

Factors Associated with Teaching Effectiveness as Perceived by Western Samoa Agriculture Teachers

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Introduction

Western Samoa, an independent Polynesian state of approximately 160,000 people, lies to the south of the equator, between 13 and 15 degrees latitude and between 168 and 173 degrees west longitude. Of the total population, more than 50 percent are youth and children below 15 years of age. The latest official census (1989) estimated that 70 percent of households in the country are agriculturally active. Agriculture is the mainstay of Western Samoa.

For a country with an agriculture-based economy, Agricultural Science as a school subject should be a high priority on the list of active subjects in the curriculum. However, negative attitudes of the community and policy makers alike towards agricultural education (Hau'ofa & Ward in Ward & Proctor, 1980: 61) still prevail in the 1990's.

A secondary curriculum workshop conducted jointly by the University of the South Pacific and the Education Department in July 1991 had to incorporate Agricultural Science as part of Environmental Science, because there were too many subjects in the national curriculum. Agricultural Science was low on the list of the Department's subject priorities.

Problems associated with the teaching of Agricultural Science include the lack of proper teaching and laboratory facilities, lack of equipment, shortage of land, and attitudinal problems of students, the community and administrators. It is thus important that for an education system with such problems, developing the ability to teach effectively should be an important component of preservice and inservice programmes.

The study reported on here set out to explore factors which were associated with teaching effectiveness as perceived by Western Samoa Agricultural Science teachers. A review of the literature revealed that studies on such factors have been done recently in the United States. Weiser (1988) analysed 20 variables associated with the rural teaching environment. Five significant factors were produced: the teacher's training, the community environment, the school environment, student characteristics, and the background of the teacher.

Another study by Harper et. al (1990) of agriculture teachers from 13 western states in the United States derived 11 significant factors from 39 variables related to agriculture teaching: professional teacher training, support for the agriculture programme, community living environment, career considerations, school environment, teaching environment, professional development, youth experience, teaching load, preservice development and enrolment in the agriculture programme. The design of this study was based on the methodology of Harper and his colleagues.

Purpose of the Study

The study was based on the hypothesis that the effectiveness of an agricultural science teacher in Western Samoa may be influenced by a number of cultural and environmental factors. The purpose then was to examine such factors and to determine Western Samoan teachers' perceptions of how important selected variables were in terms of teacher effectiveness in Agricultural Science. The research objectives were to

- 1 examine selected characteristics of Western Samoan teachers of agricultural science.
- 2 determine the factors that Western Samoan agriculture teachers perceive as influencing teaching effectiveness.

Methods

The research targeted the 10 Agricultural Science teachers at the junior secondary level in Western Samoa. Instrument development was based on a

conceptual model derived from a review of current literature. The two aforementioned studies conducted in the United States derived two different sets of factors based on the localities in which the studies were carried out.

This study adapted 38 variables representing the 11 factors extracted by Harper et. al. Based on a seven point Liker-type scale, a questionnaire was developed to determine the degree of importance of the variables. A pilot instrument was field tested by 7 Fiji secondary school Agricultural Science teachers doing in-service studies at the USP School of Agriculture in Alafua, Western Samoa. It was analysed for reliability using Cronbach's alpha as a measure of internal consistency. The field tested instrument obtained a reliability coefficient of .95 and the actual instrument obtained a reliability coefficient of .97 in the study.

Questionnaires were individually administered and collected in mid September 1992, a process which took two days. The total response return rate was 100 percent.

Results

Characteristics of Western Samoan Agricultural Science Teachers

There were 7 male and 3 female respondents in this study. The average number of years of teaching experience was two years, with a range of 1 to 20 years.

The size of the schools in which the teachers taught varied to a certain extent. One school had fewer than 350 students, four had fewer than 400, two fewer than 450 and two fewer than 500.

The number of classes taught varied between 3 and 6 or more. Two teachers taught 3 classes each, three taught 4 each, and three taught 6 or more. The number of students per class ranged between 26 and 41 or more. Two teachers had class numbers between 26 and 30, and one had 41 or more students. Others did not disclose this information.

Respondents taught other subjects besides Agricultural Science. These were Mathematics (3), English (3), Science (5) and Biology (2).

Six teachers were teaching near Apia at the time of the study and four were teaching away from the town. When asked about the school setting in which they preferred to teach, six preferred near town, and two away from town.

Factors Associated With Teaching Effectiveness

The analysis extracted 6 significant factors which accounted for 97.7% of the total variance in the variable scores. The factors and the variables for each factor with their respective principal component scores are given in Table 1. The scores are all above .5.

A conceptual model thus derived reveals 6 significant factors which Western Samoan Agricultural Science teachers perceive as influencing teaching effectiveness. These are: rapport with community and school environment, pre-service development and training, services and resources, teaching environment, benefits, and residential location.

Conclusions and Recommendations

The most significant factor which teachers perceive as being associated with teaching effectiveness is the perception that they should establish rapport with the community and the school environment. This factor showed the highest proportion of variance in the variable scores. Therefore the implication on teaching effectiveness hinges on how the teacher fits in with the local community and school environment. It will determine how successful the teacher will be on the job.

As a result, this study recommends that teacher pre-service and in-service programmes in Western Samoa should incorporate the familiarisation of teachers with the role of agricultural education in the local community.

Table 1. Variables and Principal Component Scores for Factors Associated with Teacher Perceptions of Teaching Effectiveness

Variables	Score
<u>Factor 1 - Rapport with Community and School Environment: 58.8%</u>	
Interest level of students in your agricultural science programme.	.61
Community support for your agricultural science programme.	.83
How "in tune" you feel with your local community.	.73
Opportunities for recreational pursuits in the local environment.	.95
Your perception of career advancement opportunities.	.92
Your perception of the level of substances abuse by students in your school.	.83
Membership in professional organizations.	.61
Compensation for added responsibilities (e.g. school sports).	.81

<u>Factor 2 - Pre-Service Development and Training: 11.5%</u>	
Influence of teacher educators.	.75
Your teacher training course work.	.65
Frequency of visits from your University Educators.	.56
Frequency of visits from your Ministry of Education personnel (inspectors, supervisors).	.67
Vitality of the local agriculture economy.	.56
Teaching agricultural science offers job security.	.65
Your relationship with other teachers in the school.	.63
School activities that the agricultural science teacher is expected to organize.	.81
You grew up in an agricultural environment.	.89
Your experience in community farming activities.	.92
Student projects you supervised.	.76
Where you did your student teaching.	.69
Technical agricultural area in which you majored (e.g. agronomy, crop science, etc.)	.63

<u>Factor 3 - Availability of Services and Resources: 9.9%</u>	
The community reflects your personal beliefs.	.76
Support for your agricultural science programme by local farmers.	.51
The availability of services in your community to maintain your home.	.94
Access to higher education (e.g. USP School of Agriculture).	.91
Proximity to your own plantation or farm.	.81
Availability of teaching positions elsewhere.	.69
Membership in community service clubs.	.63
<u>Factor 4 - Teaching Environment: 7.4%</u>	
School administration support for your agricultural science programme.	.92
Quality of instructional facilities.	.54
The curriculum you are expected to teach.	.70
Instructional resources available to teachers in your school.	.58
Access to in-service training.	.65
Student to teacher ratio in your programme.	.79
Number of students in your agricultural science programme.	.86
<u>Factor 5 - Benefits: 5.4%</u>	
The benefits included in your teaching.	.84
<u>Factor 6 - Residential Location: 4.6%</u>	
How far you live away from a shop or store.	.92
Distance travelled to school.	.52

Pre-service development and training is the second most significant factor. Teacher preparation is important because it forms the basis upon which the teacher will relate to the teaching profession. It implies the importance of teacher development and training, a feature which Western Samoa's education policy makers need to take into account. That is, teacher development and training should still be a basic ingredient of a teacher's initial development leading to certification.

The third most significant factor is community services and resources. Reflected highly in the variable scores are the availability of community services, access to higher education, farm proximity and community reflection of personal beliefs. It underlines the importance of an agricultural science teacher obtaining support in terms of services and resources, as well as having access to higher education for professional improvement. It also implies the importance of the Education Department encouraging community support for Agricultural Science programmes.

Western Samoan Agricultural Science teachers also perceive the teaching environment as being important. Especially important are administrative support, the curriculum to be taught, student-teacher ratio, and the number of students in the Agricultural Science programme. The teaching environment as such should be a factor that education policy makers should consider in helping Agricultural Science teachers to achieve their objectives.

The two other factors, benefits and residential location, are also highly regarded, as indicated by their scores. The benefits should be made visible by policy makers to attract teachers to the profession. Lastly, residential location away from a shop or store is deemed more important than distance from the school. It implies the importance of convenience in terms of subsistence for the teacher, but is a variable which policy makers have little control over.

The findings of this study indicate that factors related to the local community and school environment are of paramount importance according to teachers' perceptions of factors associated with teaching effectiveness. In addition, community services and resources, the teaching environment, and benefits and residential location are also important. The study also conceptualises a model of six factors which Western Samoan Agricultural Science teachers perceive as influencing teaching effectiveness.

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