensive, multifaceted analysis of performance in all domains; and that assessment is a major factor

influencing not only the learning process, but the achievement/attainment of intended educational goals. And this is where agriculture project work assessment fits into the relationship. There is a need for a careful examination of all the interacting factors and interrelationships between educational inputs, evaluation and expected educational outputs to achieve the intended goals of education in Kenya.

The Figure 1 summarizes the interrelationship of the interacting factors in the learning process and can be explained as follows: Inputs include the learners and learning resources like textbooks, farm implements, field trips, ASK shows and among others, the teacher contributes to the learning process by imparting knowledge and skills in Agriculture. Assessment – which should assess all the three domains, thus cognitive, affective and psychomotor? The teacher contributes to summative assessment while assessing project work. Public exams mainly determine the cognitive domain. Outputs — are the agriculture students who have qualified in all the three domains adequately. This may be only measured by the grade one attains (achieves).

Source: Mc Millan, 2000 Fundamental assessment principles for teachers and school Administrators).

The dependent variable in the study was quality of assessment of the KCSE agriculture project in Kakamega County. This was measured in terms of very good, good, fair and poor. This was captured by interviewing and administering questionnaires to selected teachers of Agriculture, students, and other administrators/education officers on their knowledge on quality assessment of the KCSE agriculture project in their current assessment. This revealed their perceptions and factors determining the quality of assessment of the KCSE agriculture project. The independent variable was the school administration and management factors (Provision of adequate land for projects, equipment, and appropriate security for projects and support for agriculture project's curriculum).

2. Research Methodology

The study adopted ex-post facto cross-sectional survey design. Kerlinger (1978) advances the idea that surveys are useful for educational fact-finding and provide a great deal of information that is accurate. The study was carried out in Kakamega County, Kenya. Kakamega County has a population of 1,660,651 people, 398,709 households and covers an area of about 3,244.9 km². The Population density is 515 people per km².

The target population for the study consisted of 310 teachers of agriculture (County Education Office, Kakamega, 2014). Simple random sampling was used to determine the sample size of teachers of agriculture. The process involved random selection of 109 teachers of agriculture using simple random sampling from a total of 310 teachers of agriculture in the 306 secondary schools. Each school was assigned a number. The numbers were then randomly selected. A sample of 109 teachers was considered sufficient as the subjects share common attributes relevant to the study and is way above the minimum recommended sample size for a social science survey research (Kathuri and Pals, 1993).

The study utilized a questionnaire which was given to teachers of agriculture for filling. Cohen and Marion (1980) indicate that the use of a questionnaire is the best form of survey in carrying out an educational inquiry. The questionnaire was best for the teachers because they understood the questions well and lacked the time to sit and be interviewed in a healthy environment. The questionnaire used to gather data was categorized into various sections that are: personal characteristics, effect of teacher factors, effect of student factors and the impact of the school administration. Since most of the teachers were involved in examination supervision, and marking of end term exams, the questionnaire proved to be the right instrument. The questionnaires were distributed by the researcher and with the help of research assistants. The respondents were given ample time to complete the questionnaires which were later collected by the researcher.

The collected data was processed and analyzed using the Statistical Package for the Social Sciences (SPSS) software. The statistical tests were acceptable at ($p \leq 0.05$) level of significance. The descriptive statistics used in analyzing the data included: frequencies, proportions, percentages, means, mode, standard deviations and cross

tabulations and Analysis of Variance (ANOVA) for statistical tests. The hypotheses were tested at $p < 0.05$ significance level. Table 1 gives a summary of statistical the procedures used in analyzing the collected data.

3. Results

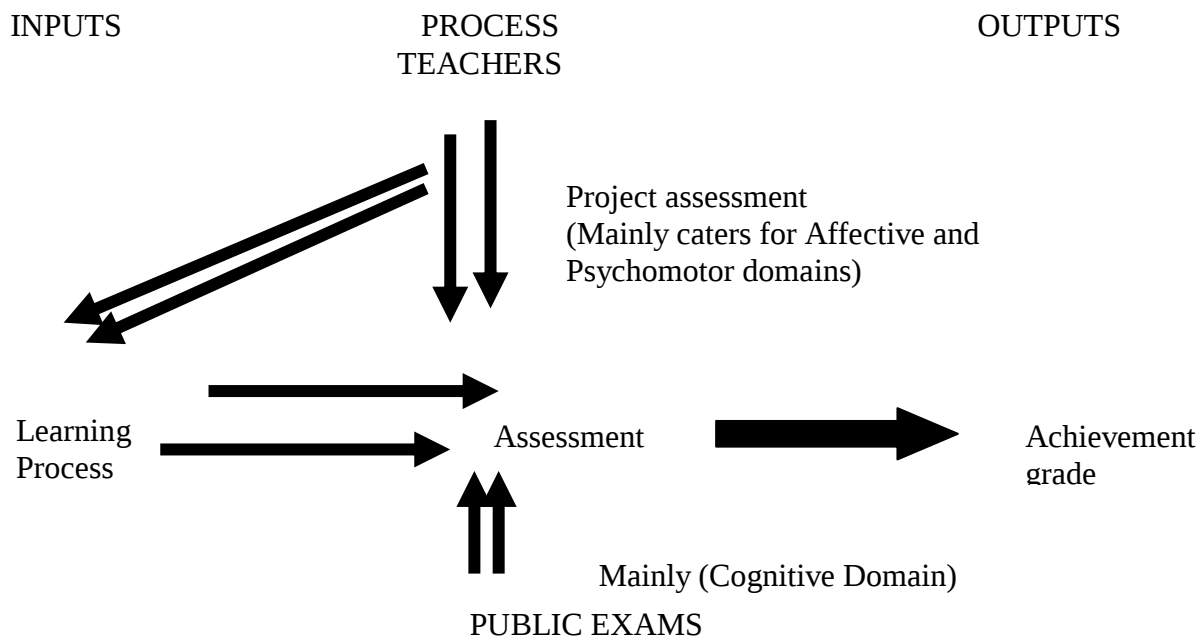


Figure 1: Proposition on quality assessment of KCSE Agriculture project exams to complement Learning process.

Table 1:

Summary of Data Analysis and Statistical Tests

Hypothesis	Independent variables	Dependent variables	Statistical Tests
School Administration and Managements based on the provision of material, security for projects and learning resources has no statistically significant effect on quality assessment of KCSE agriculture project work.	School administration & management factors	Quality assessment of agriculture projects	Descriptive statistics, ANOVA

Effect of School Administration and Management on the Quality Assessment of KCSE Agriculture Projects

The third objective of the study was to determine the impact of school administration and management on the quality assessment of the KCSE agriculture project. The effect of the school administration and management was analyzed in terms of: provision of adequate land for student project work, provision of appropriate equipment for the

projects, support of student agricultural projects by the administration, provision of security for the project and understanding of the project goals by the school administration.

The respondents were asked to rate the statements related to school administration on the quality of project assessment by making a score on a five-point Likert scale (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree). The results of the responses are given in Table 11 below.

Table 2:
Results of Commitment of School Administrators

Indicator variables of Commitment of administrator	% of Students Reporting				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Provide adequate land for projects	45.9	26.6	17.4	7.3	2.8
Provide adequate equipment	69.7	14.7	12.8	2.8	0
Support agriculture projects curriculum	51.4	23.9	19.3	4.6	0.9
Provide adequate security for projects	28.4	23.9	26.6	11.9	9.2
Understand the project goals	14.7	14.7	22.0	22.9	25.7

n=109

A majority of the respondents (72.5 %) felt that the school administration indeed provided adequate land, which is a vital component for the completion of the agriculture projects by the students. The respondents (84.4%) were positive that the school administrations provided adequate equipment for agriculture projects. Concerning the support of the agriculture project curriculum, a majority of the respondents (75.3%) felt that school administrations understood and supported the same. The provision of adequate security for the projects, 52.3 % of the respondents were positive that the administrators provided for it. The majority of the respondents (45.6%) disagreed with the statement that school administrations understood the project goals and requirements.

Hypothesis Testing

Objective three was translated into the following null hypothesis:

School Administration and Managements based on the provision of material, security for Projects and learning resources have no statistically significant effect on the quality assessment of KCSE agriculture project works.

The hypothesis was tested using the Analysis of Variance (ANOVA). The school administration commitment factors included: provision of adequate land, provision of adequate equipment for the projects, supporting and understanding the agriculture project curriculum, provision of security for the projects and understanding the requirements for the projects. The responses were converted into scores with the most positive response (strongly agree) being rated highly a score of 5, and the most negative response (strongly disagree) being rated lowly, a score of 1. The total scores were calculated based on the number of assessors for each category to get the total score and the mean scores for each indicator.

The categories of the level of school administration and management commitment factors and the mean of the quality of assessment of agriculture projects were compared using ANOVA. The results of the mean comparisons using Tukey's HSD are given in Table 12.

Table 3:
Difference in Mean Scores for the Different Levels of Staff commitment

Source of Variance	The sum of Squares	Df	Mean Square	F-value	P-value
Between Groups	7108.840	4	1777.210	12.820	.000
Within Groups	34656.156	104	138.625		
Total	41764.996	108			

The results indicate that the level of administration and management commitment to agriculture projects had a positive and significant effect on the quality of assessment of agriculture projects at $p \leq 0.05$ and, therefore, the null hypothesis was rejected, hence the school administration and management factors have a significant effect on the quality of agricultural project assessment in KCSE. This means that as the level of school administration and management factors decreased the quality of the assessment of the agriculture project work also decreased. The involvement of the school administration in providing resources and supporting the school staff and agriculture students in their projects was vital for a positive assessment of the same.

The mean separation was done using the Turkish HSD, and the results show that the means of the quality of assessment of agriculture projects were higher for the school administration and management who demonstrated high levels of commitment. The schools with very high level of commitment had a higher quality assessment (mean score 59.0) followed by the schools with High level of commitment (mean score 53.1), medium (mean score 47.5), Low (mean score 44.7) and finally the schools who had very low involvement (mean score 38.5). These differences were found to be significant statistically ($p \leq 0.05$) as shown in Table 13.

Table 4:
Multiple range tests (Turkey's HSD procedure)

Level of commitment by school administration	n	Mean (score)	VL	L	M	H	VH
Very Low (VL)	6	38.56					*
Low (L)	8	44.70					*
Medium (M)	20	47.51					*
High (H)	43	53.13					*
Very High (VH)	32	59.00	*	*	*	*	
Total	109	-	-				

*means are significantly different at $p \leq 0.05$

4. Conclusion and Recommendations

The objective of the study sought to investigate the effect of administration and management commitment to the quality of assessment in KCSE. It was revealed that the level of administration and management commitment to agriculture projects had a positive effect on the quality of assessment of agriculture projects; therefore, the null hypothesis was rejected. The mean separation was done using the Turkish HSD, and the results demonstrate that the means of the quality of assessment of agriculture projects were higher for the school administration and management, implying higher levels of commitment. The differences in the means were found to be significant statistically ($p \leq 0.05$).

The level of administration and management commitment to agriculture projects had a positive and significant effect on the quality of assessment of agriculture projects. For the quality of assessment of agriculture projects to be improved in secondary schools, the school administration and management ought to provide adequate land, equipment, security, support and understand the agriculture project curriculum, and project requirements.

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