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PERCEPTIONS OF AGRICULTURAL EXTENSION AGENTS OF THEIR
EFFECTIVENESS TO REACH FARMERS IN A SELECTED
AREA OF MACEDONIA, GREECE

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Abstract

As Greece enters the European Union Market, the agricultural industry must offer quality products to other countries if they are to expand the demand for their products. Extension agents have a role in helping farmers to produce and market quality products, but other demands on their time decrease the effectiveness of their work. This study surveyed a sample of extension agents to determine their perceptions of effectiveness and problems encountered. Findings indicated that formal educational training is lacking and non-work related assignments hinder their work. Recommendations focused upon offering a formal professional education program and in-service education program, and agents utilizing those extension methods they find effective.

marketplace.

Introduction

Farmers will not be successful unless the product they sell is of a quality desired of the consumer. This is a lesson that has been learned in the United States as farmers and the U.S. society moved from an early subsistence environment to an agricultural industry where a farmer today feeds many other people. These people or customers have come to expect a quality product and will not purchase inferior products brought to the marketplace. This is a lesson yet to be learned by farmers in other countries who are now moving to a market based economy that not only includes regional and country-wide sales, but also extends into the international

Previous studies by Eisenbach (1990) and Latifis (1990) which focused upon the transporting and marketing of Greek agricultural products have concluded that problems with the quality of agricultural products are due to poor production practices and post harvesting handling of the produce. Kavallaris et. al.(1991) have pointed out the need for improvement of the quality of various agricultural products which will enable them to be sold abroad and especially in the European Union (EU) market. A general observation in Greece has been that agricultural products do not satisfactorily meet the EU standards in regard to quality, packaging, processing, storage and transportation, and do not generally meet the marketing rules for

specific agricultural products. One approach for improving the quality of agricultural produce is to understand the current efforts Greek extensionists are making as they strive to assist

farmers to improve their production practices, and how effectively they perceive they are doing their jobs. Zoukatas (1988) contended that the value of extension work at the local level has been underestimated and Papavasiliou (1988) indicated that extension services have deteriorated. Christidis (1988) expressed the notion that Greek agriculture needs an extension service mechanism capable of meeting specific needs of farmers who are threatened by complex economic and technical problems. The problem is that extensionists do not have the time, resources, or skills to design and carry out a study that will help them better understand what they are doing.

Purpose/Objectives of the Study

The primary purpose of this study was to determine the various activities carried out by extensionists, and how effective the extensionists perceive they are in accomplishing their tasks. The specific research questions were:

1. What are the perceived problems faced by extensionists as they work with farmers to improve the quality of their products;
2. What are the extension agents' satisfactions with their working conditions?
3. What are the perceptions of the extension agents as to the appropriateness of educational methods used to reach farmers?
4. How do extension agents provide various information to farmers?

Methodology

The target area for this study was six regions of Macedonia, Greece, where kiwis, table peaches, and table grapes are grown on a large scale. Of the 95 extension agents in these six regions, a population of 75 work in communities where the major crops are produced. Personal interviews were held with the target population, and a total of 67 (89.3%) were successfully interviewed. Data from the questionnaires were analyzed through use of descriptive statistics, such as frequencies, percentages, and means.

Findings

The average age of the 67 agents responding was 47.6 years, with an average experience of 10.2 years. Only one possessed a graduate degree. Regarding their education, 76.1% had never enrolled in formal agricultural education classes, 28.3% had never attended formal extension education courses, and 9 percent had never attended in-service training courses. A high proportion, (68.7%) of the agents, indicated that it was their choice to study agriculture.

Despite the lack of formalized training in extension and education methodology, agents interest in attending seminars pertaining to these professional subjects was very low. From another aspect, their in-service preferences were centered on special topics such as plant protection (28.9%), standardization and quality improvements of agricultural products (21.8%), economic issues (12.7%) and technical agricultural subjects (27.2%).

According to the extension agents' responses, 75 percent considered their scientific knowledge insufficient to deal with problems of the products grown in the area of the study. Also, 72.7% of the agents were not completely satisfied with their present positions in relation to their scientific background, and 15.2% considered their agricultural expertise was not adequate for carrying out their work, while 54.5% indicated their expertise barely satisfactory.

The difficulty mentioned by the largest percentage of the 57 responding extension agents in preventing them from carrying out their advisory work was non-related work assignments (80.7%). See Table 1. Furthermore, 50% of 52

responding agents expressed a high degree of difficulty related to the lack of specialization in carrying out their advisory work. On the other hand, 73.5% of

Table 1

Perceived Difficulties of Extensionists in Carrying Out Their Advisory Work

Difficulty Experienced	Degree of Difficulty ^a			N
	High	Low	None	
Non-related work assignments	46 (80.7)	7 (12.2)	4 (7.0)	57
Lack of specialization	26 (50.0)	19 (36.5)	7 (13.5)	52
Difference between national agricultural policy and extension activities	22 (46.8)	18 (38.3)	7 (14.9)	47
Lack of money for training activities	21 (43.8)	20 (41.7)	7 (14.6)	48
Lack of incentives	22 (44.0)	17 (34.0)	11 (22.0)	50
Lack of experience in training methods	6 (14.3)	26 (61.9)	10 (23.8)	42
Lack of experience for planning	10 (22.2)	19 (42.5)	16 (35.6)	45
Lack of technical experience	5 (10.4)	22 (45.8)	21 (43.8)	48
Lack of communication with supervisors	3 (6.1)	10 (20.4)	36 (73.5)	49

Note. ^aNumbers in () are percentages and may not equal 100 percent due to rounding.

49 responding agents indicated no degree of difficulty regarding the lack of communication with their supervisors. A little more than one-half of the extension agents indicated a medium degree of satisfaction with their work. Specifically in Table 2, 52.2% indicated a

medium degree of satisfaction with their working conditions and 22.4 percent indicated a low degree of satisfaction.

Regarding geographical work location, 53.7 percent of 67 agents indicated a medium degree

of satisfaction and 26.9 percent indicated a high degree of satisfaction. Over 60 percent of the 33 agents who are working with specialty crops indicated a high or medium degree of satisfaction working with kiwis farmers, while about 74 percent of the 27 agents indicated a high or

medium degree of satisfaction working with peach or grape farmers. However, it must be noted that about half of the total agents responding in this study did not work specifically with these crops.

Table 2

Extension Agents' Satisfaction With Their Work Situation While Advising Farmers

Satisfaction	Degree of Difficulty ^a				
	High	Medium	Low	None	NR
Working conditions N=67	13 (19.4)	35 (52.2)	15 (22.4)	2 (3.2)	2 (3.2)
Working location (geographically) N=67	18 (26.9)	36 (53.7)	5 (7.5)	7 (10.4)	1 (1.5)
Work in regard to:					
Kiwis N=33	4 (12.1)	16 (48.5)	10 (30.3)	3 (9.1)	
Peaches N=27	15 (18.5)	5 (55.6)	2 (18.5)		7.4
Grapes N=27	15 (18.5)	5 (55.6)	2 (18.5)		7.4

Note. ^aNumbers in () are percentages and may not equal 100 percent due to rounding.

The data in Table 3 summarized the extensionists' perceptions of the appropriateness of the different educational methods to reach farmers. On a scale of 1-3, where 3 represents a very appropriate educational method, farm visits were rated by 61.2 percent of the 48 agents with a mean of 2.83 as the most appropriate method to reach farmers. Short courses rated the second highest with a mean of 2.62 and 69.1 percent of 55 agents responding, and result demonstrations rated a mean of 2.54 with 60 percent of 50 agents responding. When considering the least appropriate educational method, newsletters

rated a mean of 1.40 with 65 percent of 40 agents indicating it as inappropriate or barely appropriate as a method.

The agents were also asked to indicate the frequency or number of times per year each educational method was used. Pamphlets were used the most times by 27 agents, 6.57 times a year, with lectures close behind with 6.17 times per year with 35 agents responding. The least used educational method reported by 18 agents was field trips, 1.28 times per year.

Each extension agent was asked to indicate the time devoted to providing different types of information to farmers on a scale of: very much-4; much-3; little-2; very little-1; or none-0. The results of this question were reported in Table 4.

The greatest amount of time, with a mean of 2.54, was used to provide information on appropriate crop varieties to farmers. Although only 47.8 percent of the 67 agents reported spending much or very much time performing this activity. Agents providing information about markets for the farmers' produce took only a little (mean of 1.99) of the agents' time. In fact, of the four types of information being provided to farmers which relate to produce quality, agents are spending little time on these topics.

Conclusions

From the findings in this study, the following conclusions were reached.

1. Extension agents have not received adequate formal education in extension methodology to prepare them for the expected role of their jobs.
2. In-service educational programs have neither been nor appear to be high on the extension agents' desires of participating in order to improve their professional skills.
3. The current level of technical, scientific knowledge in the agricultural field is not adequate for the agent to perform at a satisfactory level in helping farmers address technical problems they face.
4. Extension agents perceive that non-related work assignments present a hindrance to them as they attempt to perform their expected duties.

5. Extension agents are not satisfied with their working conditions and work locations as they attempt to fulfill their expected duties.

6. Educational methods perceived to be appropriate to reach farmers tend to be those where farmers are directly involved (farm visits, short courses, and result demonstrations), while methods involving the written word (newsletters, newspapers, personal letters) tend to be perceived as inappropriate.
7. Extension agents do not appear to spend a disproportionate amount of time sharing any one type of information with the farmers. Their energies were spread evenly over the different types of information they share with farmers, but the time devoted to these topics is small.

Recommendations

Based upon the findings and conclusions in this study, the following recommendations are offered.

1. A formal pre-service program to prepare extension agents should be initiated to enhance professional and technical skills of future agents.
2. An in-service educational program that addresses the identified critical professional needs of the agents should be planned and carried out.
3. Further study is needed to assess the exact nature of the technical agricultural knowledge needs of the extension agents.
4. Non-related work assignments expected of agents should be clearly identified and dropped or reassigned to other government officials.

Table 3

Perceptions of Extensionists on the Degree of Appropriateness of Educational Methods to Reach Farmers and Frequency of Use

Method N	Degree of Appropriateness ^a			Mean	Frequency	
	1	2	3		Average use/year	N
Farm visits 49	1 (2.0) ^b	18 (36.7)	30 (61.2)	2.83	NR ^c	
Short courses 55	4 (7.3)	13 (23.6)	38 (69.1)	2.62	3.67	36
Result demonstration 50	3 (6.0)	17 (34.0)	30 (60.0)	2.54	2.37	19
Visits to research centers 47	6 (12.8)	14 (29.8)	27 (57.4)	2.45	1.70	17
Resource person 46	7 (15.2)	15 (32.6)	24 (52.2)	2.37	NR	
Method demonstration 39	8 (20.5)	9 (23.1)	22 (56.4)	2.36	2.50	16
Field trips 43	7 (16.3)	17 (39.5)	19 (44.2)	2.28	1.28	18
Television 46	5 (10.9)	24 (52.2)	17 (37.0)	2.28	NR	
Pamphlets 53	6 (11.3)	28 (52.8)	19 (35.8)	2.25	6.57	27
Extension office visits 50	8 (16.0)	24 (48.0)	18 (36.0)	2.20	2.20	NR
Lectures 9 51	25 (17.6)	17 (49.0)	2,16 (33.3)	6.17	35	
Video 41	13 (31.7)	14 (34.1)	14 (34.1)	2.02	NR	
Agricultural magazines 50	16 (32.0)	22 (44.0)	12 (24.0)	1.92	5.30	20
Radio 47	16 (34.0)	23 (48.9)	8 (17.0)	1.83	NR	
Telephone calls 45	13 (28.9)	27 (60.0)	5 (11.1)	1.82	NR	
Personal letters 39	17 (43.6)	13 (33.3)	9 (23.1)	1.79	NR	
Newspapers 41	19 (46.3)	17 (41.5)	5 (12.2)	1.66	NR	
Newsletters 40	26 (65.0)	12 (30.0)	2 (5.0)	1.40	NR	

Note. ^aScale: 1 = Inappropriate or barely appropriate as a method, 2 = Appropriate as an extension method, 3 = Very appropriate as an extension method. ^bNumbers in () are percentages and may not equal 100 percent due to rounding. ^cNo response.

Table 4

Time Extensionists Spent on Providing Various Information to Farmers (N = 67)

Type of information	Time devoted ^a					Mean
	Very much 4	Much 3	Little 2	Very little 1	None 0	
Appropriate crop varieties	13 (19.4)	19 (28.4)	26 (38.8)	9 (13.4)	-	2.54
Expected prices in relation to quality	10 (14.9)	19 (28.4)	21 (31.3)	10 (14.9)	7 (10.4)	2.22
Quality grading of produce	11 (16.4)	17 (25.3)	20 (29.8)	14 (20.9)	5 (7.5)	2.22
Appropriate transporting of produce	8 (11.9)	18 (26.7)	26 (38.8)	9 (13.4)	6 (9.0)	2.19
Post harvest use of produce	4 (6.0)	23 (34.3)	20 (29.9)	14 (20.9)	6 (9.0)	2.07
Modern packing for better quality	7 (10.4)	20 (29.9)	17 (25.4)	13 (19.4)	10 (14.9)	2.01
Markets for the produce	5 (7.5)	21 (31.3)	20 (29.9)	10 (14.9)	11 (16.4)	1.99

Note. ^aNumbers in () are percentages and may not equal 100 percent due to rounding.

5. Extension agents should be encouraged to enhance their professional skills and utilize educational methods which tend to be effective methods for reaching farmers, . namely farm visits, short courses, and result demonstrations

Extension agents have a role to help these farmers understand this new marketing environment and how they can improve the quality of agricultural products.

As the European Union countries continue to formalize their marketing infrastructure, the need for Greek farmers to produce a high quality product becomes even more critical. The competitive situation will not be conducive to farmers who produce inferior products.

References

- Androulidakis, S.I., Siardos, G.C. (1993). The Extensionist Advisory Work as Related to the Improvement of Some Agricultural Products in Macedonia, Greece, Technical Education Institute, Thessaloniki, Greece.
- Christidis, H. (1988). Possibilities for Upgrading Agricultural Education within the Agricultural Extension Framework, (in Greek). First Scientific Conference on Agricultural Extension Proceedings, June 21-23, Ministry of Agriculture, Athens, Greece.
- Eisenbach, J. (1990). Greece Fresh Fruit and Vegetable Competitiveness in the West German Market, (in Greek). Proceedings, Conference The Greek Fruit and Vegetable Exports in the 1990's Challenge, Technological Educational Institute, Thessaloniki, Greece.
- Kavallaris, P., Melfou, K., Koutoglidis, H., and Androulidakis, S. (1991). Possibilities and Future of Greek Exports of Citrus, Peaches, Raisins, and Tomato Sauce after 1992 (in Greek). Thessaloniki, Greece.
- Latifis, K. (1990). Fresh Fruit and Vegetable Markets in Unified Europe and the Status of Greece in the 90's Challenge, (in Greek). Proceedings, Conference The Greek Fruit and Vegetable Exports in the 1990's Challenge, Technological Educational Institute, Thessaloniki, Greece.
- Papavasiliou, G. (1988). Comments on extension made during the First Scientific Conference on Agricultural Extension (in Greek). First Scientific Conference on Agricultural Extension Proceedings. Ministry of Agriculture, Athens, Greece.
- Zoukatas, P. (1988). Comments on extension made during the First Scientific Conference on Agricultural Extension (in Greek). First Scientific Conference on Agricultural Extension Proceedings. Ministry of Agriculture, Athens, Greece.

GLOBAL INSTRUCTION FOR RELEVANT AGRICULTURAL EDUCATION

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Abstract

Global instruction in agricultural education is believed to be justified for five reasons: (1) Schools are changing with society, and agricultural education must also change if it is not to be left behind as other institutions and professions become more international in emphasis; (2) The economy of the United States and of American agriculture is dependent on international trade; (3) Students being prepared for the twenty-first century should be culturally-aware, and be able to relate to people of all ethnic backgrounds; (4) Some students will prepare for careers in international agriculture; and (5) Agricultural educators should care about the human suffering and be a part of the process of rectifying the situation. The time has arrived to internationalize the agricultural education curriculum.

Agricultural educators have worked internationally for many years. Under programs sponsored by the U.S. government, private foundations, other developed countries, and international organizations, educational programs in agriculture have become established in most countries of the world. As the world becomes smaller, because of improved and increased travel and communications, individuals working in the agricultural sector will need to think globally. There is an increasing interdependence in our modern world.

One of the things one learns from history is that every generation is always going through a period of painful and critical transition. The profession of agricultural education has been undergoing such a period of transition. One of the major challenges in the next decade will be how the profession addresses the issue of a growing international interdependence in the area of agriculture (Martin, 1989, p. 4). There is a general lack of knowledge about the world in general, and international agriculture in particular, among secondary students of agriculture. Should international agriculture be taught in agricultural education? If so, why? It is the belief of the author that the "should we" question should be answered with a "yes." Also, five reasons will be suggested to answer to the "why" question. First, high schools are

changing. Agricultural education has been changing along with the rest of secondary education. Education is being updated to reflect the world as it exists rather than the way it was. A kind of agricultural education is needed that will be relevant in the twenty-first century. Agricultural education, as a profession, must do what it can to be on the cutting edge of change.

Second, the curriculum should be internationalized because of the interdependence of the world economy. Not only does the United States of America (USA) derive income from foreign countries for agricultural products, but the USA is also able to purchase automobiles more cheaply because of the increased competition in that industry caused by foreign imports.

Third, students need an international perspective if they are to be functional and vital citizens of the world. It is fairly well known among our trading partners that Americans tend to take a John Wayne approach (Martin, 1989) in dealing with other countries. Americans, in general, do not take the time to understand cultures and peoples. Trade negotiators indicate that Americans tend to lose more deals in the private sector than they win because of poor communications based on a lack of understanding about different cultures.

Americans want a deal. People from other cultures want meaningful relationships. Americans don't often seem to relate the two perspectives. Not everyone thinks like Americans think (Martin, 1989, p. 4).

Fourth, there is a need for students and educators to be aware of internationally-oriented career opportunities. Many of these career opportunities relate to the marketing of agricultural products internationally. Other opportunities are available in working with rural people in developing societies to help improve agricultural production, marketing, and distribution.

Fifth, rural societies throughout the world need help in developing a higher standard of living. The past quarter century has been a period of unprecedented change and progress in the developing world. And yet despite this impressive record, millions of individuals continue to be trapped in absolute poverty: a condition of life so characterized by malnutrition, illiteracy, disease, squalid surroundings, high infant mortality, and low life expectancy as to be beneath any reasonable definition of human decency. There is an old English proverb that states, "What the eye does not see, the heart does not grieve about." Students in agricultural education must be made to see, to learn about, what much of the world is like.

Each of these five reasons for infusing international agriculture into the curriculum will be addressed in greater detail. The first reason was that schools are changing.

Changes in Schools

Schools are changing. Higher college entrance requirements and increased high school requirements for graduation have been put in place, in accord with the recommendations of the National Commission on Excellence in Education in *A Nation at Risk* (1983). The emphasis is upon English, mathematics, sciences, social studies, and foreign languages. Other subjects must compete within the declining space for electives. Agricultural education will need to

be viewed as up-to-date and relevant to attract high-ability students. Recommendations from the study of agriculture in the schools completed by the National Research Council (1988) has suggested many changes in programs. Internationalizing the curriculum will assist in presenting a modern program image.

Students need to have an understanding of the major producing and importing countries of the world, for both agricultural products and products that impact agriculture, such as oil. They need to understand religions, cultures, and the world economic system sufficiently so that they will know why hog farming is not practiced in the Middle East, and why the effects of a stock market crash in New York are felt in Hong Kong. In response to the need for students to be prepared for a global agriculture, colleges of agriculture are now internationalizing their curricula. High school programs of agriculture should do the same.

If a goal of the schools is to help their students become global citizens, then students must participate in meaningful experiences to accomplish this end. Students should know that a dozen countries may be involved in the production of an automobile. They might study how acid rain influences the relationship between the United States and Canada. Schools could offer language immersion programs where students would be taught all subjects using a specific foreign language. The cultures of various countries might be studied, but care must be used to avoid stereotypes. Companies with international connections should be encouraged to provide resource persons and resource materials to assist the schools in accomplishing this goal of assisting students in becoming global citizens.

Might agriculture be taught using a foreign language? The number of students enrolled in foreign language classes has been increasing at a rapid rate. The majority of students in the USA now study some foreign language. Specific international courses designed to develop in students a global awareness about agriculture would certainly be an option worth considering

as a way to participate in the changes being made in schools.

The Global Economy

One need only wander through a supermarket or a department store to realize that, in the United States, sources of food and fiber are worldwide. With an agricultural surplus in the United States, it is easy to see why agricultural products must be marketed globally. Patterns of agricultural production and consumption are changing. For example, soybean oil from the United States must compete not only with soybean production in other countries but alternative products such as palm oil. Changes in quality and quantity of production in other countries will continue to influence the marketability of agricultural products from this country. Many nations that once were dependent on others for food now are food exporters, as well as cash customers for food products. Overlaying the natural market forces are such political decisions as import quotas, tariffs, and subsidies.

In 1993, agricultural exports from the United States totaled 42,609 million dollars (United States Department of Agriculture, 1994); the top exports in dollar value were: grains and feeds, animals and animal products; oilseeds and products, vegetables and vegetable products, and fruit and fruit products. Agricultural trade in the United States has continually provided a trade surplus in balance of payments, but the percentage contribution made by agriculture has been declining. Competitive imports in 1993 were 78% of total agricultural exports, a number which has been gradually rising since 1968 when it was at 60%. What countries have been importing United States agricultural products? In 1993 the top 10 importing countries in order, based on dollar value, were: Japan, Canada, Mexico, Taiwan, Korea, the former USSR, the Netherlands, Germany, the United Kingdom, and Hong Kong. The top 10 importing countries, based on metric tons purchased, were: Japan, the former USSR, Mexico, Taiwan, the Netherlands, Canada, Egypt, Spain, Korea, and Algeria.

Obviously, the agricultural sector in the U.S. is

dependent on exports to foreign countries. Workers in the agricultural industry are an important part of the global economy.

Cultural Understanding

The world is getting smaller. Students can assume that they will have more opportunities to interact with people of other countries and cultures. Students of agriculture need to develop a willingness to both compete and cooperate internationally. This requires respect for political, social, and cultural differences and an understanding of the interdependencies of an interrelated world. Students who understand these international relationships will be able to function better in the many roles that have an international dimension.

People from different cultures tend to think differently. Students need to appreciate the strengths of differences among nations and peoples (McCracken & Magisos, 1989). In general, Americans believe that whether man is good or evil is changeable, that man can master nature, and that man should be future oriented, taking action (doing), and individualistic. Values of traditional cultures throughout the world are more likely to suggest that the good or evil of man is unchangeable, that man either must be in harmony with nature or be subjugated by it, and that man should be past oriented, with a stress on who one is (being), and subject to authority. Unless students learn to appreciate these differences, they will be frustrated in relating with peoples of other cultures (McCracken & Magisos, 1989, p. 10). Students need to understand the differences in approaches to buying, selling, and trading. Americans often fail to recognize that a refusal is only a temporary bargaining position or that a "yes" is sometimes a polite "no."

Every culture has its set of values. Consider the values inherent in the American culture? Americans, who came from a pioneering tradition, might be stereotyped by foreigners as (Kohls, 1979): outgoing, friendly, loud, rude, boastful, immature, hard working, extravagant, wasteful, confident, lacking in class-

consciousness, disrespectful of authority, racially prejudiced, ignorant of other countries, wealthy, generous, and always in a hurry. It is believed in many cultures that American women tend to be promiscuous. Americans usually consider the traits of pride, boldness, aggressiveness, achievement, frankness and familiarity to be assets. In many cultures, however, the virtues of humility, reserve, modesty and consensus are more greatly admired and respected (Kohls, 1979, pp. 6-7). Think about the American values reflected in the following proverbs: cleanliness is next to godliness; a penny saved is a penny earned; time is money; don't cry over spilt milk; waste not, want not; early to bed, early to rise, makes one healthy, wealthy, and wise; God helps those who help themselves; a man's home is his castle; no rest for the wicked; you've made your bed, now sleep in it; don't count your chickens before they're hatched; a bird in the hand is worth two in the bush; the squeaky wheel gets the grease; might makes right; there's more than one way to skin a cat; a stitch in time saves nine; all that glitters is not gold; clothes make the person; if at first you don't succeed, try, try again; take care of today and tomorrow will take care of itself; and laugh and the world laughs with you; weep and you weep alone (Kohls, 1979, pp. 30-31).

Americans who wish to succeed in other cultures should develop the following skills: tolerance for ambiguity, low goal/task orientation, open-mindedness, non-judge-mental, empathy, communicativeness, flexibility/ adaptability, curiosity, sense of humor, warmth in human relationships, motivation, self-reliance, strong sense of self, tolerance for differences, perceptiveness, and the ability to fail (Kohls, 1979, p. 72).

The point is that every culture has its own proverbs that reflect its values. Values in the United States may be quite strange and different to a person raised elsewhere. The Malays have a proverb, "Tali yang tiga lembar itu tak suang-suang putus" (A rope of three strands is not easily parted - unity is strength). This proverb stresses the need for unified action. It might go against the individualistic heritage of

the United States culture.

The Malays have two other proverbs that are very similar to one that we use. "Banyak udang banyak garam, banyak orang banyak ragam" (Many shrimp, many condiments, many men, many temperaments)! "Masuk kandang kambing mengembik, masuk kandang kerbau menguak" (Bleat when you are in a goat-fold; bellow when you are in a buffalo-pen). We in the USA would say, "When in Rome, do as the Romans do."

A particular culture may be described by its: manners, customs, beliefs, ceremonies, rituals, laws (written & unwritten), ideas and thought patterns, language, arts and artifacts, tools, social institutions, religious beliefs, myths and legends, knowledge, values, concepts of self, morals, ideals, and accepted ways of behaving (Kohls, 1979, p. 17). Items necessary to maintain a culture are: food, clothing, shelter, family organization, social organization, government, defense, arts/crafts, knowledge/science and religion (Kohls, 1979, p. 19).

Students should be made aware of the fact that people of different cultures have differing values. Cultural values are important to know so as to prevent committing a *faux pas* as people from one culture interact with people from another (Chambers, 1988, p. vi). The knowledge and understanding of students needs to be expanded so they can act as ambassadors of good will in relating to those having differing backgrounds.

Career Opportunities

Not all careers in world affairs entail living abroad. In fact, an understanding of global agriculture may be very important for many jobs in the U.S. Foreign currency traders at financial institutions, marketers of agricultural products, translators, American representatives for international clients, and employees of companies based overseas are but a few examples. Opportunities to live and work abroad are limited and the competition is keen. Most international jobs are available only to people with special expertise in an area or language, who have worked as interns or employees of an

internationally oriented organization, or who have advanced academic credentials. For the graduate of the nineties, proficiency in a foreign language may be expected or essential if the goal is to pursue a career in international agriculture. But of equal or greater importance is an excellent command of English.

U.S. Government agencies hire persons with backgrounds in agricultural or food sciences. The Peace Corps offers opportunities to work in other lands and cultures and to expand one's education. This is a grass roots way for young people to live in a different culture while developing technical skills and learning to communicate in a foreign language. The other government agency which has employed large numbers of people in international agriculture is the Agency for International Development (USAID).

Educational institutions, consulting firms, private foundations, international organizations, and multi-national business corporations all employ international agricultural workers. Entry into these organizations usually requires higher education and international experience.

Volunteer, religious and missionary organizations provide opportunities for entry-level workers to gain experience internationally. Some United States graduate students in agricultural education have entered with a background of experience in church work in a foreign country. Many of these students, after advancing their education, have obtained jobs in international agriculture.

Rural Development

Agricultural students should be made aware of the problem of poverty in many third-world countries. As citizens of the world, they need to develop an empathy for those who have not achieved the standard of living Americans have grown to expect.

Many countries have an agricultural system that has resulted in farmers who are in poverty, in isolation, powerless, vulnerable, and physically

weak. Poverty has been a strong determinant of other problems. Physical weakness has been an observable symptom resulting from the other problems. Solutions to these problems are not always politically acceptable in the countries where they have occurred. In many cases, the farmers in these societies have had an understanding of what needs to be done to improve their situation, but have lacked the resources to accomplish the task.

Increasing population pressure and rapid deterioration of natural resources will create more problems for the future development of agriculture in the developing world. Since agriculture is location-specific and may even be farmer-specific, to develop and transfer appropriate technology the people involved must take into account the effects on the ecosystem so that agriculture will not only be productive but also be stable, sustainable, and equitable. It will be a challenge to the capabilities of institutions in agriculture to produce the high-quality manpower needed to develop and maintain an agriculture that is economically and ecologically sound.

Summary

Instruction about international agriculture is believed to be justified in agricultural education for five reasons. Schools are changing with society. Agricultural education must also change if it is not to be left behind as other institutions in society become more international in emphasis.

The economy of the United States and of American agriculture is dependent on international trade. Much of what Americans purchase is affordable because of the competition brought about by foreign trade.

Students being prepared for the twenty-first century should be culturally-aware. They should be able to relate to people of all ethnic backgrounds. Improved transportation and communications in the future will result in the ability to interact with other countries the way people now interact across state lines.

Some students will prepare for careers in international agriculture. Such careers may be in the USA or in foreign countries. It might be encouraging of a student by an agricultural educator that will bring about his or her choice of a rewarding career.

Agricultural educators should care about the human suffering in the world. Students should be helped to develop an empathy for those who have been deprived.

It would be easier to continue to teach as has always been done. However, agricultural educators need the courage to break away from what has always been. The time has arrived to internationalize the agricultural education curriculum.

Reference

- Chambers, K. (1988). The travelers' guide to Asian customs & manners. Deephaven, MN: Meadowbrook.
- Kohls, L. R. (1979). Survival kit for overseas living. Yarmouth, Maine: Intercultural Press, Inc.
- Martin, R. A. (1989). A global perspective for agricultural education. The Agricultural Education Magazine, 61(10), 4-5.
- National Commission on Excellence in Education. (1983). A nation at risk. Washington, D.C.: U.S. Department of Education.
- National Research Council. (1988). Understanding agriculture: New directions for education. Washington, D.C.: National Academy Press.
- United States Department of Agriculture. (1994, July). Foreign agricultural trade of the United States: Calendar year 1993 supplement. Washington, D.C.: Economic Research Service, Commodity Economics Division.

FACTORS RELATED TO THE MOTIVATION OF EXTENSION AGENTS IN KENYA'S RIFT VALLEY PROVINCE

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Introduction

Employees work harder and perform better if motivated and satisfied with their jobs (Beder, 1990; Watanabe, 1991). Motivation--the psychological process that gives purpose, direction, and intensity to behavior--is the most important determinant of effective job performance and is mainly responsible for differential work output (Lawler III, 1973; Kreitner, 1986). Staff motivation changes as time and conditions change. Motivation depends on incentives that the staff value and believe to be attainable with increased individual performance, and is high when staff frustration is minimal (Bender, 1990; Cohen, 1990; Watanabe, 1991).

Maslow (1943) indicated that people are motivated by their needs for survival, safety, love, self-esteem and self-actualization, while Herzberg (1972) stressed the need for a favorable work environment, stating that enriched jobs rather than pay, supervision, and other environmental factors were the key to motivation and job satisfaction. Herzberg believed that challenging, enriched jobs motivate employees more than dull, routine jobs. He advised managers to redesign jobs to provide opportunities for individual achievement, recognition, responsibility, advancement and personal growth. For professional employees, job characteristics such as autonomy, task identity,

and perceived task significance have an important motivational value (Kreitner, 1986; Buford & Bedeian, 1988; Perry & Wise, 1990). For example, highly educated and more experienced workers are more likely to choose the public sector, offsetting lower wages with rewards arising from the characteristics of their jobs (Perry & Wise, 1990).

If employees believe their actions lead to valuable, attainable rewards, they will work harder (Vroom, 1964). Therefore, managers should identify, support and reinforce individual perception by linking appraisal to professional and personal development. Treating employees inequitably lowers their motivation and performance (Adams & Rosenbaum, 1962). Expected outcomes should be stated as explicitly as possible. Behaviors resulting in desirable consequences are likely to recur while those that result in undesirable consequences are less likely to recur (Skinner, 1969). Managers should state which behaviors will be rewarded and which ones will not, and should tie rewards to individual performance.

It is hard for Extension to serve its clients well without adequate staff incentives (Moris, 1987). In Kenya, these incentives include housing, transportation, pay health insurance, subsistence allowances while on official duty, and working under well trained Extension supervisors with personnel management skills needed to motivate their staff.

Extension managers should know what motivates their staff to prevent motivational problems and employees' frustration (Grossnickle & Thiel, 1988; Beder, 1990; Watanabe, 1991). Current information regarding the job satisfaction and motivation of Extension agents in Kenya's Rift Valley Province was not available. This study was important because reliable information is essential for good decision making and accountability (Altschuld & Thomas, 1991); and it was in Kenya's public interest to promote agricultural production through Extension (Kenya Government, 1986 & 1990). Agents' needs should be identified regularly in order to provide meaningful, motivational, staff incentive (Kreitner, 1986). Furthermore, as times and conditions change, past motivational strategies become ineffective (Buford & Bedeian, 1988).

Purpose and Objectives

The purpose of this study was to identify job satisfaction factors underlying motivation. Specifically, the objectives were to: (1) identify agents' personal characteristics; (2) identify factors underlying job satisfaction and their relative importance; (3) determine agents' motivational level; and (4) examine relationships among personal characteristics, job satisfaction, and job motivation.

Methodology

A one-shot case study design (Campbell & Stanley, 1963) was chosen in this descriptive, correlational research to collect data using a group administered, closed-ended questionnaire with 105 job satisfaction, 10 motivational, and 10 personal characteristics items. Each job satisfaction and motivation item had a five point Likert-type scale (Mueller, 1986): 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, and 5=Strongly Agree. Job satisfaction factors and agents' personal characteristics formed independent and extraneous variables

Table 1

respectively. Motivation was the dependent variable. Eleven professionals, nine faculty and two graduate students in agricultural education, composed a panel who reviewed the questionnaire and found it to be content valid. The questionnaire had an eleventh-grade reading level and a reliability of .79 for the job satisfaction and .81 for the job motivation items respectively. Hair, Anderson, Tatham, and Black (1992) indicated that an acceptable reliability level is .70 and the questionnaire was considered to be reliable. In each district, the agents also were asked, as a group, five open-ended questions: (1) Were the questions clear? (2) Was the English understandable? (3) Did the questions cover things that interest Extension staff? (4) Are there things that ought to have been covered that were omitted? (5) Would you say that Extension staff are highly motivated, motivated or not motivated? Of the 2,087 agents who formed the frame, and accessible population, a random sample of 325 agents, stratified by rank (i.e., Agricultural Assistants, Assistant Agricultural Officers and Agricultural Officers) and gender, was selected. About 85% of them completed the questionnaire as scheduled. A follow-up of the remaining 15% raised the response rate to 100%. Data were collected in winter 1993 and analyzed using the SPSS statistical package with alpha set at .05 level. Exploratory factor analysis was used to identify job satisfaction factors related to motivation.

Results and Conclusions

Objective one sought to identify agents' personal characteristics: gender, age, marital status, formal education and years of service. On the average, the agents were 34.6 years of age; had worked for 9.6 years; 85% were married while 14.5% had never been married, and .5 were either divorced or widowed; 77% were male; 50.3% were 31-35 years of age; 86.5% had worked from 1 to 15 years; 41% had not been promoted; and 50.9 had been promoted once, 6.5% twice, 1.0% three times and 0.3% four times. Their age ranged from 24 to 55 years,

Rotated Factor Matrix Loadings Order of 35 Job Satisfaction Items on Oblique Factors and the Means and Standard Deviations for the Items (n = 325)

Item	Abbreviated Variable Label ^a	Factor Loading	Mean	SD
<u>Factor 1=Evaluation</u>				
60	Being recognized for good work increases my motivation	.50	4.18	.82
87	Evaluation of my work motivates me to work harder	.50	4.14	.77
33	Feedback from my supervisor increases my motivation	.49	4.21	.78
45	Positive recognition makes me proud to be an agent	.47	4.42	.82
92	I enjoy meeting my supervisor to discuss my work	.46	3.74	1.05
61	Effective supervisors praise agents for good performance	.41	3.52	1.14
20	My supervisor's feedback gives me confidence in my job	.41	4.35	.77
116	Praise for good performance increases my desire to excel	.41	4.09	.89
<u>Factor 2=Dependable Supervisors</u>				
43	My supervisor tends to concentrate more on my mistakes	.64	3.20	1.30
28	I get more negative input than help from my supervisor	.64	3.63	1.31
15	I frequently receive positive recognition for good work	.50	2.87	1.32
30	In Extension most hardworking agents go unrewarded	.49	1.81	1.14
57	I am satisfied with most of the current Extension policies	.49	2.56	1.14
97	My supervisor makes my work more pleasant	.44	3.28	1.39
16	I have a chance to do things for which I am most qualified	.42	3.28	1.39
<u>Factor 3=Work Incentives</u>				
88	I work hard mainly to avoid being disciplined	-.46	2.10	1.02
37	Evaluating me on work objectives would lower my motivation	.44	3.83	1.01
<u>Factor 4=Pay</u>				
24	I am more motivated by pay than by the work I do	-.57	3.92	1.17
84	Higher pay is more important to me than job security	-.54	3.94	.96
58	In extension, pay is the most important thing to me	.45	2.15	1.02
<u>Factor 5=Praise & Work Location</u>				
46	Praise has little influence on my work performance	.50	3.72	1.10
36	I deserve little positive recognition for doing my job well	.47	4.06	1.16
32	I prefer working far away from my home area	.47	3.79	1.20
59	I should be praised less frequently for doing my job well	.44	3.39	1.11
52	Being praised makes me feel flattered	.44	3.69	1.00
<u>Factor 6=Housing & Transportation</u>				
80	Good housing increases my motivation to work	.76	4.11	.85
82	Housing has little influence on my job satisfaction	.68	3.96	.93
51	Good housing contributes to favorable work environment	.60	4.42	.74
6	Good housing contributes to my job satisfaction	.60	4.26	.94
76	Inadequate transport reduces my job effectiveness	.42	4.15	1.05
99	Adequate transport gives me job satisfaction	.42	4.38	.79

Table 1 (continued)

Rotated Factor Matrix Loadings Order of 35 Job Satisfaction Items on Oblique Factors and the Means and Standard Deviations for the Items (n = 325)

Item	Abbreviated Variable Label ^a	Factor Loading	Mean	SD
<u>Factor 7=Job Security</u>				
22	I prefer a secure job that pays less than insecure one that pays more	-.55	3.62	1.39
26	Feeling secure on the job motivates me to work harder.	-.41	4.38	.82
<u>Factor 8=Administration & Supervision</u>				
100	Extension administration has little influence on my work performance	.47	3.83	1.00
96	Supervision from my boss has little effect on how I work	.41	3.55	1.08

Note. ^aNegative items 24, 28, 30, 32, 36, 37, 43, 46, 52, 59, 82, 84, 96 & 100 were recoded (1 represented the lowest and 5 the highest level of job satisfaction). The items were rated on a scale of 1 to 5 where 1 = Strongly Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree.

their total years in service from 1 to 33, and their qualifications ranged from a post-secondary agricultural certificate to a master's degree. Agricultural Assistants had the longest number of years of service (10.5) followed by Assistant Agricultural Officers (8.5) and Agricultural Officers (5.2). All Agricultural Officers had 10 years or less of service. Agricultural Assistants had worked the longest in their current positions (5.5 years) while the agents in the other two ranks had served for 3.9 years in their current positions.

Objective two sought to identify job satisfaction factors and their relative importance. Factor analysis was used to determine the underlying dimensions of job satisfaction, (Table 1) as recommended by Ford, MacCallum, and Tait (1986), Norusis (1990), and Hair, Anderson, Tatham, & Black (1992).

A maximum likelihood factor analysis was conducted with the assumption that the variance of each measured variable could be decomposed into common and unique portions. This approach was appropriate because the measured variances were assumed to be a linear function of

the measured variables Ford et al. (1986) and because the analysis was done using a sample rather than a population (Norusis, 1990). Hair et al. (1992) indicated that factor analysis needed at least a sample of 50 but preferably 100 observations. They recommended 4 or 5 observations per variable but pointed out that researchers are often forced to factor-analyze a set of variables when only a 2:1 ratio of observations to variables is available. This exploratory study used approximately three subjects per item. The number of factors to extract before the unique variance begins to dominate common variance was based on a combination of the Latent Root Criterion (eigen value >1) and the Screen Test Criterion as indicated by Hair et al. (1992). This procedure indicated that eight out of twenty one initial factors identified by the researchers from the literature and from personal experience were significantly related to agents' job satisfaction and explained 24% of the variance. Since the factors were not assumed to be orthogonal with one another, the Oblimin rotation with maximum likelihood was used for extraction and to arrive at the factor loadings.

Table 2
Interfactor Correlations for the Oblique Rotated Factors Underlying Job Satisfaction of the Extension Agents in Kenya's Rift Valley Province (n = 325)

Factors	1	2	3	4	5	6	7	8
Evaluation (1)	1.00							
Dependable Supervisors (2)	.13	1.00						
Work Incentives (3)	.10	.12	1.00					
Pay (4)	-.01	-.18	-.23	1.00				
Praise & Work Location (5)	.08	-.08	.08	.03	1.00			
Housing & Transportation (6)	.29	-.07	.09	.06	.16	1.00		
Job Security (7)	-.19	-.03	-.02	-.02	-.04	-.16	1.00	
Administration & Supervision (8)	.05	-.02	.09	.07	.08	-.20	-.004	1.00

Table 1 indicates the items with their factor loadings. As indicated by Ford et al. (1986), only variables with loadings greater than .40 were considered in defining and reporting a factor. Factor names and the percent of variance each factor explained were as follows: evaluation (7.4%) dependable supervisors (5.3%), work incentives (2.8%), pay (2.2%), praise and work location (1.8%), housing and transportation (1.6%), job security (1.5%) and administration and supervision (1.3%). The factors were named by a panel of nine experts.

Table 2 presents the interfactor correlations for the obliquely rotated factors. The data support the assumption of the researchers that the factors were not orthogonal.

Objective three sought to determine agents' motivational level. Table 3 presents the agents' motivational-level scores. The overall mean motivational-level score was 3.66 on a scale of 1 to 5 (1=lowest & 5=highest). Within agents' ranks, the mean motivational level was 3.80 for Agricultural Assistants, 3.43 for Assistant Agricultural Officers, and 3.40 for Agricultural Officers. Since an analysis of variance indicated that the differences in the motivational level of these three groups were statistically significant, the Tukey's HSD post hoc test was applied to determine which groups were different. The results indicated that Agricultural Assistants were significantly different in their motivational level from Assistant Agricultural Officers and Agricultural Officers, but Assistant Agricultural Officers were not significantly different from Agricultural Officers. An F test revealed that the motivational level of males (3.66) was not significantly different from that of females (3.67).

In group interviews, agents in 11 districts said they were not motivated, while in one district they said they were motivated. In the district in which the agents described themselves as motivated, their District Agricultural Officer had received superior ratings, praise and admiration as a staff motivator from supervisors and had

won the agents' trust. This finding supported the finding that having dependable supervisors (i.e., persons worthy of being trusted to provide motivational and work related support) was the most important factor related to staff motivation.

The agents interviewed believed their promotions were more related to years of service than to individual performance. They also indicated that in recruiting staff for training, merit was being overlooked or not seriously considered. Although factors such as one's past academic record, work performance, years since graduation, and home district were used in selecting an agent for further training, in the agent's view, merit ought to be the most important criterion for selection. Allowances and health insurance were also important for motivating agents. Per diem in Kenya for officers on duty is based on rank. Hence, it is difficult for low-ranking and high-ranking agents to stay in the same hotels due to reimbursement problems. Low-ranking agents felt that all technical staff, irrespective of rank, should receive equal per diem for travel and hotel accommodation. However, most high-ranking agents felt that per diem based on rank helped to encourage low-ranking agents to move up through the ranks.

Objective four sought to examine the relationships between independent variables and the dependent variable. A very strong association existed between agents' age and total years in service ($r=.90$), and between agents' rank and formal education ($r=.95$). The presence of highly correlated independent variables indicated that one variable can be explained or predicted by the other. Hair et al. (1992) indicated that multicollinearity limits the size of R^2 or incorrectly estimates the regression coefficients. To control the effects of multicollinearity, the variable less strongly correlated with motivation in each pair was dropped from further analysis. Thus, age was dropped in favor of total years in service while formal education was dropped in favor of agents' rank on the job.

Table 3

Agents' Job Motivation Variables and Mean Motivational Level (n = 325)

Item	Variable Label ^a	Mean	SD
9	I often think of leaving the Extension service	3.76	1.27
38	Working as an Extension agent is in itself rewarding	3.79	1.07
42	I am highly motivated as an agent	3.27	1.38
64	I love my job	4.33	.74
102	My job is frustrating	3.91	1.14
105	I wish I had chosen a different career	4.04	1.03
109	The hours I spend on the job are ones I enjoy most	3.67	1.03
113	If I were to choose a career once more, I would choose to be an extension agent	3.80	1.08
114	While on vacation, I often wish I were back to work	2.90	1.16
115	In the Extension Service, I have many opportunities for personal growth	3.15	.27

Note. ^aNegative items 9, 102, and 105, were recoded before calculating the variable means and standard deviations (1 represented the lowest and 5 the highest level of motivation).
Mean = 3.66, SD = .72, Min = 1.4, Max = 5.0

Table 4

Regression of Agents' Motivation on Agents' Rank and Selected Job Satisfaction Factor Scores-
Hierarchical Entry (n=325)

Factors	R ²	R ² Ch b	t	p	
Rank	.068	.068			
Dummy3			.48	.38	.7025
Dummy4			-1.34	-1.07	.2876
Dependable Supervisors	.352	.284	3.46	20.96	.0000
Pay	.449	.097	-2.55	-7.86	.0000
Job Security	.510	.061	-1.77	-5.20	.0000
Staff Evaluation	.539	.029	1.51	4.68	.0000
Administration & Supervision.	.554	.015	-1.18	-3.19	.0016
Constant			36.67		

Note. Standard error = 4.87, Adjusted R² = .544, Model F = 52.96, p < .0001

Categorical variables: gender, marital status, rank and highest qualification were dummy coded and entered into the regression equation. When the stepwise procedure was used to regress motivation on personal characteristics, only agents' rank and years of service were statistically significant ($p < .05$). The procedure was repeated using the job satisfaction-factor scores plus agents' rank and years of service and only rank and five of the eight factors were statistically significant ($p < .05$).

To control the effects of extraneous variables (McCracken, 1991), the researcher entered agents' rank on the job into an hierarchical regression equation first to determine the amount of unique variance it contributed. Rank accounted for about 7% of the variance in motivation. All the job satisfaction factors that were statistically significant in the stepwise regression equations were then entered in an hierarchical regression equation (see Table 4) in order of their importance. The final R^2 was .55 while adjusted R^2 was .54 indicating that job satisfaction factors contributed by agents' rank. When motivation was regressed on the five job satisfaction factors in a stepwise regression equation omitting rank, an R^2 of .54 and an adjusted R^2 of .53 were obtained.

Conclusions and Recommendations

The conclusions are based on the objectives and findings of the study and are generalizable to Extension agents in Kenya's Rift Valley Province. The conclusions were as follows:

1. Agents' personal characteristics were less important for their motivation than were the job satisfaction factors.
2. In decreasing order of importance, the eight factors found to be important for agents' job satisfaction were evaluation, dependable supervisors, work incentives, pay, praise and work location, housing and transportation, job security, and administration and supervision. Supervision, as used in this study is the process of giving the agents instruction, guidance and discipline which they require to fulfill their Extension duties and responsibilities. To succeed, this process requires mutual trust. An agent will consider a supervisor to be dependable on the basis of how the two individuals interact with each other. However, effective supervision depends on how the supervisor, the agent and the Extension organization interact with one another.
3. Five of the eight job satisfaction factors accounted for over 50% of the variance in agents' job motivation and included: dependable supervisors, pay, job security, evaluation, and administration and supervision. Therefore, a very important step in improving staff motivation, and by implication (Lawler III, 1973; Kreitner, 1986; Grossnickle & Thiel, 1988; Davies, Ellison, Osborne, & West-Burnham, 1990; Perry & Wise, 1990), performance and productivity, is to select and train individuals for supervisory positions that have desirable leadership qualities and good interpersonal communication skills. Agents' motivation may also be increased by tying pay to performance, providing job security, evaluating agents objectively and showing concern both for their productivity and welfare.
4. The agents' perception that merit was often ignored in selecting staff for further training caused them frustration and lowered their motivation. The findings of the study support Vroom's (1964) recommendation that staff performance be assessed accurately; based on standards that employees perceive to be fair, achievable, and equal for all. The entire incentive system needs administrative backing and attention; and employees should be treated equally. Furthermore, as Skinner (1969) concluded, identical reward for all employees are ineffective in motivating employees. Rewards must be based on individual performance.
5. Job satisfaction and motivation are related but different. This conclusion was based on the fact that eight factors were important in explaining the agents' job satisfaction but only five of these factors were important for their motivation.
6. The findings of this study may be useful to Extension managers whose agents have similar basic training and terms of service. The researchers also recommend that the

study be replicated in other provinces to compare the results; that more studies be done in Rift Valley Province to identify factors that account for the unexplained variance in motivation and job satisfaction, and that studies be done to determine the impact of in-service training and payment of agents' allowances and benefits on agent's motivation. Finally, the researchers recommend that future studies include at least five items per factor under investigation to further refine and develop the data related to motivation and job satisfaction

References

- Adams, J. C., & Rosenbaum, W. B. (1962). The relationship of worker productivity to cognitive dissonance about wage inequities. Journal of Applied Psychology, 46 (1), 161-164.
- Altschuld, J. W., & Thomas, P. M. (1991, Winter). The teaching of evaluation: 25 years of growth and change. Theory Into Practice, 30 (1), 22-29.
- Beder, H. (1990). Reasons for nonparticipation in adult education. Adult Education Quarterly, 40, 207-218.
- Buford, J. A., Jr. & Bedeian, A. G. (1988). Management in extension. Alabama: Auburn University Cooperative Extension Service.
- Campbell, D. T. & Stanley, J. C. (1963). Experimental and quasi-experimental designs for research. Chicago: Rand McNally & Co.
- Cohen, D. J. (1990). What motivates trainees? Training and Development Journal, 44(11), 91-93.
- Davies, B., Ellison, L., Osborne, A., & West-Burnham, J. (1990). Education management for the 1990s. Great Britain: Harlow Logman.
- Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. Personnel Psychology, 39, 291-312.
- Grossnickle, D. R., & Thiel, W. B. (1988). Promoting effective student motivation in schools and classrooms: A practitioners perspective. (Report No. ISBN-0-88120-200-1). Reston, VA: National Association of Secondary School Principal. (ERIC Document Reproduction Service No. ED 290 716)
- Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1992). Multivariate data analysis with readings (3rd ed.). New York: Macmillan Publishing Company.
- Herzberg, F. (1972). Work and the nature of man. New York: New American Library.
- Kenya Government. (1986). Economic management for renewed growth. (Sessional Paper No. 1). Nairobi: Government Printer.
- Kenya Government. (1990). Central bureau of statistics economic survey. Nairobi: Government Printer.
- Kreitner, R. (1986). Management (3rd ed.). Boston, MA: Houghton Mifflin Co.
- Lawler, E. E., III. (1973). Motivation in work organizations. Monterey, CA: Brooks/Cole Publishing Company.
- Maslow, A. H. (1943). A theory of human motivation. Psychological Review, 50, 370-396.

- McCracken, J. D. (1991, December 6). The use and misuse of correlational and regression analysis in agricultural education research. Paper presented as the invited address at the National Agricultural Education Research Meeting, Los Angeles, California.
- Moris, J. R. (1987). Incentives for effective agricultural extension at farmer/agency interface. In W. M. Rivera & S. G. Schram (Eds.), Agricultural extension worldwide (pp. 163-171). New York: Croom Helm.
- Mueller, D. J. (1986). Measuring social attitudes: A handbook for researchers and practitioners. New York: Teachers College Press.
- Norusis, M. A. (1990). SPSS/PC + statistics version 4.0. Chicago, IL: SPSS, Inc.
- Perry, J. L., & Wise, L. R. (1990). The motivational basis of public service. Public Administration Review, 50, 367-373.
- Skinner, B. F. (1969). Contingencies of reinforcement: A theoretical analysis. New York: Appleton-Century-Crofts.
- Vroom, V. H. (1964). Work and motivation. New York: John Wiley & Sons, Inc.
- Watanabe, S. (1991). The Japanese quality control circle: Why it works. International Labor Review, 130 (1), 57-79.

PERCEPTIONS REGARDING THE INFUSION OF A GLOBAL PERSPECTIVE INTO THE CURRICULUM AS IDENTIFIED BY THE FACULTY OF THE COLLEGE OF AGRICULTURE AT IOWA STATE UNIVERSITY

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Iowa State University

Abstract

Recently, many universities and colleges have been examining the international dimensions of their programs and have concluded that the process of internationalization of the curriculum is a priority, as it has the potential to bring about substantial changes in student attitudes regarding cultures and societies around the world and to provide alternative methods for dealing with them. What research has been conducted in this area has primarily centered on the internationalization of the entire university curriculum, and not on one aspect of it. This study focused on the internationalization of the curriculum of the College of Agriculture at Iowa State University.

The major purposes of this study was to assess and analyze perceptions of College of Agriculture teaching faculty regarding the infusion of a global perspective into the agriculture curriculum, and to supply information on the performed activities, opinions, and concepts critical to adding a global perspective to the study of agriculture.

America's young face a set of new national and international circumstances about which they have only the faintest of notions. They are, globally speaking, blind, deaf, and dumb; and thus handicapped, they will soon determine the future directions of this nation. (Bonham, 1989, p.6)

Introduction

Recently, many universities and colleges have been examining the international dimensions of their programs and have concluded that the process of internationalization of the curriculum is a priority (Henson & Noel, 1989, p. 17).

Many people believe that internationalization of the college curriculum has the potential to bring about substantial changes in student attitudes regarding cultures and societies around the world and to provide alternative methods for dealing with them. What research has been conducted in this area has primarily centered on the internationalization of the entire university curriculum, and not on one aspect of it. A recent

study focused on the internationalization of the curriculum of the College of Agriculture at Iowa State University.

For the purposes of this study, "internationalization" of the curriculum was defined as the incorporation of international dimensions, content and considerations into the teaching, research, extension and/or public service functions of the college to enhance their relevance in an interdependent world (Henson & Noel, 1989, p. 17).

Purpose of the Study

The major purpose of this study was to assess and analyze perceptions regarding the infusion of a global perspective into the curriculum as identified by the faculty of the College of Agriculture at Iowa State University. A secondary purpose was to determine those activities currently being used by teaching faculty to add a global perspective to the subject matter area of agriculture.

Of the 155 respondents, approximately 41% of the respondents (teaching faculty) indicated that 50% of their time was allocated to research, while only 24% indicated that 50% or more of their time was allocated to teaching (see Figure 2).

Of the 155 respondents, eighty-one (52.2%) indicated that they were using some activity to add a global perspective to their instruction. Fifty-four of the respondents (35%) had spent a total of one year or more in countries other than the United States, and approximately 102 of the respondents (66.3%) spoke one or more languages other than English (see Figure 3).

Eighty-eight (57%) of the respondents indicated that they had not published any professional journal articles which had an international focus.

The second objective of this study was "to identify the perceptions held by faculty members regarding internationalizing the agriculture curriculum." Respondents felt strongly that: (1) educators can enhance students development by helping them recognize the global nature of issues; (2) faculty should encourage students to

appreciate their role as world citizens; and (3) the College of Agriculture curricula should provide students with an international agriculture base of knowledge. However, after examination of those student activities being used to add a global perspective to the curriculum, the data indicate that very little in the way of internationalization of the curriculum is actually being done. Of those student activities being used by faculty to add a global perspective to the curriculum, discussion and/or debate were rated as the most used activities. Thus, one may conclude that some instructors are conducting a few activities that are having an impact on internationalizing their courses, but there is a greater number of courses where no efforts are being made to add a global perspective to the study of agriculture. Respondents did not agree with the following statements: (1) faculty attitude is a limiting factor in trying to integrate a global education into the agricultural curricula; (2) College of Agriculture should have a foreign language requirement; (3) faculty need to have professional international experiences; (4) College of Agriculture should encourage international internships for all undergraduate students; and (5) a sense of global responsibility

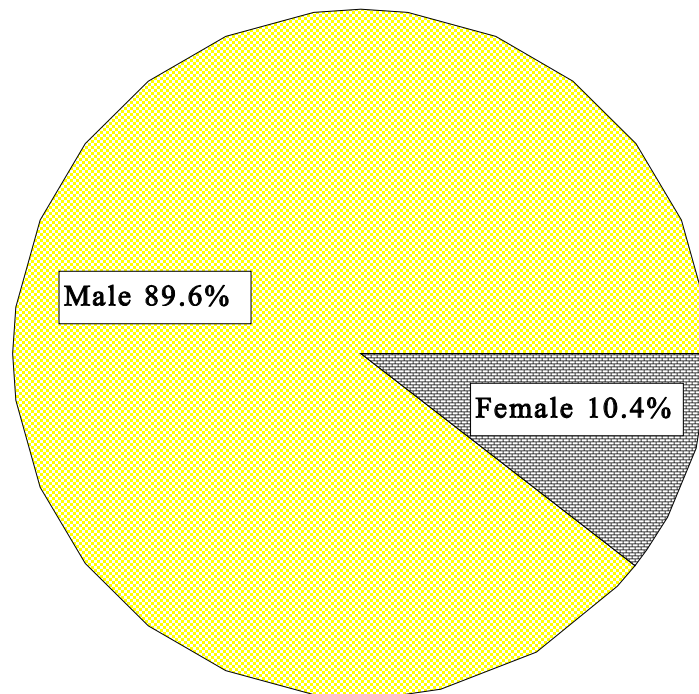


Figure 1. Distribution of respondents by gender (N = 154).

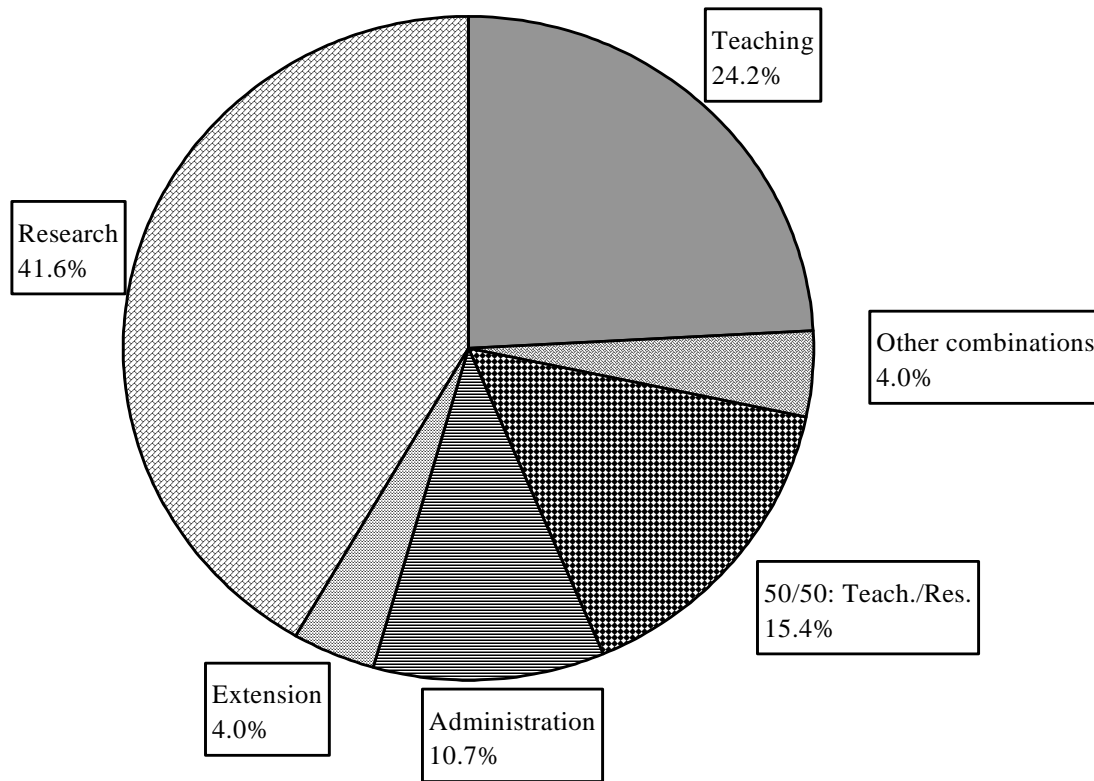


Figure 2. Distribution of respondents by primary workload (N = 149).

will not enable agricultural educators to act in ways that will contribute to solving world problems.

The third objective of this study was "to identify those concepts critical to adding a global perspective to the study of agriculture in the College of Agriculture at Iowa State University."

Respondents felt that environmental management and sustainable agricultural practices were the most important agricultural concepts which should be taught from a global perspective. The fourth objective of this study was "to compare the data based on the demographic characteristics of the population."

A positive correlation was found between the length of time respondents had spent outside of the United States and their level of agreement to A perceptions regarding internationalization of the curriculum." In other words, the greater the amount of time spent abroad by a respondent, the higher was their overall level of agreement placed on internationalization perceptions by that

respondent.

A positive correlation was also found between the number of languages that a respondent spoke and their level of agreement as to A perceptions regarding internationalization of the curriculum."

The more languages a respondent spoke, the higher was their overall level of agreement with perception statements. Thus, it appears that those faculty members who have had international experiences and speak a foreign language were more supportive of internationalizing the agricultural curriculum.

A positive correlation was found between the number of languages a respondent spoke and the level of importance they placed on the selected A concepts to be taught from a global perspective."

The more languages spoken by a respondent, the higher the level of importance they placed on the concepts they felt should be taught from a global perspective."

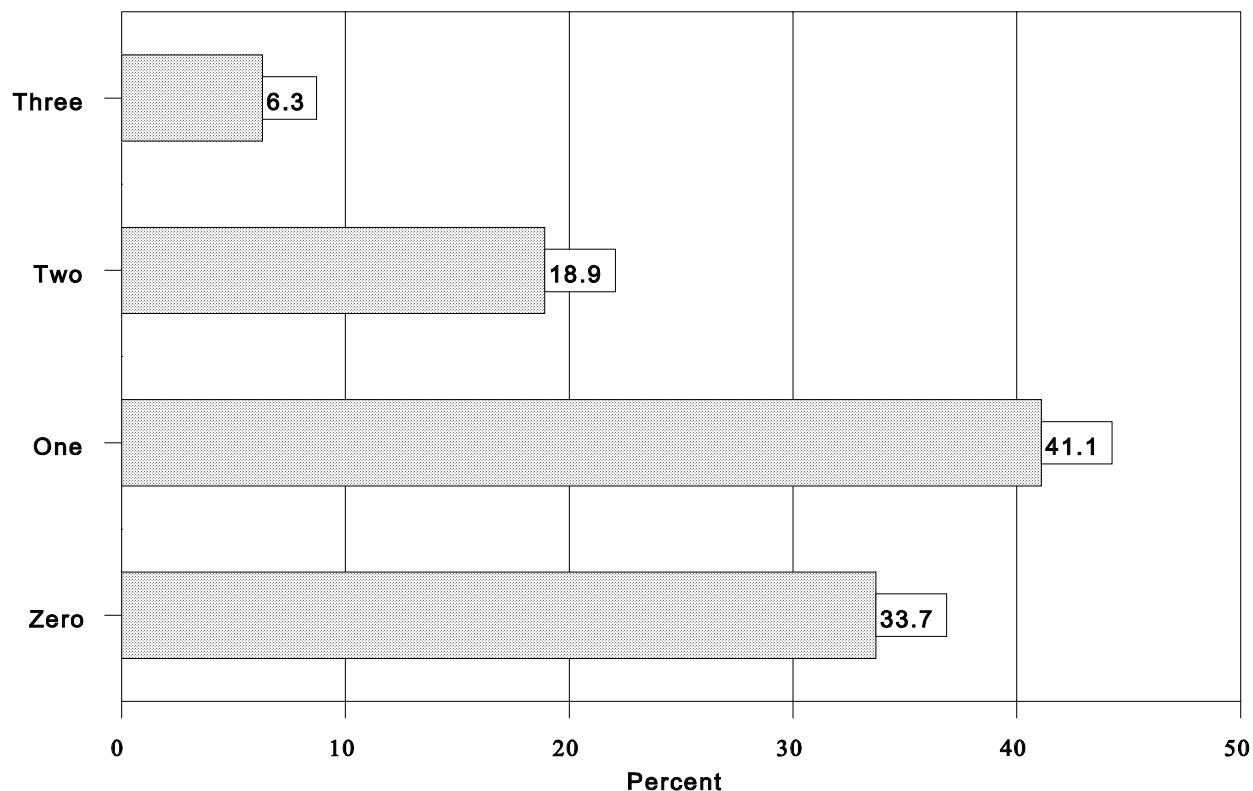


Figure 3. Distribution of respondents by the number of foreign languages they speak (N = 123).

It should be noted that white respondents and non-white respondents differed in levels of agreement placed on internationalization perceptions, and on the level of importance they placed on concepts to be taught from a global perspective. Also, non-United States born respondents tended to have a higher level of agreement with the internationalization perceptions than did respondents who were born in the United States.

The findings of this study concur with the internationalization literature. Both the literature and the findings from this study imply that individuals from foreign countries, as well as individuals who speak at least one foreign language tend to be more supportive of internationalizing the curriculum. Henson and Noel (1989:19) found that a faculty member's

interest and understanding of the relevance of incorporating a global perspective into the curriculum are directly influenced by his or her having had a professional experience in another country.

The fifth objective of this study was to "identify activities or procedures currently being used by College of Agriculture teaching faculty which add a global perspective to the existing curriculum." "Classroom discussion and debate" was the primary student activity used by respondents to add a global perspective to their teaching and to student learning, while the "use of films, slides, and videos" and "use of guest speakers" both ranked second. "Use of student and/or one's own international experiences" (10%) as a student activity was rated low by respondents. It can be concluded that a narrow

range of student learning activities form the international infusion effort.

Of those topics used for class discussion and/or debate "world agricultural systems" was the general topic area most frequently discussed in courses to add a global perspective to the curriculum. "Technical subject matter as it applies to specific courses," and "selected political and economic topics" were the second and third most discussed topics, while "world education and extension systems" were the topics least discussed.

The first and second ranked reasons cited by respondents for adding a global perspective to their course work were "it is necessary for student development" and "it is pertinent to the course subject matter," while the least cited

reason for adding a global perspective to their course work was "because of student interest."

With regard to opinions on the existing College of Agriculture curriculum, the most commonly cited general curriculum problem, as indicated by respondents, is that it is "too narrow and restrictive." Respondents generally felt that their departmental curriculum was too rigid and did not meet the needs students; there is no room for flexibility. The second most commonly cited general problem with the curriculum is that it needs "more student and faculty experiences." Respondents felt that both students and faculty need to be exposed to new and different learning experiences, in that existing learning activities are old, outdated, and stale. Respondents

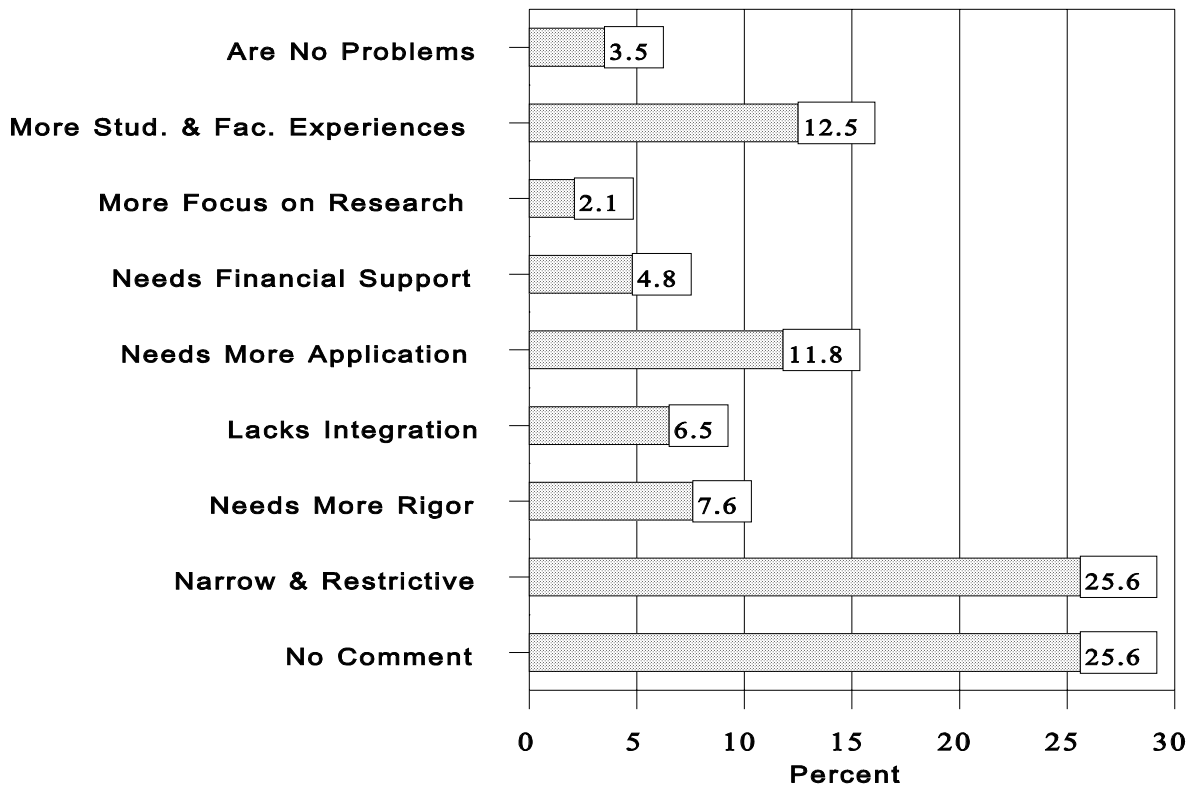


Figure 4. Frequency distribution of the primary departmental curriculum problems impacting international agriculture as perceived by agriculture faculty at Iowa State University (N = 107).

indicated that there was too much emphasis on research and technical subject matter; students need to be able to apply what they have learned. The least common general curriculum problem cited by respondents was that there needs to be "more focus on research" (see Figure 4). Respondents seemed to be in general agreement that there needs to be a greater emphasis placed on student learning, as opposed to the traditional research orientation of many departments. In subsection two, respondents were asked to list those activities which they felt would improve the curriculum in their departments (see Figure 5).

The most commonly cited suggested activity for improving the curriculum was to "refocus and restructure it" (18.4%). The second most commonly cited activity for improving the curriculum was to "improve the teaching abilities of the faculty" (12%), while the third most commonly activity for improving the curriculum was to "internationalize the content and experiences" (10.4%). The least common suggested general activity for improving the curriculum was to "add foreign language requirement" (2.45%).

Again, faculty responses were in agreement with the current literature. Dorner (1989, p. 85),

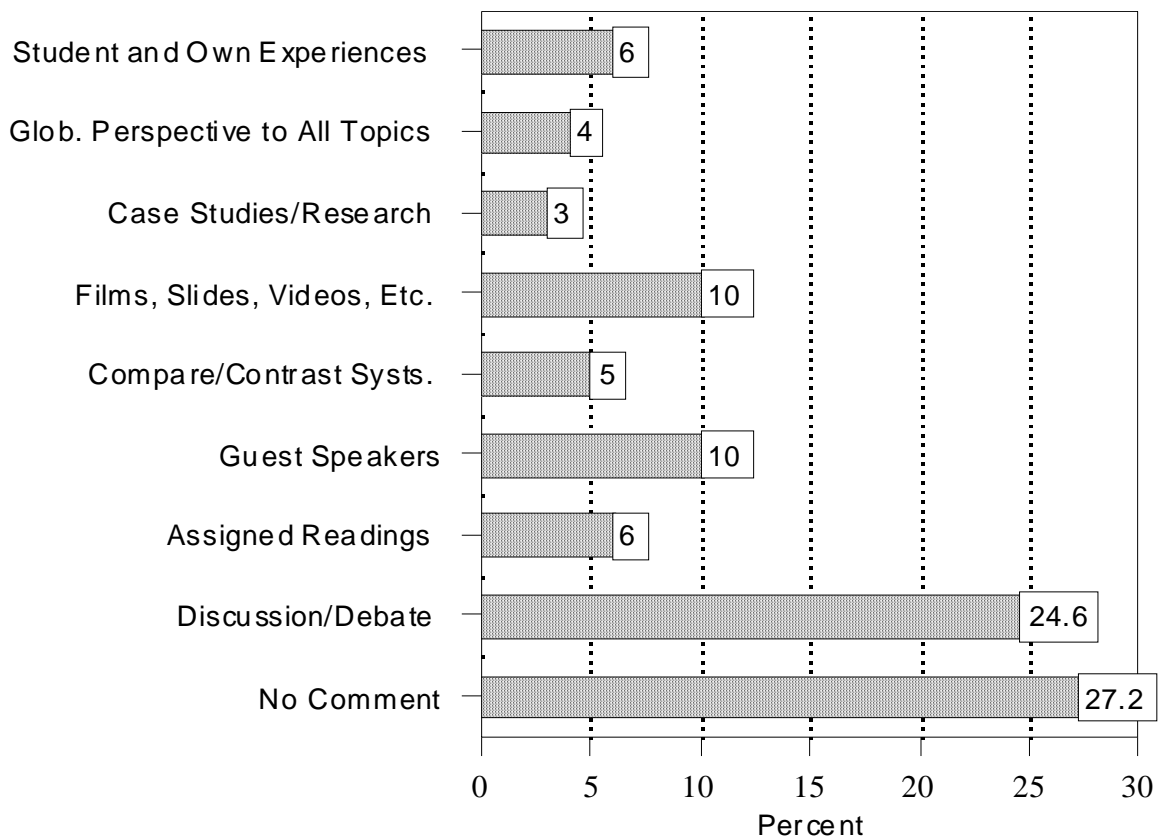


Figure 5. Frequency distribution of suggested activities that could be used to improve the curriculum within departments as perceived by agriculture faculty at Iowa State University (N = 92).

claims that the American post-secondary educational system must adapt to develop new capacity in our people, because our current system is too parochial for today's world. The swiftness with which social change is occurring and the responsibilities of living in a global village suggest a re-examination of the purposes of education (Svengalis, 1989, p. 8). Faculty responses to "the level of commitment they believed their departments had established for the incorporation of internationally related content, materials, activities, and understandings into the teaching, research, and/or public service functions," indicated that fifty-six felt their departments had done so to a moderate degree, thirty-three indicated to a high degree, while only seven respondents felt their departments had done so to a very high degree.

With regard to faculty perceptions about whether the global studies problems, and/or opportunities will be "More Important," "Stay About the Same," or "Become Less Important" to the parts of society that rely on services and products from the University during the next ten to twenty years, 123 of the 155 respondents indicated "More Important," 18 indicated "Stay About the Same" and only one respondent indicated a "Become Less Important" response.

Fifty-six of the 155 respondents indicated a "no" response, while 51 indicated a "yes" response when asked whether their department had within the last three years, conducted any type of review, study, or planning activity directed toward evaluating, increasing or strengthening the international content and dimensions of departmental programs. Additionally, 32 respondents indicated "yes," 45 "no," and sixty respondents indicated "do not know" responses when questioned whether their departments had a mission statement document that included language specifically addressing a commitment to internationalization of the department.

When asked if they felt during the next ten to twenty years the level of international related programs and activities at Iowa State University will "Increase," "Decrease" or "Stay About the Same," 43 respondents indicated that it will "increase greatly," ninety-one indicated it will "increase slightly," and seven indicated it will "stay about the same," and two respondents "did not know." The general response or rationale most commonly cited for encouraging

Iowa State University to establish, maintain, or develop a commitment to internationalization of its programs, course offerings and activities was that it is "necessary for the workability of faculty and college graduates" (29%). In other words, respondents felt that students and faculty members will need to develop those international attitudes and skills which will, therefore, enable them to compete and function more effectively at the international level. According to Henson and Noel (1989, p. 21), it is estimated that during the next ten years more than fifty percent of the agricultural college graduates will be employed by companies directly involved in international trade, or will work for commercial firms with significant indirect involvement in international trade. Schuh (1989, p. 8) claimed that our students will be at a serious disadvantage, as will our nation as a whole, if they are not properly prepared to compete in the international marketplace. The second most commonly cited rationale was "because the global community is becoming smaller and more interdependent" (23.7%), while the third most commonly cited rationale was that "the nature of the global community is calling for it" (20.4%). The least common rationale for encouraging Iowa State University to establish, maintain, or develop a commitment to internationalization of its programs, course offerings and activities was for "technology transfer and information exchange" (2.2%). Five respondents (5.4%) indicated that Iowa State University is "doing enough now," while one respondent indicated that "there is no rationale" for encouraging Iowa State University to establish, maintain, or develop a commitment to internationalization of its programs, course offerings, and activities.

Summary of Major Findings

The major findings of the study were as follows:

1. It was the general perception of the respondents that the College of Agriculture curriculum at Iowa State University lacks a global perspective.
2. Internationalization of the curriculum was perceived to be important.

3. Approximately forty-one percent of the respondents (classified as "teaching faculty") identified 'research' as their primary workload area.
4. Twenty-four percent of the respondents (classified as "teaching faculty") identified 'teaching' as their primary workload area.
5. Some teaching faculty in the College of Agriculture are incorporating teaching strategies and student learning activities into their course work to add a global perspective to their instructional program.
6. Of the 155 respondents, eighty-one (52.2%) indicated that they were using some activity to add a global perspective to the learning process.
7. Fifty-four of the respondents (35%) have spent a total of one year or more in countries other than the United States.
8. Respondents indicated a need for the College of Agriculture curricula to provide students with an international agriculture knowledge-base.
9. Non-U.S. born individuals tended to be more supportive of internationalizing the curriculum.
10. Individuals who have had international experiences tended to be more supportive of internationalizing the curriculum.
11. Individuals who speak one or more foreign languages tended to be more supportive of internationalizing the curriculum.
12. Non-white respondents tended to be more supportive of internationalizing the curriculum.
13. Classroom discussion and debate were the primary student activities used to add a global perspective to the curriculum.
14. Respondents indicated that environmental management and sustainable agricultural practices were the most important

agricultural concepts to be taught from a global perspective.

16. Respondents perceived that adding a global perspective to the curriculum was "necessary for student development" but there currently appears to be a lack of student interest.

Conclusions

A review of the findings of this study resulted in the following conclusions:

1. In general, the curricula in the College of Agriculture at Iowa State University does not have an global perspective.
2. College of Agriculture faculty members indicated that the need for students to gain a global perspective while at the university is an important issue.
3. Respondents in this study, in general, seemed to indicate that it may or may not be necessary to add a global perspective to all courses as long as students acquire this perspective while at the university.
4. A variety of teaching strategies (although narrowly focused) have utility in the process of adding a global perspective to the curriculum.
5. A small range of student learning activities form the international infusion effort.
6. Faculty members' international experiences have a significant impact on adding a global perspective to the teaching of technological agriculture.

Recommendations

Based on the findings and conclusions of the investigation, the following recommendations were made:

1. The results of this study should be shared with agricultural faculty and administrators within the College of Agriculture at Iowa State University, and with other individuals responsible for planning and providing direction for internationalizing the agricultural curriculum at other colleges and universities.

2. College of Agriculture faculty should give serious consideration to studying a foreign language and encouraging students at the collegiate level to do likewise.
3. College of Agriculture faculty should become involved in various international projects and experiences and utilize these experiences in teaching.
4. College of Agriculture at Iowa State University should foster and promote international experiences for faculty and students.
5. College of Agriculture faculty should be provided with in-service education programs and workshops to develop strategies to add a global perspective to the teaching of agriculture.

Recommendations for Further Research

The following recommendations for further research were suggested:

1. A more comprehensive study involving research and extension faculty should be conducted and the results compared with the findings of this study.
2. Similar studies should be conducted to determine the perceptions of agriculture industry employers, policy makers and government agency personnel, regarding internationalization of the agricultural curriculum at Iowa State University.
3. A similar study should be conducted to determine the perceptions of students of agriculture and graduates from the College of Agriculture at ISU, regarding internationalization of the curriculum at Iowa State University.
4. Research should be initiated to further expand and validate the procedures used in this study with other target groups at ISU and at other universities.

Concluding Remarks

One can conclude that faculty members serve as the key to successful internationalization of the curriculum. However, the process of internationalizing a curriculum rests on the development of a plan and a strategy. The development of this strategy should involve an appropriate participatory process which will promote ownership, as well as define the opportunities, benefits, and the current status of international efforts. The formulation of such an overall plan provides direction and reduces the possibility of fragmentation and loss of opportunities as well as resources.

The international dimension of agriculture needs to be fully integrated into course offerings, and additional experiences and programs (exchange, training, etc.) are needed to provide administration, faculty, and students with the skills and knowledge to have at least an awareness, and preferably, an understanding of the world in which we live and work.

List of References

- Bonham, G. W. (1989). Education and the world view. Council on Learning, Change Magazine Press, 4, 6.
- Dorner, P. (1989). Internationalizing university programs to meet the challenges of the 21st century: Educating for a global perspective. The North Central Curricular Committee Project, 85-90.
- Henson, J. B. & Noel, J. C. (1989). Faculty and the internationalization of the agricultural education curriculum for the year 2005: Educating for a global perspective. The North Central Curricular Committee Project, 19-25.
- Henson, J. B. & Noel, J. C. (1990, June). Internationalizing U. S. universities and colleges of agriculture. Proceedings of the Conference on Internationalizing U.S. Universities: A Time for Leadership, Spokane, WA, 1-14.

Schuh, G. E. (1989). The rationale for international agricultural education for the 21st century: Educating for a global perspective. The North Central Curricular Committee Project, 1-8.

Svengalis, C. M. (1989). Global education in Iowa schools. Des Moines: Iowa Department of Education.

THE DEVELOPMENT OF A FRAMEWORK FOR THE EVALUATION OF THE CAPACITY-BUILDING COMPONENTS IN RURAL DEVELOPMENT PROJECTS*

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Abstract

Trends in rural development indicate that increasing emphasis is being placed on the achievement of sustainable results through increasing the capacity of the people and institutions involved. This article describes the development of a framework for evaluating the capacity-building components in rural development projects. This study was based on a documentary analysis of project records and related documents. The developed framework provided a valuable tool for evaluating capacity-building components of selected rural development projects. The original framework was revised based on its usefulness in the original evaluation process. The new framework should be used by all those involved in development projects who wish to ensure that factors affecting capacity-building are not overlooked at any stage in the project development process. Development professionals need to be aware of the importance of evaluation. The framework developed in this study provides a useful tool for evaluation of development projects and their capacity-building components.

Introduction

In development situations in both the United States and developing countries, there is a concern with the development of the capacity of people to identify and solve their own problems and to determine their own future (Program Development Ad Hoc Committee, 1974; Bryant & White, 1982; Rajasekaran & Martin, 1990). Capacity may be defined as the ability to anticipate and influence change, make informed decisions, attract and absorb resources and manage resources to achieve objectives (Gow & Van Sant, 1985). Capacity-building is the development of the conscious capability of individuals, groups and organizations to establish a foundation for development that will be self-sustaining after the withdrawal of donor inputs (Conyers, Warren, & van Tilburg, 1988). A process approach to development, where implementation is regarded as a learning process and project managers are able to revise their approaches in the light of feedback from the environment, is seen as facilitating the goal of improving capacity (Bryant & White, 1982).

Trends in rural development indicate that increasing emphasis is being placed on the achievement of sustainable results through

increasing the capacity of the people and institutions involved (The Institute of Cultural Affairs International, 1985). At one time in its history, the United States Agency for International Development (USAID) identified institutional development as one of the four leading elements of its development strategy (Uphoff, 1986). More recently, development agencies have been placing emphasis on indigenous knowledge and empowerment of people (den Biggelaar, 1991).

In the United States, the Cooperative Extension Service has been involved for many years in community education for development (Compton & McClusky, 1980). It has been involved in working with and training community leaders, helping establish community councils, and in providing assistance in analyzing community problems and needs. Community resource development has always been a part of the extension philosophy, but since the early 1970s, it has been recognized as one of the four major extension program areas from an administrative and financial viewpoint (Prawl, Melin, & Gross, 1984).

The Situation

The increased emphasis on capacity-building in development requires changes in project implementation and evaluation that must be built into the initial project design. There are many factors affecting project planning and implementation that either facilitate or hinder the successful implementation of development, and more specifically may affect the capacity-building components in rural development projects (Van Sant & Crawford, 1985; Binnendijk, 1989). When factors affecting development projects are inadequately addressed, inappropriate strategies may be implemented and implementation problems may arise (Van Sant & Crawford, 1985).

It is essential for those involved in rural development to understand the complexities of the constraints affecting the projects they are involved with if successful implementation is to be achieved. This necessity is particularly true of the capacity-building components in rural development projects that are difficult to evaluate because their results tend to be qualitative and less easily monitored and measured.

Agricultural extension professionals are one example of personnel for whom the analysis of the capacity-building components in rural development projects is important. Since agriculture is of great importance to the livelihood of rural populations, rural development frequently has agriculture as its central focus (Binnendijk, 1989). In rural development projects, agricultural extension professionals are actively involved in the process of technology transfer and developing the capacity of individuals and institutions to make use of that technology. It is therefore essential that those involved in agricultural extension in a rural development context are aware of the implications of the strategies that they implement, or of which they are a part.

Purpose

The overall purpose of this article is to describe the development of a framework for evaluating the capacity-building components in rural development projects. The process of developing the framework involved the following steps:

1. Develop a framework to evaluate the process of planning, implementing, monitoring, and evaluating rural development projects with particular reference to capacity-building objectives.
2. Test the framework by using it on selected rural development projects, in both the United States and developing countries where the development of capacity was one of the overall goals.
3. Identify the practices in the process that facilitated or constrained the building of capacity.
4. Identify and assess the indicators of development of capacity used by the project, and the extent they were useful in measuring improved capacity of people or institutions.
5. Revise the framework in the light of information gathered.

Methods and Procedures

Design

To meet the objectives of this study, a documentary analysis of project administrative records and related documents was chosen as the most appropriate approach. Given the wide geographical area of inquiry, documentary analysis provided an economical and feasible way of studying the topic in question. Furthermore, since the subject of study was the evaluation process, evaluation documents provided the most appropriate data. A naturalistic, qualitative approach was taken to develop an in-depth study that could be sensitive to unanticipated variations and individual characteristics in the project evaluations.

Instrumentation

To make comparisons among the projects, a conceptual framework was developed, and questions were formulated to establish whether and how an increase in capacity was encouraged and monitored during the evaluation process. The body of literature related to development and project evaluation revealed valuable information for selecting specific problem areas in process-oriented development that needed to be

investigated. This review led to the development of the framework and the questions that needed to be addressed when conducting this study. The framework and questions were not intended to represent a rigid plan, rather a starting point for investigation. To provide as complete an analysis as possible, an emergent approach was used and the plan was adapted in the light of the information discovered in the records.

The Conceptual Framework

The conceptual framework is illustrated in Figure 1. The main factors indirectly affecting the development of capacity may be divided into three categories: overall management, development approach and external factors. In addition, there are factors directly related to capacity-building which affect success in the development of skills.

The Questions

The so-called CIPP (Context, Input, Process, Product) model for evaluation, developed by Stufflebeam in the late 1960s, as reviewed and updated by him in 1983 (Stufflebeam, 1983) provided a suitable structure within which to frame the initial questions for analyzing the monitoring and evaluation of the capacity-building components in rural development projects. It pays attention to all elements of the planning and implementation process, providing information for decision making and evaluation, and considers both process and product. In addition, it provides valuable background data against project outcomes that may be interpreted and understood.

Stufflebeam (1983) redefined evaluation as a process of providing useful information for decision making. It was conceptualized as including context, input, process, and product evaluations to assist with planning, structuring, implementing, and recycling decisions respectively.

Context evaluation is related to objectives and needs assessment. Its purpose is to identify the strengths and weaknesses of an object such as an institution, program or population, and to provide direction for improvement. Input evaluation is related to input specification and strategy. Its main purpose is to help prescribe a program to bring about needed changes. Process evaluation is related to guidance for implementation. It is an ongoing check on the implementation plan, providing feedback to managers and staff about whether the project is going according to plan. It will also provide guidance to the implementors for modifying the plans as the project progresses, and assist in assessing how capable the program participants are in accepting and carrying out their roles. Product evaluation is related to guidance for termination, continuation, modification or installation. It will measure, interpret and judge the attainments of a program to see if the program has met the needs of the people it was intended to serve.

The initial questions, based on the CIPP model of Stufflebeam (1983), included the following:

Context Evaluation

1. What were the project objectives?
2. Were the project objectives clear?
3. Were the project objectives operational?
4. Were the project objectives flexible rather than rigid?
5. Were the capacity-building and skills transfer objectives identified and clearly stated?
6. Were the objectives of the project compatible with donor and host country goals? Explain why/why not.
7. What were the indicators of the qualitative/capacity-building objectives?
8. Were indicators of qualitative objectives valid and reliable? Is there any evidence of this?

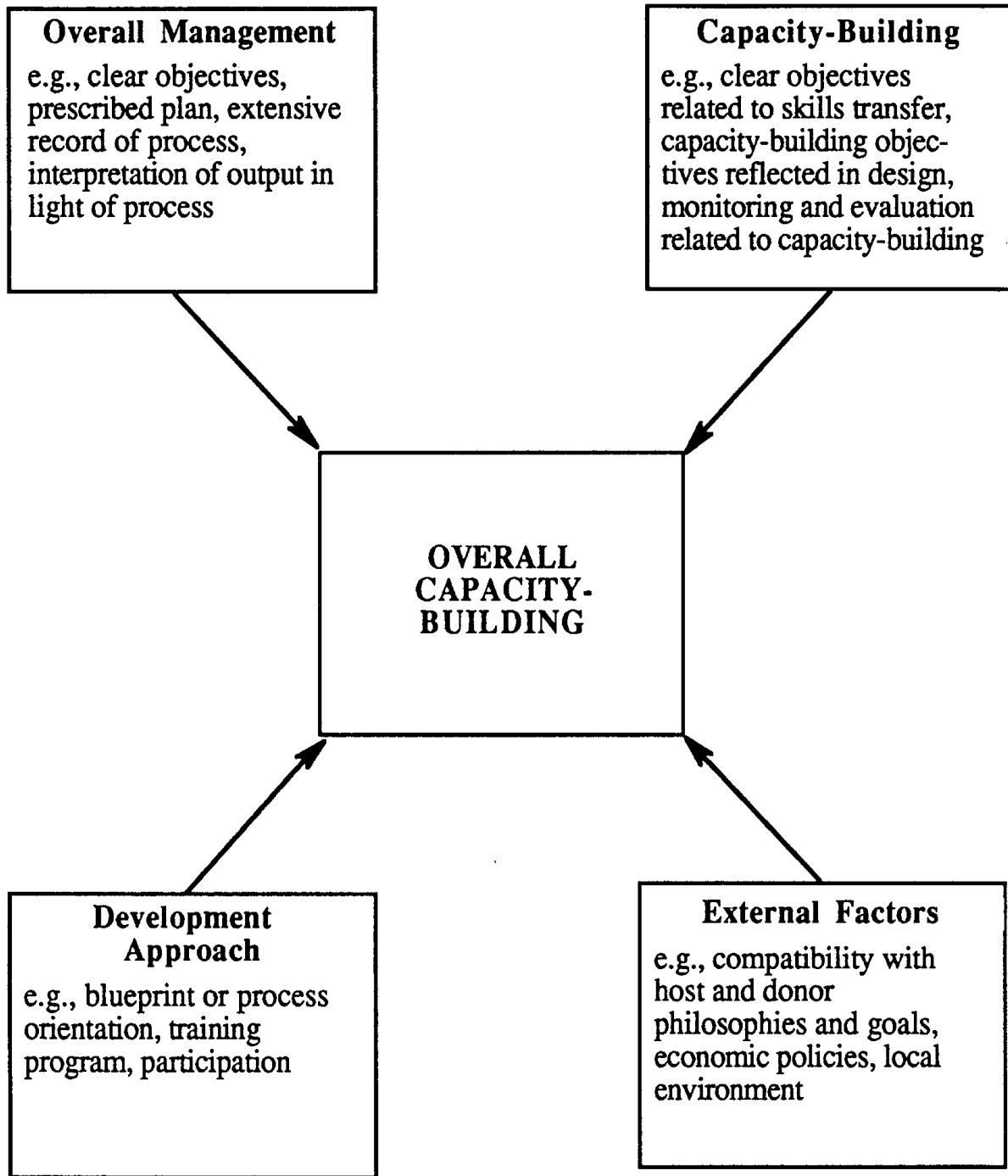


Figure 1. Conceptual framework for the evaluation of the capacity-building components in rural development projects.

9. Were multiple indicators of qualitative objectives used?
10. Was popular participation used to identify needs? If so, explain how.
11. Are there any further observations of significance to context evaluation? If so, state what.

Input Evaluation

1. Was the project design process-oriented? If so, explain how?
2. Were institutional development objectives given increased priority in the design, and were they clearly stated? If so, elaborate.
3. Did the design include resource allocation for capacity-building objectives?
4. Did the design aim to minimize constraints to capacity-building objectives, such as conflicts between host or donor country objectives and those of the project, and the by-passing of local institutions? If so, explain how.
5. Was an evaluation plan included in the project design?
6. Was the evaluation plan intended to be responsive to the needs of audiences and was it viewed as a process? What evidence is there of this?
7. Did the evaluation plan use a combination of methods to collect both qualitative and quantitative data. What were the methods used?
8. Did the evaluation plan determine how the indicators of qualitative objectives could be observed and recorded? If so, elaborate on what was specified.
9. Did the evaluation include the collection of baseline data. If so, what baseline data were collected?

10. Was participatory evaluation planned for the continuous collection of information? If so, describe how.
11. Was popular participation used in planning the project? If so, explain how.
12. Are there any further observations of significance to input evaluation? If so, what are they?

Process Evaluation

1. Did the routine collection of data include both quantitative data and qualitative description? What data were collected?
2. Were specific people assigned the responsibility for evaluation? If so, who were they?
3. Did the evaluation utilize popular participation? If so, explain how.
4. Were project processes adapted in the light of the information collected? Give examples.
5. In the implementation of the project, were local institutions by-passed? If so, describe how.
6. Are there any further observations of significance to process evaluation? If so, what are they?

Product Evaluation

1. Did product evaluation look at intended and unintended outcomes? Specify which outcomes were observed.
2. Did product evaluation look at positive and negative effects? Specify which effects.
3. Did product evaluation look at short-term and long-term effects? Specify which effects.
4. Were a combination of evaluation techniques used to get a comprehensive view of the project? What techniques were used?

5. Was output measured in terms of skills transfer as well as technical development? If so, explain how.
 6. Was the project considered successful in terms of skills transfer or capacity-building?
 7. Was the project considered successful in terms of technical development?
 8. Was the output of the project interpreted in the light of the descriptions of the processes involved? If so, elaborate.
 9. Are there any further observations of significance to product evaluation? If so, what are they?
3. Sri Lanka: the Hambantota District Integrated Development Program (HIRDP) supported by the Norwegian Agency for International Development (NORAD).
 4. Zaire: the North Shaba Rural Development Project (Project North Shaba, PNS) supported by the United States Agency for International Development (USAID).
 5. Haiti: the HACHO Rural Community Development Project supported by USAID.

Units of Analysis

In this study, the units of analysis were the program development processes in selected rural/agricultural development projects in both the United States and selected developing countries, where development of capacity was one of the overall goals.

The cases were selected in a purposeful, rather than a random manner, on the basis of availability and wealth of information related to capacity-building, and suitability for providing a good test for the framework:

Developing Countries

1. Zambia: the Integrated Rural Development Project in Mpika, Chinsali and Serenje Districts (IRDP/SMC), supported by the British Overseas Development Administration (ODA).
- 2a. Zambia: the Integrated Rural Development Project in Eastern Province (IRDP/EP) supported by the Swedish International Development Authority (SIDA).
- 2b. Zambia: the Integrated Rural Development Project in Northern Province (IRDP/NP) supported by the SIDA.
- 2c. Zambia: the Integrated Rural Development Project in Luapula Province (IRDP/LP) supported by the SIDA.

The United States

1. West Virginia: the Allegheny Highlands Community Development Program implemented through West Virginia University's Center for Appalachian Studies and Development.
2. Iowa: Tomorrow's Leaders Today (TLT) Program supported by the W. K. Kellogg Foundation and conducted by Iowa State University Cooperative Extension Service.
3. Iowa: Vision for the 90s Program conducted by Iowa State University Cooperative Extension Service.

Data Collection and Analysis

The initial questions framed in the CIPP model of evaluation, and the conceptual framework were combined to form a matrix to assist in data recording and analysis (see Figure 2). Initially, each project was analyzed separately, with the exception of the SIDA supported IRDPs in Zambia which were analyzed as a group. A group approach was taken to the SIDA supported projects since much of the documentation referred to the overall IRDP program supported by SIDA in Zambia. However, reference was made to individual IRDPs within the SIDA program where applicable. The contents of the documents were analyzed and categorized, using the matrix as a guide, to provide detailed descriptions of the development of each project, with particular reference to factors which either contributed to, failed to contribute to, or hindered the building of capacity. The projects in Zambia and Sri Lanka provided the richest sources of data. The

PROJECT DEVELOPMENT PROCESS

	CONTEXT	INPUT	PROCESS	PRODUCT
OVERALL MANAGEMENT	e.g., clear goals and objectives	e.g., prescribed program, procedural designs, budgets, schedules, evaluation plan	e.g., record of implementation, comparison of process with initial plan, monitoring procedures	e.g., interpretation of output in light of process, types of output data collected
CAPACITY-BUILDING	e.g., objectives related to skills transfer and strengthening local institutions, indicators of capacity-building	e.g., capacity-building objectives reflected in design, plan to use local institutions, resources allocated	e.g., feedback related to capacity-building local institutions used, resources spent on capacity-building	e.g., outputs related to capacity-building reported, rating of success in terms of capacity-building
DEVELOPMENT APPROACH	e.g., flexibility in goal formation	e.g., process or blueprint orientation, training programs planned	e.g., plans modified in light of process evaluation	e.g., plans modified in light of product evaluation, recommendations for improvement
EXTERNAL FACTORS	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors

Figure 2. Matrix indicating key characteristics to be considered in the analysis of the capacity-building components in rural development projects.

documents from these projects were analyzed first to test whether the matrix was an adequate tool for handling detailed information related to capacity-building in rural development projects.

The findings from all the projects were compared and synthesized to produce a holistic view of the project development process to make recommendations for improving the success of the capacity-building components in rural development projects. Key characteristics of the project development process relevant to the building of capacity were identified, and the original matrix was revised in the light of the findings.

In this study, an "audit trial" in the form of the conceptual framework, research questions, matrix, and description of the methods used and steps taken in the study, was provided so that it could be used by other researchers as a guide for replicating the study. A number of people assisted in maintaining the credibility and validity of this study by providing comments and suggestions at various stages in the research process. Faculty members in Agricultural Education, Technology and Social Change, Research and Evaluation, and Family Environment at Iowa State University were asked to comment on the initial design, the findings as they emerged, and key methodological steps in the emergent design. In addition, comments on the results were sought from one or more development professionals involved with the IRDPs in Zambia and Sri Lanka to gain a sense of whether the data and their interpretation in this study were reasonably and meaningful. To improve the generalizability of the findings of this study, detailed description was used to provide sufficiently rich information on which people interested in the generalizability of the data could base their judgment. Also, the cases were selected in a purposeful, rather than a random manner to provide cases which were rich in information.

Revised Framework

The findings were consistent with previous literature and highlighted areas of concern for planners, implementors, and evaluators of projects with capacity-building components. The key characteristics of the project development process relevant to the building of capacity were identified as follows:

Context Evaluation

1. Clear expression of capacity-building objectives.
2. Identification and use of host and donor philosophies and policies.

Input Evaluation

1. The development of a strategy, including plans for monitoring and evaluation which incorporate capacity-building.
2. The intent to work through indigenous institutions.
3. The inclusion of plans for management training.
4. Process-orientation and flexibility.
5. A revolving planning approach.
6. Identification and use of host and donor philosophies.

Process Evaluation

1. Implementation of strategy as planned.
2. The implementation of monitoring and evaluation as planned.
3. The utilization of indigenous institutions as planned.
4. The implementation of training programs carried out as planned.
5. The utilization of process-orientation and flexibility as planned.
6. The utilization of revolving planning as planned.
7. Identification and use of host and donor philosophies.

PROJECT DEVELOPMENT PROCESS

	CONTEXT	INPUT	PROCESS	PRODUCT
OVERALL MANAGEMENT	e.g., clear goals and objectives	e.g., overall strategy; planning of monitoring and evaluation to record facts relevant to capacity-building	e.g., implementation of strategy; monitoring and evaluation of process and capacity-building	e.g., interpretation of output in light of factors affecting it
CAPACITY-BUILDING	e.g., clearly stated capacity-building objectives and indicators of capacity-building	e.g., planning to use indigenous institutions; planning for management training	e.g., utilization of indigenous institutions; operation of training programs	e.g., evaluation of achievement of capacity-building objectives
DEVELOPMENT APPROACH	e.g., flexibility in approach	e.g., process orientation; flexible or revolving planning	e.g., maintenance of a process-oriented, flexible approach	e.g., examination of the extent to which the process has evolved toward sustainability
EXTERNAL FACTORS	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors	e.g., compatibility with host and donor goals, philosophies and policies, environmental factors

Figure 3. Revised matrix of key characteristics to be considered in the analysis of the capacity-building components in rural development projects.

Product Evaluation

1. Evaluation of capacity-building as well as other goals.
2. Examination of the extent to which the project development process has evolved.
3. Identification and use of host and donor philosophies.
4. Identification and use of all other previously mentioned factors which may have affected outcomes.

The matrix in Figure 2 was modified and the revised matrix is provided in Figure 3. Although Figure 3 does not differ greatly in content from Figure 2, the revision emphasizes the main areas of concern revealed by the findings, and represents the framework proposed by the authors for use by development professionals.

Evaluation of the Framework

The developed framework provided a valuable tool for evaluating the capacity-building components of rural development projects, providing an overview of all stages in the project development process. The revised matrix (see Figure 3) should be used by all those involved in development projects who wish to ensure that factors affecting capacity-building are not overlooked at any stage in the project development process.

The areas of concern for planners, implementors, and evaluators of projects with capacity-building components that emerged from the evaluation of the selected projects are consistent with previous literature. This consistency indicates that the projects chosen were typical of rural development projects where capacity-building is an objective. It also indicates that the framework focuses on points of concern to evaluators of such projects, whether those projects are in developing or developed countries.

Examination of the data revealed that certain comments could be placed in more than one cell.

In particular, in the analysis of process-oriented projects, process and product evaluations tended to merge. In a situation where there was a choice of where to put the data, the researcher chose the cell where the data would best contribute to

making a clear overall picture of the project, and placed the comparable data in the same cells for each project. In situations where comparative research is carried out by a number of different reporters, it would be valuable to establish more specific standards on the placement of information that could validly be placed in more than one cell. It should be borne in mind, however, that each project is different, and as more specifications are made about data entry, the framework will be less easily adapted to each circumstance. It would therefore be inadvisable to put unnecessary limitations upon data entry.

For those projects where there was an abundance of information, it would have been possible to report the findings in greater detail, and situations may arise where it would be valuable to use the framework to study one or more projects in greater depth. However, given the scope of this research study, it was necessary to limit the findings reported on each project. The framework may also prove valuable for studying one project overtime. In this case, for one project, a matrix would be drawn for each of a number of time periods. The product evaluation of one period would then provide information for the context evaluation of the next period. The framework may also prove suitable for on-site, case study evaluation of the capacity-building components of rural development projects as well as for documentary analysis alone.

For some projects, certain cells may remain blank. The lack of information in the context-development approach cell is understandable, since development approach may not be considered until the input evaluation stage. However, limited information in other cells may point to important factors that project developers have failed to consider.

Although the framework was developed and utilized as an evaluation tool, it could also be used by planners and implementors of development projects who wanted to ensure that they were considering factors that had implications for capacity-building from the very start of the project.

The matrix provides a valuable tool for ensuring that factors affecting the development of capacity are not overlooked at any stage in the project development process. However, specific details of project planning, implementation, monitoring

and evaluation will vary with the circumstances. Although projects that are directed toward providing a specific learning experience over a short time period may be evaluated using the framework, and many of the listed key areas apply to them, they are not readily compared with long-term projects aimed at building capacity through a more general community development approach. Finally, it should be emphasized that any evaluation can only be as complete as the information made available to the evaluator.

Implications

It is essential for those involved in rural development to understand the complexities of the constraints affecting the projects they are involved with if successful implementation is to be achieved. This necessity is particularly true of the capacity-building components in rural development projects. In rural development projects, development professionals are actively involved in the process of technology transfer and developing the capacity of individuals and institutions to make use of that technology. They may be involved in activities such as needs assessment during the context evaluation stage, the planning of learning experiences, and monitoring and evaluation systems during the input evaluation stage, the implementation and monitoring of planned programs during the process evaluation stage, and the evaluation of the products of a program during the product evaluation stage.

To facilitate the building of capacity, project planners, implementors, and evaluators should work closely together, and utilize the proposed framework in the form of the revised matrix to:

1. Establish capacity-building objectives and ways of evaluating their achievement.

2. Identify external factors affecting the project at all stages in its development, making use of those factors that facilitate, and minimizing those factors which constrain the building of capacity. Also, to interpret project outcomes in the light of these factors.
3. Develop a strategy and implement it.
4. Develop and implement a monitoring and evaluation system which records facts relevant to capacity-building.
5. Utilize indigenous institutions and human resources.
6. Plan and conduct management training.
7. Plan and implement a process approach to development.
8. Consider the evolution of the project development process to gain insight into the degree of success and the future direction of the project.

In conclusion, development professionals need to be aware of the importance of evaluating the capacity-building components in rural development projects. In particular, they should remember that capacity-building is facilitated when it is given serious consideration at all stages in the program development process. The proposed framework will help to ensure that important factors are not overlooked.

*The material in this paper used by permission of Iowa State University Research Foundation. It is part of a larger study, fully documented in *A Framework for the Evaluation of the Capacity-Building Components in Rural Development Projects: Implications for Program Development and Agricultural Extension Education*.

References

- Binnendijk, A. (1989). Rural development: Lessons from experience. Proceedings of the U.S. Agency for International Development, U.S.A., 25.
- Bryant, C., & White, L. G. (1982). Managing development in the third world. Boulder: Westview Press.

- Compton, J. L., & McClusky, H. Y. (1980). Community education for community development. In E. J. Boone, R. W. Shearin, E. White, & Associates (Eds.), Serving community needs through adult education (pp. 227-249). San Francisco: Jossey Bass.
- Conyers, D., Warren, D. M., & van Tilburg, P. (1988). The role of integrated rural development projects in developing local institutional capacity. Studies in Technology and Social Change, no. 2. Technology and Social Change Program. Iowa State University, Ames, IA.
- den Biggler, C. (1991). Farming systems development: Synthesizing indigenous and scientific knowledge systems. Agriculture and Human Values, 8(1, 2), 25-37.
- Elliot, A. V. (1989). A framework for the evaluation of the capacity-building components in rural development projects: Implications for program development and agricultural extension education (Studies in Technology and Social Change Monograph No. 14). Ames: Iowa State University, Technology and Social Change Program.
- Gow, D. D., & Van Sant, J. (1985). Decentralization and participation: Concepts in need of implementation strategies. In E. R. Morss & D. D. Gow (Eds.), Implementing rural development projects: Lessons from AID and World Bank experiences (pp. 107-147). Boulder: Westview Press.
- Institute of Cultural Affairs International, ed. (1985). Directory of rural development projects (1st ed.). New York: K. G. Saur.
- Prawl, W., Medlin, R., & Gross, J. (1984). Adult and continuing education through the Cooperative Extension Service. Columbia: University of Missouri, Extension Division.
- Program Development Ad Hoc Committee. (1974). Extension program development and its relationship to Extension Management Information Systems. Ames: Iowa State University, Cooperative Extension Service.
- Rajasekaran, B., & Martin, R. A. (1990, October). Evaluating the role of farmers in training and visit extension systems in India. Paper presented at the Tenth Farming Systems Research/Conference, East Lansing, Michigan.
- Stufflebeam, D. L. (1983). The CIPP model of program evaluation. In G. F. Madaus, M. S. Scriven, & D. L. Stufflebeam (Eds.), Evaluation models: Viewpoints on educational and human services evaluation. (pp. 117-141). Boston: Kluwer-Nijhoff Publishing.
- Uphoff, N. (1986). Local institutional development: An analytical sourcebook with cases. West Hartford: Kumarian Press.
- Van Sant, J., & Crawford, P. R. (1985). Coping with political, economic, environmental and institutional constraints. In E. R. Morss & D. D. Gow (Eds.), Implementing rural development projects: Lessons from AID and World Bank experiences. (pp. 1-32). Boulder: Westview Press.

RECRUITMENT AND RETENTION TOOLS TO PROMOTE AN INTERNATIONAL AGRICULTURAL EXTENSION MASTER OF SCIENCE PROGRAM

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Abstract

The Agricultural Systems Technology and Education (ASTE) Department, at Utah State University (USU), offers a Master of Science degree for International Agricultural Extension Specialists with an administration emphasis. This degree option prepares students for administrative positions in international agriculture; however, a recruitment and retention strategy had not been designed or implemented. The goal of this project was to develop and implement a strategic plan to enhance the International Agricultural Extension Specialist option. The following recruitment and retention tools were developed: 1. a recruitment strategy; 2. a student and country information guide; a student organization; an ASTE student data base; and 5. promotional recruitment materials: a brochure outlining requirements, a mailing list of international student sponsors, a newsletter for current students and alumni.

The strategic plan constitutes the beginning of a structured recruitment and retention strategy. However, these materials and the overall strategy must be monitored, evaluated, revised, and marketed.

Introduction

The Department of Agricultural Systems Technology and Education (ASTE), at Utah State University (USU), offers a Master of Science degree for International Agricultural Extension Specialists with an emphasis in administration. This degree option prepares students for administrative positions in international agriculture. It requires a technical emphasis supplemented with optional administrative courses. Well-educated agricultural research scientists in developing countries are routinely transferred from research assignments to administrative positions. They are required to perform management roles with little preparation. The training of an agricultural research scientist rarely includes courses related to managing people; planning, implementing, evaluating and/or being accountable for

programs to promote technology transfer (adult education); or the management of fiscal affairs. The ASTE program prepares people educated in agriculture to perform effectively administrative and supervisory roles as part of technology transfer and program leadership in less developed countries.

Problem Statement

Although this program offers considerable benefits, a recruitment and retention strategy had not been designed or implemented, nor did international students at USU have an official support system. The Department often loses track of these students once they complete the degree and return to their home countries. Consequently, there is no continued linkage with the College of Agriculture or Utah State University. To develop a strategic plan, it was necessary to: (1) evaluate

current international student recruitment or retention policies at USU, (2) determine the needs of international students, (3) learn how to accommodate international students attending USU, (4) provide continued linkages to graduates, and (5) develop a standardized means of advertising and promoting the program.

Goal and Objectives

The goal of this project was to develop and implement a recruitment strategy to increase enrollment in the International Agricultural Extension Specialist option within the Agricultural Systems Technology Master of Science Program.

The objectives of this study were to:

1. Construct and use a *student and country information guide* for curriculum development at the beginning of each student's program.
2. Organize a support mechanism (i.e., mentoring, networking) for international students upon entering the College of Agriculture.
3. Develop an ASTE student data base for follow-up and a continued linkage with alumni.
4. Design recruitment materials to promote the degree. Those materials will include the following: a brochure outlining requirements for the degree, a mailing list of agencies that sponsor international student education, and a newsletter sent to students quarterly and graduates annually.

Review Of Literature

U.S. higher educational institutions will actively recruit international students due to the decrease in U.S. student enrollment and new governmental initiatives that encourage foreign student enrollment (National Association For Foreign Student Affairs [NAFSA], 1986). Lower enrollments, in general, will increase the importance of student recruitment (U.S. Census Bureau, 1977). Recruitment activities are influenced by several factors, including the size of a program (people), person(s) accountable for planning recruitment strategies (structure),

environment of a program, and the utilization of specifically stated recruitment strategies (technology); therefore, the use of selected recruitment strategies can differ significantly (Johnson, 1987).

A successful recruitment program for graduate students must be a cooperative effort between the graduate school and the academic departments (Baron, 1987). Baron's five-step recruitment and retention model included (a) preparing an assessment in the four major areas of institutional analysis, student analysis, competitive analysis, and job market analysis; (b) develop recruitment and enrollment objectives; (c) develop a recruitment plan and strategies; (d) implement the program; and (e) monitor and evaluate the recruitment program.

A long-range retention plan should influence the retention of students inclined to leave, encourage current students not yet inclined to leave, and stimulate future students by upgrading the level of educational services provided (Ramist, 1981; Noel, Levitz & Saluri, 1985). Students who obtained financial aid (grants or scholarships) were more likely to graduate than non-recipients (Bergen, Upham, & Bergen, 1970; Astin, 1975). An orientation process has also been shown to improve retention (Ramist, 1981). The quality of faculty-student interactions is a significant determinant of student retention (Pascarella & Terenzini, 1979; Pantages & Creedon, 1978). The academic and student support services should increase the retention and graduation rates of minority students (Egglar & Arellano-Romero, 1987). Appropriate advising and counseling services often determined the success or failure of students (N A F S A, 1986). Students did well in environments where they were accepted (Pascarello & Terenzini, 1979; Astin, 1982).

International students studying agriculture in the United States rarely receive assistance on how to cope with cultural and economic shock (in the U.S. and upon the return to their home country). Specific student needs were often not considered and/or there were misunderstandings between students and their academic adviser (Steele, 1990).

Methods And Products Summary

Selected Utah State University staff employed by different student agencies and the International

Student Office were interviewed in an effort to determine if USU had a recruitment procedure specifically designed to recruit international students. A recruitment strategy for international students was developed based on these findings. Information was compiled about each international student and their country of origin. This information aids in curriculum development and helps to incorporate the sponsor's and country's needs. An international student organization was also initiated, to provide mentoring and networking. A data base was developed to track international student alumni by name, identification number, and professional placement. A brochure, an extensive mailing list, and an annual newsletter was developed for College and Departmental use in marketing the degree. Funds were provided by the International Agricultural Programs Office and the University International Programs Office.

Conclusions And Recommendations

Utah State University recruited ethnic minorities through the Center for Cultural Pluralism, but no recruitment strategy had been developed for international students. The USU International Student Office encourages each college to establish and implement a recruitment strategy.

The lack of coordination between the USU administrative offices and the individual colleges hinders student acclimation. Services provided by the International Student Office include orientation (individual and group), International Student Council, and individual country organizations (which are socially oriented). The Director of the International Student Office expressed concerns about the lack of support after the orientation session and the lack of coordination between the International Student Office and individual colleges. The five areas of deficiency included

(a) no contact person in the college, (b) no individual college orientation, (c) limited introductory college advisement, (d) lack of advisor availability, and (e) no mentoring group within the college. The International Student Office assists approximately 1,100 students annually and does not have the staff or expertise to cover the deficient areas. The proposed recruitment strategy was developed to increase enrollment in the International Agricultural Extension Specialist degree option.

Student and Country Information Guide

The student and country information guide provides information about the individual student; geographic, demographic, and economic background of the student's country; and people important to the student's program, i.e., sponsor, family, community figureheads (for continued communication and possible professional placement). Such detailed information is necessary to develop the most applicable program for each student. Students will be encouraged to provide this information prior to their arrival at USU, or to obtain it from USU's library after their arrival. This guide will benefit the department as well as the student, country, and sponsoring agency.

International Agricultural Student Organization

The international agricultural students perceived a need for an international student organization within the College of Agriculture. Representatives were appointed from each department to help establish the organization. International students expressed concerns about their careers when they returned home and an interest in information about job availability and career placement. They also were interested in being able to maintain a relationship with USU after they return home. Social events involving social and cultural traditions from their countries were also considered important. We recommended that the representatives have regular monthly board meetings and elect a chairperson, who would also represent the international agricultural students as a member of the Agricultural Council within the College of Agriculture.

Student Data Base

The computerized student data base would serve as a recruitment tool, a method to track alumni, a mailing list for newsletters to disseminate information about the department and/or job placement opportunities. The student information will be updated as students graduate. The students will fill out an alumni card for the college and one for the department. The data base makes it possible to identify students by name, social security number (student identification number), employment, and area of specialization.

Recruitment Materials

Printed recruitment materials, the brochure and newsletter, will supplement efforts to increase enrollment in the International Agriculture Extension Specialist program. The brochure will be updated to reflect new educational requirements. Brochures will be mailed to sponsoring agencies every June to provide enough time to meet student admission requirements for fall quarter. The brochure can also be sent to others inquiring about the program. The brochure's effectiveness should be evaluated in two years. The mailing list currently contains 1,200 names and addresses and can be updated as needed. The newsletter will be sent quarterly to all students and annually to alumni. It will contain general information and news about the college and/or department.

Summary

A recruitment strategy for ethnic minorities administered through the Center for Cultural Pluralism exists at USU, but a similar program had not been developed for international students. There was also a lack of coordination between the USU administrative offices and the individual colleges.

The proposed recruitment strategy was based on obtaining more information about students and their countries of origin, which will facilitate development of an appropriate curriculum. An organization for international students majoring in an agricultural discipline will also be created to facilitate adaptation and the exchange of information. A computerized list contains the names of all students and will be used to track graduates. Twelve hundred brochures were

printed and mailed to the different agencies. The mailing list contains 1,200 names and addresses will be upgraded. A newsletter will be sent to students and alumni. The recruitment strategies and the methods used in it must be continually monitored, evaluated, and revised. Perhaps the best recruitment strategy is to treat students well. Graduates can then be an effective recruitment tool for the department.

References

- Astin, A.W. (1982). Minorities in higher education. San Francisco: Jossey Bass.
- Astin, A.W. (1975). Preventing students from dropping out. San Francisco: Jossey-Bass.
- Baron, P. B. (1987). Graduate student recruitment. Council of Graduate Schools. (pp 3-12).
- Bergen, G.R., Upham, J.A., & Bergen, M.B. (1970). Do scholarships affect academic achievement? Journal of College Student Personnel, 11(5), 382-384.
- Egler, J. & Arellano-Romero, O. (1987). Recruitment, retention and innovative instructional strategies for culturally diverse minority college students: A review of the literature. Santa Barbara: Santa Barbara City College, Office of Instructional Services.
- Johnson, J. M. (1987). Student recruitment strategies in undergraduate home economics programs: An exploratory study. Home Economics Research Journal, 15(3), 173-176.
- National Association For Foreign Student Affairs and Education for International Development. (1986). Academic advising of graduate students from developing nations. Washington, D.C.: Author.
- Noel, L., Levitz, R., & Saluri, D. (1985). Increasing Student Retention. San Francisco: Jossey-Bass.

Pantages, R. J. & Creedon, C. F. (1978). Studies of college attrition: 1960-1975. Review of Educational Research, 48, 49-101.

Pascarella, E. T. & Terenzini, P. T. (1979). Student-faculty informal contact and college persistence: A further investigation. Journal of Educational Research.

Ramist, L. (1981). College student attrition and retention (College Board Report No. 81-1). New York: College Entrance Board.

Steele, R. (1990). Winrock / NAFSA Workshop on Improving Academic Programs in Agriculture for Students from Developing Countries. National Association for Foreign Student Affairs, NAFSA Working Paper. Washington, D.C.

U.S. Census Bureau. (1977). Projection population of U.S.: 1977 to 2050 (Current Population Publication, No. 704, p. 25). Washington, D.C.: Government Printing Office.

CREATING PARTNERSHIPS: THE ZIMBABWE--U.S. COMMUNITY YOUTH DEVELOPMENT MODEL

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Abstract

Zimbabwean youth development professionals collaborated with a similar group from the United States to explore youth, family, community, and professional issues. The objectives of this international extension education experience included challenging assumptions which affect the way we view the world and work. Participants were there to learn and share, not to provide aid or technical assistance. However, partnerships were created which have changed the way participants work at home. In addition, plans have been made to provide technical assistance in Zimbabwe, cooperate with aid programs, and plan collaborative programs to the benefit of professionals in both countries.

The two purposes of this article are: 1) to present an alternative model of facilitating international partnerships for professional growth; and 2) to examine, within the context of youth development, the role of extensionists as partners in development. Many examples from the Zimbabwe experience are given and applications for further work at home and abroad are suggested.

Introduction

Zimbabwean youth development professionals and volunteers recently collaborated with a similar group from the United States to explore youth, family, community, and professional issues. Thirty-two youth development professionals from a variety of educational, social service, and recreational organizations had the opportunity to prepare for and travel to Zimbabwe as part of the Youth Developers Institute (YDI). Among them were many Extension 4-H Youth Development and Home Economics agents and specialists. The group was comprised of African-, Native-, Mexican-, Chinese-, and European-Americans. National 4-H Council and the Kellogg Foundation sponsored YDI as a staff development opportunity for the risk takers, leaders, and innovators among youth and family professionals. The objectives of this international extension education experience included challenging the assumptions we make and filters we use which affect the way we view the world and work with others at home.

Participants traveled abroad to learn, interact, and share; they did not go to provide aid or technical assistance. However, partnerships were created which have changed the way participants work at home. Short and long term plans have been made to provide technical assistance in Zimbabwe, cooperate with ongoing aid programs, and plan collaborative programs to the benefit of professionals in both countries.

The two purposes of this article are: 1) to present an alternative model of facilitating international partnerships for professional growth; and 2) to examine, within the context of youth development, the role of extensionists as partners in development. Many examples from the Zimbabwe experience are given and applications for further work are suggested.

Twenty-nine Zimbabwean colleagues met with the U.S. group in a conference designed to facilitate communication around youth and family issues. Following the conference, the Americans split into six small groups in several areas of Zimbabwe for several days of program

visits and personal experiences, some with cultural immersion. The groups reconvened at Victoria Falls to process the entire experience. The conference agenda included a brief welcome by the Minister of Culture and Education, in which he described the history of youth programs and public schooling in Zimbabwe since 1980. A panel of participants presented programs, issues, needs, and strengths of children, youth, and families in both countries. The remainder of the conference involved all participants in small group discussions and other interactive processes to facilitate meaningful interchange. The conference leadership was shared and democratic, thus encouraging all to engage. Etling (1994a, p. 20) stated that the democratic leader makes "each group member feel important by asking for opinions, especially from the quieter members, by using a variety of techniques...". This goal was achieved and was evidenced by the breadth and depth of conversation and consensus. An openness to new ideas and cultures prepared participants for informative discussions at a comfort level that surprised most involved.

The objectives and methodology of this conference differed sharply from many other international studies and proceedings. The Zimbabweans frequently commented that they had never encountered Western visitors who had come to their country to learn. At first, this motive was questioned by some who thought the object was to teach, research, or provide aid. These are all worthy goals and our colleagues have had experience with many institutions which support such activities and have strong track records in international development.

A review of related literature provides ample evidence of the traditional model of research and aid. Graves and Gargiulo (1994) reported on early childhood education in three Eastern European countries. They found, through observations and interviews, that the education systems in these countries are in transition, directly related to the economic reform. Their report frequently compared classrooms and curricula to U.S. standards and concluded with a statement regarding the future of early childhood education in Eastern Europe, "Long-held beliefs and practices will be difficult to modify. Yet, change is inevitable..." (Graves & Gargiulo, 1994, p. 209).

Arnett and Jensen (1994) argued that the cultural context of adolescent development is usually ignored or U.S. adolescents are assumed to represent all Western cultures. They presented a short literature review to substantiate the need to consider cultural context by comparing patterns of adolescent development and socialization between cultures. They then presented the results of their research comparing various aspects of adolescent socialization in Denmark and the U.S.

The project reported in this article is based neither upon the observation nor the study of another culture in comparison to the United States, but on the creation of partnerships. Steele (1994, p. 1) aptly stated the importance of this approach: "The traditional approach to development has been one where solutions are generated in the 'more developed' nations and fostered on the 'less developed' ones. This practice will not hold in the 21st century. The wave of the future is participatory development whereby aid-givers and -receivers work together as partners."

A Model to Facilitate International Partnerships for Professional Growth and Program Planning

The youth development conference held with Zimbabwean colleagues not only moved from the traditional approach of bringing expertise from the "more developed" to the "less developed" country, it tested an alternative model of reciprocal development. There was no distinction between the "aid-givers" and the "aid-receivers." In fact, the mutual learning and sharing empowered participants to remove barriers and defenses which might otherwise impede open communication. The following are statements from the conference evaluation in response to a question regarding one thing they learned during the conference:

U.S. participants, "I learned...

...commonalities of problems and how we are looking towards solving them; common sincere interest and caring for youth."

...the youth and family problems in the U.S. and Zimbabwe are virtually identical."

...the world is a very small place with some very big problems for our youth and families. We can learn of successful solutions from others whose perspective of the problem is very very different."

Zimbabwe participants, "I learned...
...the great need (sometimes even neglected need) to approach, educate, incorporate the parents."
...the work being done by fellow youth workers in Zimbabwe and as well as the U.S. experience:
Diversity of youth work; learn new approaches to tackle some problems."
...most youth problems between our two states are similar although they vary in magnitude. Solutions which have worked in the U.S. may not be applicable here..."
...people are not so difficult to approach as they seem."

The opening of minds and sharing of common ground was well established from the very first day of this international experience. This is reinforced by responses on the evaluation form to the request to share one thing that each participant enjoyed during the conference:
Zimbabwe participants, "I enjoyed...
...open discussion on the problems which youth face and the sharing of ideas."
...the open and honest discussions."
...sharing ideas with strangers who were so friendly as if they were known to us for years, simplicity of both Zimbabweans and Americans. Equality at the seminar was fantastic."
...everyone had a chance to interact with others freely and in a relaxed manner."
...sharing with individuals about our countries and work, especially our problems, group work, openness of participants, relaxed atmosphere."
U.S. participants, "I enjoyed...
...the frank, honest, open discussions about a variety of topics."
...witnessing a true international collaboration."
...meeting one-to-one with Zimbabwe youth workers."
...the feeling of commonality, speaking with people face-to-face, discussing with openness and free from prejudice."

Six components of the model explain how participants from both countries were able to come to this short conference with a willingness to establish meaningful dialog and the beginnings of partnerships. The *first* component involves becoming knowledgeable about the country, in this case, Zimbabwe, through reading, a group telephone tree, regular mailings, a pre-trip meeting, and formation of small groups based upon similar interests. Many myths were dispelled as U. S. participants shared

information and resources.

The *second* important step in preparation was a trip to Zimbabwe by the two group coordinators. They established contacts, got official permissions from appropriate Zimbabwean ministries and met with representatives from the U.S. embassy. They also met with colleagues in non-governmental organizations, schools, and other social service agencies. Local hotels, restaurants, and transportation were identified for group use, as opposed to international hotels and tour group arrangements. A very large box of local books, pamphlets, brochures, and other materials was brought home for the group to use in their preparations. Continued communication with Zimbabwean colleagues in the intervening six months between this visit and the group trip, plus the contacts and resources, proved invaluable in helping participants acclimate to Zimbabwean life.

Third, clear group expectations regarding participant roles were discussed and communicated at length. The group struggled with what to take with them, if they should collect books, school supplies, or other "aid." Finally, this was rejected when it was agreed that the most important thing to take was an "open mind." The group agreed to set individual learning objectives in addition to group goals.

The *fourth* component was the preparation of individual biographies to be shared with our hosts. Each participant gave some information about his or her personal life, hobbies, work, interests, and skills they would be willing to share. Zimbabwean colleagues were asked to do the same. This process helped start the development of relationships, build expectations, and remove barriers, even before introductions.

Fifth, the selection of a small group option of travel and involvement in local programs, culture, and families, following the group conference, gave participants an opportunity to pursue interests, get to know colleagues better, and if desired, experience cultural immersion. Spending several days with allied professionals in a rural, urban, or small town setting was the highlight of the experience for many. Participants kept journals of their activities, reactions, feelings, observations, questions, etc. These small group options were arranged based on contacts made during the earlier trip by the coordinators.

Sixth, the group purposely looked for program elements that might be common to both countries--volunteerism, grassroots efforts, nonformal education. They used the ecology of youth development to examine communities as a whole, not just the condition of youth or programs. This helped focus the group on common ground. Other than initial contacts and courtesy calls by the coordinators, the participants never worked through aid agencies. The emphasis was on sharing, mutual learning, and taking the perspective of the other.

Taken together, these six components provided a framework for American and Zimbabwean colleagues to come together as learners and teachers, as peers, not as givers and receivers. Comments from the evaluation of the entire experience, completed by U.S. participants after returning home illustrate the power of this model:

"Regarding my own personal development in Zimbabwe I...

...came away with a profound sense of respect and amazement..."

...will always look at people in a different way. We can always learn much more from others if we keep our minds open. The warmth and acceptance of my host family was overwhelming."

...am a better person because of this experience."

...met some remarkable people who will be lifelong friends."

...stretched beyond my personal comfort zone and tried new experiences. Tried not to place my own value system on situations I experienced."

Role of Extensionists as Partners in Development

The development and implementation of this model of facilitating international partnerships for professional growth and program planning was instrumental in the examination and redefinition of the role of extensionists as partners in development. Agunga (1994) discussed the role of extension in development as an educational process. Extensionists must help empower people to do things for themselves and build a network of resource institutions. Etling (1994b, p. 2) defined development as "an active process whereby people acquire knowledge, skills, and attitudes to improve their own life styles by building stronger families, ...". The model presented in this article suggests that the role of the extensionist must first be that of a learner.

Gradually, the transition from learner to development agent was completed in five steps. The first involved the development of *understanding* of each other--not just Americans understanding Zimbabweans, but shared understanding and acceptance with respect. All of the pre-trip work, establishment of personal objectives, and work on bringing an open mind prepared participants to be active learners. Evaluation comments included, "I am far more interested and aware of world events and feel more understanding for what is happening in Africa." Zimbabweans reported learning that America is not what they see on Falcon Crest and TV wrestling shows. They learned much about African Americans and broke some stereotypes they previously held about white people.

The second stage of the transition involved *valuing*, developing an appreciation of and value for different ways of doing things and viewing the world. For many of the Americans, this was the first time they experienced international travel and for many whites in the group this was their first experience with minority status. Evaluation comments included, "...the trip was a tremendous expanding experience for me. I'd never traveled so far or to such a different place before. It was one of the great high points of my life. I feel much more open to new experiences now, and feel like I have a much broader perspective on world events and the human race." Understanding and valuing can only occur if participants started with an openness and

willingness to learn and to appreciate, otherwise they would have either been blind to or rejected new ways of doing and looking at things.

The third step in the transition required an *examination of personal frameworks*--how assumptions and values lock us into doing business the same way and how new views free us to change that. An adjustment of personal frameworks was needed to change both the work in Zimbabwe and in the U. S. Participants commented, "This has made me realize that our role is really, when stripped to the basics, character building. We need to involve kids in meaningful projects as the Zimbabweans do--digging wells, building toilets, starting market gardens. These all have cultural equivalents for us." And another, "I will better work with individuals of different backgrounds. We can always learn from one another. Everyone has something special to offer. I think this will help me to develop better programs and have a better understanding of those I work with." And another, "I've already shared my experiences with colleagues and students. My descriptions of the schools and the motivation of the students and teachers seems to make a big impression on people. The contrast also has given me a new context for understanding what we have and what we are doing in my own system."

The fourth step is a direct bridge to development. The *doing* involves actually using skills within the new framework of understanding and value, to share, teach, and solidify those new partnerships. For example, one participant worked in partnership with a local artist to market his artwork; another traded low cost recreation activity ideas with colleagues; while a third collaborated with government officials to revise a survey of teen attitudes, behavior, and aspirations.

Development is now possible and the American extension youth and family professional is prepared to act as a full partner with the hosts. The development has and will take place both in the host community and in the home community of the extensionist as a result of this new role abroad. The stage is set for future development in the words of one participant, "It was a great experience to have the opportunity to go as a group and to meet with other youth educators and directors in Zimbabwe. Someday, I would like to return to Africa and work along with my

counter partners to learn from them and for me to teach." Others have more immediate plans, "I am making plans to return to Zimbabwe. I have been invited to come work together to establish youth camps which are now private and only affordable to the rich. I also plan to take a six month sabbatical to work in this wonderful country." Several others have already made plans to return and have established strong linkages for development work. They have the contacts, the knowledge, the skill, and only need the funds and support. Now they are communicating with aid and other funding agencies. This is the same way good grant proposals are developed at home.

Implications and Conclusion

Participants in this project have experienced a new way of facilitating international partnerships and have tried new roles. They have learned a process that can be transferred to other sites abroad and at home. One Extension agent commented on the application of this process and new role to her work with Native American people. "I know now that I must approach them on their terms, not mine."

It is ironic that this international experience was planned specifically for learning and sharing, not technical assistance, economic development, or aid. Ultimately, the conditions conducive to development work were enhanced. Martin (1994, p. 5) has perhaps the best explanation for this. "Development is being thought more as a people empowerment issue than a mere strategy to industrialize and attempt to spread the wealth in a country." The remaining question then is the confusion over who developed whom or what. Did the Zimbabweans who were so willing to learn, share, and openly discuss so much, create a situation in which Americans are eager to provide needed "aid," or did they help Americans redefine, question, and refocus on values which will "aid" them at home? Partnerships empower both partners.

References

- Agunga, R. (1994). View Point: Extension is the key to development. The Informer: Association for International Agricultural and Extension Education Newsletter, 10 (1), 7.
- Arnett, J. & Jensen, L. (1994). Socialization and risk behavior in two countries: Denmark and the United States. Youth & Society, 26, 3-22.
- Etling, A. (1994a). Leadership for nonformal education. Journal of International Agricultural and Extension Education, 1,(1) 16-24.
- Etling, A. (1994b). A new paradigm for development. The Informer: Association for International Agricultural and Extension Education Newsletter, 9(3), 2-4.
- Graves, S. & Gargiulo, R. (1994). Early Childhood education in three Eastern European countries. Association for Childhood Education International, 70, 205-209.
- Martin, R. (1994). The essence of development. The Informer: Association for International Agricultural and Extension Education Newsletter, 9(3), 5.
- Steele, R. (1994). Partnerships in development. The Informer: Association for International Agricultural and Extension Education Newsletter, 10(1), 1.

ATTITUDES OF AGRISCIENCE TEACHERS IN MICHIGAN TOWARD INTERNATIONALIZING AGRICULTURAL EDUCATION PROGRAMS

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Outstanding Research Presentation

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Introduction

The National Council for Agricultural Education has initiated a national program related to international education in agriculture that has potential to involve agricultural educators at all levels. Beeman and Cheek (1990) emphasized the importance of global involvement in agricultural education programs. They pointed out several personal and programmatic benefits to be gained from participating in international experiences, such as increased interest on behalf of faculty in international education; broadening experiences, trade, and the opportunity for learning new cultures; innovative educational programs; and different governmental structures. Symons and Cvanara (1990) asserted that the rationale for integrating international concepts into secondary agricultural education programs is rooted in the changes taking place in high schools, the global economy, and the students themselves. They acknowledged that the curricula in many schools lack an international component.

In 1989, Michigan and California were selected by the National Council for Agricultural Education to provide national leadership for internationalizing agricultural education programs in the United States. Before this selection, agricultural education faculty and staff

(Moore, Stockil, and Williams) at Michigan State University had spent a year developing and field testing an instructional manual titled, "Internationalizing Agricultural Education Programs" (IAEP). The project staff believed that making the curriculum more internationally focused was not just the responsibility of professionals in liberal arts. In fact, they believed that the agricultural education profession had a responsibility to add a global perspective to the curriculum regarding world agriculture. Considering that this initiative was not a priority of personnel in the Michigan Department of Education, the program staff made teacher involvement in planning, pilot testing, an disseminating of IAEP materials a major focus of the international programming thrust. Simply stated, staff were fully aware that the success of this effort depended on the support and acceptance of the agriscience teachers.

In 1990, because 52% of the agriscience teachers had used the IAEP instructional manual for about one year, faculty at Michigan State University were interested in knowing whether the teachers who had received the IAEP instructional manual had different attitudes toward how to make their curriculum more internationally focused than teachers who had not received the IAEP curriculum. This interest created the need for an in-depth analysis of the attitudes of agriscience

teachers regarding Michigan's international thrusts.

Purposes and Objectives

The major purposes of this study were to examine the attitudes of Michigan agriscience teachers toward various aspects of making their curriculum more internationally focused, and to examine the differences in attitudes between Michigan agriscience teachers who received the IAEP instructional materials and teachers who did not receive the materials. To accomplish the major purposes of the study, the following specific objectives were developed: 1) to describe the attitudes of agriscience teachers in Michigan toward student-related aspects, teacher-related aspects, and educational linkages of making their curriculum more internationally focused; 2) to examine selected demographic characteristics of agriscience teachers in Michigan; 3) to determine the differences in attitudes of agriscience teachers toward making their curriculum more internationally focused, based on the teachers' demographic characteristics; 4) to describe the attitudes of Michigan agriscience teachers who received the IAEP instructional materials and those who did not receive the materials toward making their curriculum more internationally focused; and 5) to examine the differences in attitudes between Michigan agriscience teachers who received the IAEP instructional material and those who did not receive the materials.

Methodology

The design of this study was descriptive survey research. An instrument consisting of two sections was used to collect data. The first section of the instrument contained statements concerning three aspects of internationalizing the agricultural education curriculum: student-related aspects, teacher-related aspects, and educational linkages. The respondents indicated their attitudes about each of the statements on a 5-point Likert-type attitudinal scale, ranging from 1 (Strongly Unfavorable) to 5 (Strongly Favorable). Edward's (1957) informal criteria for constructing attitude statements were used as the basis for developing the items relating to each aspect concerning teachers making their curriculum more internationally focused. The second section of the instrument contained items concerning personal characteristics of the

respondents, including age, education, years of teaching experience, membership in professional societies/organizations, cosmopolitanism, reading the Agricultural Education Magazine, receiving IAEP instructional materials for internationalizing agricultural education programs, reading newspapers for agricultural information, residence, mobility, participation in national and international seminars/conferences, and primary teaching area.

The content validity of the instrument was established by a jury of experts. Because all of the secondary school agriscience teachers in Michigan were included in the study, the researchers used eight retired agriscience teachers, eight graduate students who were agricultural teachers before being admitted for graduate study in the Department of Agricultural and Extension Education, and one FFA specialist in the department for the pilot-testing of the instrument. The reliability of the instrument was calculated on the basis of items addressing student-related aspects, teacher-related aspects, and educational linkages of teachers making their curriculum more internationally focused. The reliability coefficients for the three components were .91, .93, and .94, respectively. The item discrimination index analysis was calculated by correlating item scores with total scale scores. The final version of the instrument was revised. The study population received an instrument which contained 34 student-related statements, 28 teacher-related statements, and 29 statements on educational linkages.

The target population for the study consisted of all 168 secondary school agriscience teachers in Michigan who were teaching in 1991. The accessible population was 160. Data were collected by mail questionnaire during April 30, 1991 to June 10, 1991 and resulted in a 88 percent response rate. Early and late respondents' responses were compared and no significant difference was found between the early and late respondents.

Descriptive statistics were used to summarize the data pertaining to the personal characteristics of the respondents. Frequency counts and percentages, as well as means and standard deviations, were calculated for the descriptive data. T-tests and analysis of variance (ANOVA) were used to determine whether there were significant differences between and among

groups of agricultural teachers with regard to their attitudes toward internationalizing among groups of agricultural teachers with regard to their attitudes toward internationalizing their curriculum. Tukey's multiple-range test was employed to isolate the source of significant differences. Throughout the study, a .05 probability level was used as the basis for rejecting the null hypotheses.

Study Findings

Demographic Characteristics of Respondents

The data in Table 1 indicate that fifty-six percent of the respondents were 40 years old or younger. Forty-two percent of them had a bachelor's degree or less, and nearly seventy percent had 10 years or more of teaching experience. Sixty-three percent of them primarily taught agriscience and natural resources (41%) and horticulture (22%). Most of the participants belonged to professional societies, through which they can receive information about new ideas pertaining to internationalizing the agricultural education curriculum. Thirty-two percent of the respondents belonged to four societies/organizations, and 31% belonged to fewer than four.

The largest proportion (70%) of respondents had medium cosmopolitanism. Seventy percent of the respondents lived in rural areas and a majority of respondents were not geographically mobile. Forty-one percent of them had never changed their residences during the past 10 years.

The majority (77%) of teachers in this study read the Agricultural Education Magazine. About 35% of them read two to five issues during 1990-91, and another 28% read six to nine issues that year. Almost half (48%) of the respondents had not received any IAEP instructional materials on making their curriculum more internationally focused. Only 52% of them had received such materials considering that this effort was not a priority of the Michigan Department of Education. Additionally, other Department of Education statewide programming thrusts were promoted when the IAEP materials were disseminated.

Significant Differences in Attitudes, Based on Demographic Characteristics

The null hypothesis stated that: There is no statistically significant difference in the attitudes of Michigan agriscience teachers toward making their curriculum more internationally focused, when grouped by different demographic characteristics. When scores of attitudinal variables were grouped by reading the Agricultural Education Magazine and newspapers for agricultural information, statistically significant differences were found in attitudes toward making the curriculum more internationally focused (see Table 2).

As indicated in Table 3, when grouped by age, education, teaching experience, and residence, no statistical significant differences were found in attitudinal variables. When grouped by membership in professional societies, cosmopolitanism, participation in national seminars, and primary teaching areas, the respondents had statistical significant differences in attitudes toward making their curriculum more internationally focused (see Table 3).

It is worthwhile to mention that the difference found in the T-test and one-way analysis of variance were not between favorable and unfavorable. The differences were found between less favorable to more favorable attitudes toward this program.

Attitudes Toward Student-Related Aspects

The majority (92%) of agriscience teachers had favorable and highly favorable attitudes toward student-related aspects of making their curriculum more internationally focused. That is, they agreed that the students should understand (a) the basic geography of the state, nation, and world; (b) global agriculture and its effect on U.S. agriculture; (c) future changes in global agriculture; (d) interactions with people from other countries; (e) international marketing

Table 1

Demographic Characteristics of Michigan Agriscience Teachers

Demographic Characteristics	Number	Percent	Demographic Characteristics	Number	Percent
Age:			Education:		
25-30 years old	23	16	Bachelor's degree or less	60	
31-40 years old	56	40	Master's degree	47	34
41-50 years old	41	29	More than Master's	34	24
51-60 years old	21	15			
Teaching Experience:			Membership in Prof. Societies:		
Fewer than 6 years	27	19	< 4 societies	42	31
6 - 9 years	17	12	4 societies	43	32
10-13 years	27	19	5 societies	28	21
14 years or more	70	50	> 5 societies	23	17
Cosmopolitanism:			Residence:		
Low cosmopoli.	23	16	Rural farm	63	45
Medium cosmopoli.	99	70	Rural nonfarm	35	25
High cosmopoli.	19	14	Suburban	30	21
			Urban	13	9
Read Ag. Educ. Magazine:			Mobility:		
No	32	23	Never changed	58	41
Yes	109	77	1 time	40	28
Issues of Ag. Educ. Magazine Read:			2-3 times	21	15
< 2 issues	13	12	4 or more times	22	16
2 - 5 issues	38	35	Participation in National Seminars:		
6 - 9 issues	31	28	Fewer than 2 seminars	65	46
10 or more issues	27	25	2-5 seminars	37	26
Read Newspapers for Ag. Information:			6-9 seminars	14	10
No	31	22	10-13 seminars	13	9
Yes	110	78	14 or more seminars	12	9
Primary Teaching Area:			Participation in Inter-National Seminars:		
Agriscience & NR	58	41	< 2 Seminars	115	82
Horticulture	30	22	2 or more Seminars	26	18
Agri-Mechanics	18	13	Received IAEP Materials:		
Agri-Production	14		No	67	48
Others)Bio/(Sci.)	11		Yes	74	52

Table 2

T-test Results of Agriscience Teachers Pertaining to Attitude Variable

Variable	Mean	T-value	Two-Tailed Probability
<u>Read Ag. Educ. Magazine:</u>			
No	3.79		
Yes	3.69	-1.96	.05*
<u>Read Newspapers for Ag. Information</u>			
No	3.77		
Yes	3.96	-2.17	.03*

Note. Means were calculated on the basis of a five-point Likert-scale 1=Strongly Unfavorable, 2=Unfavorable, 3=Neutral, 4=Favorable, 5=Strongly Favorable

*Significant at a $\leq .05$

systems; (f) the culture, infrastructure, standard of living, economy, politics, and natural resources of other countries; (g) global perspectives with respect to career opportunities; and (h) international interdependency.

Attitudes Toward Teacher-Related Aspects

The largest proportion (70%) of Michigan agriscience teachers had favorable and highly favorable attitudes toward teacher-related aspects of making their curriculum more internationally focused. This indicates that the IAEP program had been helpful to agriscience teachers in increasing global awareness in agricultural education. They indicated it was a worthy effort, which helped them improve working relationships with others, and they agreed to continue supporting the program. Respondents also were interested in having their FFA chapters host students from other countries, in serving on an advisory committee, and in participating in an overseas study tour. They also thought agriscience teachers needed in-service training and that successful agriscience teachers should be recognized by the Michigan Department of Education, the local school district, and the Michigan Association of Agriscience Teachers for their international efforts.

Attitudes Toward Educational Linkages

Eighty percent of the respondents had favorable and highly favorable attitudes toward educational linkages of making their curriculum more internationally focused. They indicated that internationalizing the agricultural education curriculum should be a priority of the Michigan Department of Education, the Vocational-Technical Education Service, local school districts, and the Agricultural and Extension Education Department at MS. They believed that IAEP programs should maintain linkages with the international efforts of the United States Department of Agriculture, Michigan Department of Agriculture, and the private sector. They also believed that international education should be integrated into the curriculum of schools, colleges, and universities.

Overall, Michigan agriscience teachers (84%) had favorable attitudes toward the international agricultural program thrusts.

Attitudes of Agriscience Teachers Who Received the IAEP Instructional Materials and Those Who Did Not

Student-related aspects. Means and standard deviations were calculated for each statement. On all but one statement, "Through IAEP, students will have an opportunity to interact

Table 3

Means, F-values, and Significant of F-values Pertaining to Attitude Variable

Variables	Mean	F-value	Signif of F
<u>Age:</u>			
25-30 years old	3.93	2.47	.06
31-40 years old	4.01		
41-50 years old	3.87		
51-60 years old	3.74		
<u>Education:</u>			
Bachelor's or less	3.89	.83	.44
Master's degree	3.98		
More than Master's	3.87		
<u>Teaching Experience:</u>			
Fewer than 6 years	3.86	.95	.41
6-9 years	4.04		
10-13 years	3.98		
14 years or more	3.89		
<u>Membership in Professional Societies:</u>			
<4 societies	3.80	2.54	.05*
4 societies	3.91		
5 societies	3.98		
>5 societies	4.09		
<u>Cosmopolitanism:</u>			
0 - 6 scores	3.66	6.05	.003*
7 - 12 scores	3.95		
13-18 scores	4.08		
<u>Residence:</u>			
Rural farm	3.84	1.39	.24
Rural nonfarm	3.95		
Suburban	3.99		
Urban	4.05		
<u>Participation in National Seminars:</u>			
Fewer than 2	3.78	3.96	.00*
2 to 5 seminars	4.06		
6 to 9 seminars	3.94		
10 to 13 seminars	3.90		
14 or more	4.16		
<u>Primary Teaching Areas:</u>			
Agriscience & NR	4.00	2.53	.05*
Horticulture	3.95		
Agri-Mechanics	3.88		
Agri-Production	3.66		
Others(Bio./Sci.)	3.89		

Note. Means were calculated on the basis of a five-point Likert-scale 1=Strongly Unfavorable, 2=Unfavorable, 3=Neutral, 4=Favorable, 5=Strongly Favorable.

*Significant at a $\leq .05$

with people in other parts of the world" (mean = 3.29), the mean ratings by agriscience-science teachers who received the IAEP instructional materials ranged from 3.70 to 4.54, and the mean ratings by agriscience teachers who did not receive the materials ranged from 3.59 to 4.56, indicating favorable attitudes toward making their curriculum more internationalized.

Teacher-related aspects. The mean ratings by agriscience teachers who received the IAEP instructional materials for five of the teacher-related statements ranged from 3.09 to 3.46, indicating neutral attitudes. The mean ratings of the other 23 statements ranged from 3.50 to 4.32, indicating favorable attitudes toward these teacher-related aspects of making the curriculum more international. The mean ratings by agriscience teachers who did not receive the IAEP instructional materials on nine teacher-related statements ranged from 3.02 to 3.47, indicating neutral attitudes. The mean ratings for the other 19 statements ranged from 3.50 to 4.10, indicating favorable attitudes toward these teacher-related aspects of internationalizing their curriculum. Thus, a majority of both the agriscience teachers who received the IAEP instructional materials and those who did not receive the materials expressed favorable attitudes toward teacher-related aspects of making their curriculum more internationally focused.

Educational Linkages. Means and standard deviations were calculated for each statement. All of the mean ratings by agriscience teachers who received the IAEP instructional materials and those who did not receive the materials ranged from 3.62 to 4.22 except the mean rating for the statement, "Local global educational/international understanding initiatives should be funded by the local school districts" (mean = 3.40). Thus, the agriscience teachers who received the IAEP instructional materials and those who did not receive the materials showed favorable attitudes toward all but one of the statements relative to educational linkages of internationalizing their curriculum.

Significant Differences in Attitudes Between Teachers Who Received and Did Not Receive the IAEP Instructional Materials

The null hypothesis stated that: There is no statistically significant difference in the attitudes of Michigan agriscience teachers who received the IAEP instructional materials and those who

did not receive the materials toward student-related aspects, teacher-related aspects, and educational linkages of making their curriculum more internationally focused.

Significant differences were found between the two groups in their responses to statements concerning their attitudes toward:

1. Students' participation in national FFA international programs.
2. Students' opportunity to interact with people from other countries.
3. The necessity of in-service training to help teachers internationalize their programs.
4. The provision of selected reading materials to help teachers internationalize the curriculum.
5. The encouragement of students' participation in national FFA international programs.
6. Interest in having their FFA chapter serve as host chapter for students from other countries for 3 weeks.

In essence, teachers who received the IAEP instructional materials had significantly more favorable attitudes toward these items than did teachers who had not received the materials.

Conclusions

Overall, agriscience teachers in Michigan demonstrated favorable attitudes toward making their curriculum more internationally focused. Thus, program planners involved in making secondary schools' curriculum more internationally focused should continue to involve (planning, in-service training, dissemination, evaluation) agriscience teachers in this endeavor. Younger respondents expressed more favorable attitudes than did older teachers. Hence, younger teachers might be given leadership roles in this programming thrust. Half of the respondents had more than 14 years of teaching experience, and these teachers had favorable attitudes toward making the agricultural education curriculum more

Table 4

Means, Standard Deviations and T- values on Student-Related Attitudinal Statements for Agriscience Teachers Who Received Instructional Materials for IAEP and Those Who Did Not Receive Such Materials

Statements	Received Materials		Did Not Receive		T- Value
	Mean	SD	Mean	SD	
1. For secondary students to understand global agriculture, they should first have a basic understanding of geography as related to their state, such as:					
a. Location of county on a state map.	4.48	.72	4.48	.74	.05
b. Location of county on a state map.	4.54	.60	4.56	.63	.26
c. Identification of major cities in the state where large quantities of agricultural products are consumed.	4.46	.57	4.39	.69	.67
d. Location of major ports for shipping agricultural products.	4.42	.61	4.21	.70	1.88
2. To help students understand agriculture from a global perspective, they should have a basic understanding of the United States and world geography, such as:					
a. Major regions in the United States.	4.47	.64	4.49	.50	.20
b. Location of states in major regions in the United States.	4.35	.53	4.43	.60	.85
c. The seven continents in the world.	4.33	.62	4.17	.79	.05
d. Location of countries in the world.	4.34	.61	4.22	.69	.10
e. Major oceans used in shipping agricultural products.	4.25	.64	4.17	.79	.64
f. Countries that are the most densely populated.	4.33	.62	4.28	.64	.28
3. International agricultural education programs will increase students' awareness of the need for the United States to work closely with countries around the world for:					
a. Economic benefits.	4.17	.66	4.19	.72	.16
b. Political benefits.	3.92	.75	3.84	.77	.65
c. Humanitarian benefits.	4.10	.75	4.08	.66	.15
4. Students are more likely to understand global agriculture if they are given instruction about:					
a. Major agricultural products that are produced in their county.	4.22	.78	4.22	.69	.05
b. What happens to local products once they leave the community.	4.36	.58	4.26	.68	.90
c. Major agricultural products that are produced in Michigan.	4.37	.63	4.28	.62	.89
d. Major export markets for Michigan agricultural products.	4.24	.54	4.25	.68	.84
e. States in the U.S. that are competing with Michigan's major agricultural products.	4.21	.72	4.17	.71	.30
f. Other countries that are competing with Michigan's major agricultural products.	4.34	.65	4.29	.62	.49
g. Countries that need and are capable of purchasing Michigan's major agricultural products.	4.33	.62	4.30	.67	.32
5. IAEP will increase awareness of global agriculture and the effects on American agriculture.	4.07	.70	4.07	.74	.06
6. With proper instruction and materials, students will be able to understand basic international agricultural concepts.	4.17	.55	4.04	.72	1.21

Table 4 (continued)

Means, Standard Deviations and T- values on Student-Related Attitudinal Statements for Agriscience Teachers Who Received Instructional Materials for IAEP and Those Who Did Not Receive Such Materials

Statements	Received Materials		Did Not Receive		T- Value
	Mean	SD	Mean	SD	
7. Considering the countries that are projected to be the best markets for Michigan's major products, students should be instructed on those countries':					
a. Culture.	3.72	.78	3.70	.93	.19
b. Infrastructure (educational systems, transportation system, major industries, etc.).	3.70	.71	3.59	.93	.76
c. Standard of living.	3.97	.70	3.79	.86	.05
d. Natural resources	4.00	.61	3.98	.75	.13
8. IAEP will provide students with a global perspective with respect to career opportunities.	3.82	.62	3.79	.66	.31
9. Students should be encouraged to participate in the various national FFA international programs (World Agriscience Studies, Work Experience Abroad, Travel Seminars, etc.).	4.00	.64	3.75	.91	1.93*
10. Basic IAEP concepts are not too complex for the average agriscience students.	3.86	.78	3.59	.90	1.88
11. IAEP will provide students with an appreciation of the interdependency of nations around the world.	3.84	.72	3.70	.75	1.09
12. IAEP will prepare students for future changes in global agriculture.	3.72	.80	3.79	.68	.59
13. Through IAEP, students will have an opportunity to interact with people in other parts of the world.	3.29	.90	3.59	.71	2.17*
14. IAEP will help students understand global agricultural marketing systems.	3.89	.58	3.85	.82	.34
15. IAEP will help students function better as citizens in a global society.	3.86	.64	3.81	.80	.48

Note. Means were calculated on the basis of a five point Likert-scale 1=Strongly Unfavorable, 2=Unfavorable, 3=Neutral, 4=Favorable, 5=Strongly Favorable.

*Significant at a $\leq .05$.

Table 5

Means, Standard Deviations, and T- values on Teacher-Related Attitudinal Statements for Agriscience Teachers Who Received the IAEP Instructional Materials Those Who Did Not Receive Materials

Statements	Received Materials		Did Not Receive		T- Value
	Mean	SD	Mean	SD	
1. I see IAEP efforts as benefiting me personally.	3.70	.99	3.59	.79	.69
2. Internationalizing my agriscience program will help in:					
a. Strengthening the program.	3.50	.94	3.53	.78	.25
b. Improving my working relationship with other school personnel.			3.33	.89	
c. Creating a better relationship with the agricultural community.	3.46	.83	3.47	.68	.14
d. Recruiting additional students.	3.09	.93	3.14	.92	.35
3. IAEP should be given a high priority because US agriculture will benefit from it.	3.58	.92	3.44	.87	.88
4. IAEP addresses the issue of a growing international interdependence in the area of agriculture.	3.87	.72	3.77	.75	.76
5. Ag teachers need in-service training to internationalize their programs.	4.02	.97	4.10	.90	.49
6. I would be interested in attending an in-service training session on how to internationalize my program.	3.98	1.01	3.76	1.08	.74
7. Agriscience teachers who have received in-service training on how to internationalize agriscience programs are likely to be more successful in this integration effort than teachers who have not had such training.	4.31	.57	4.05	.90	1.99*
8. For teachers to understand global agriculture, they should be given selected reading materials that they can easily use in the classroom.	4.32	.70	4.00	.67	2.79*
9. Internationalizing my program is worth the effort.	3.87	.93	3.73	.76	.99
10. I am very supportive of the initiative to internationalize agriscience programs in Michigan.	3.94	.85	3.75	.76	1.45
11. MS's Department of Agricultural and Extension Education should provide resources to support the infusion of an international dimension into agriscience programs.	4.00	.87	3.78	.96	1.44
12. I would encourage my students to participate in national FFA's international programs.	4.02	.75	3.61	.99	2.79*
13. I would be interested in having my FFA chapter serve as a host chapter for a student from another country for:					
a. 3 weeks	3.71	.81	3.33	1.03	2.38*
b. 6 weeks	3.18	.83	3.20	1.00	.13
14. I wish to increase my understanding of global agriculture by participating in a planned overseas study tour.	3.63	1.11	3.32	1.10	1.88
15. Agriscience teachers who have been successful in internationalizing their programs should be recognized by:					
a. The Michigan Department of Education.	3.90	.99	3.85	1.00	.32
b. The local school district.	3.82	.98	3.88	.96	.34
c. The Michigan Association of Agriscience Educators.	4.02	.97	3.94	.90	.55
16. A well-implemented IAEP will improve the image of the agriscience teacher.	3.78	.66	3.79	.82	1.04

Table 5 (continued)

Means, Standard Deviations, and T- values on Teacher-Related Attitudinal Statements for Agriscience Teachers Who Received the IAEP Instructional Materials Those Who Did Not Receive Materials

Statements	<u>Received Materials</u>		<u>Did Not Receive</u>		<u>T- Value</u>
	Mean	<u>SD</u>	Mean	<u>SD</u>	
17. If statewide IAEP efforts are to be successful, agriscience teachers should be directly involved in:					
a. Planning statewide programs.	4.00	.66	3.89	.81	1.66
b. Implementing statewide programs.	3.97	.59	3.76	.83	1.74
c. Evaluating statewide programs.	3.97	.61	3.79	.80	1.51
18. I would be willing to serve on an advisory committee for the purpose of strengthening current IAEP thrusts.	3.17	1.11	3.02	1.01	.81
19. Internationalizing agriscience programs has not been pushed too much in the state.	3.52	.85	3.48	.89	.50
20. As agriscience teachers, we should view the world as our laboratory to prepare students for working and living in a global society.	4.00	.68	4.00	.88	.00

Note. Means were calculated on the basis of a five point Likert-scale 1=Strongly Unfavorable, 2=Unfavorable, 3=Neutral, 4=Favorable, 5=Strongly Favorable.

*Significant at $\alpha \leq .05$.

Table 6

Means, Standard Deviations, and T- values on Attitudinal Statements Relative to Educational Linkages for Agriscience Teachers Who Received Instructional Materials for IAEP and Those Who Did Not Receive Materials

Statements	Received Materials		Did Not Receive		T- Value
	Mean	SD	Mean	SD	
1. Global education/international understanding should be a part of the philosophy of:					
a. The Michigan Department of Education	3.97	.70	3.83	.82	1.06
b. The Vocational-Technical Education Service.	3.72	.78	3.74	.76	.13
c. The local school districts.	3.63	.86	3.71	.83	.57
d. The Department of Agricultural and Extension Education at MS.	3.91	.75	3.89	.85	.17
2. Global education/international understanding should be a part of the goal statements of:					
a. The Michigan Department of Education.	3.94	.65	3.79	.99	1.10
b. The Vocational-Technical Education Service.	3.68	.75	3.77	.89	.30
c. The local school district.	3.64	.78	3.68	.80	.28
d. The Department of Agricultural and Extension Education at MS.	3.85	.78	3.88	.91	.20
3. Local global education/international understanding initiatives should be funded by:					
a. The Michigan Department of Education.	3.93	.88	3.97	.93	.25
b. The Vocational-Technical Education Service.	3.64	.86	3.62	1.07	.13
c. The local school districts.	3.40	.93	3.32	1.03	.46
4. IAEP should be linked directly to the international efforts of:					
a. The United States Department of Agriculture.	4.17	.60	4.19	.72	.16
b. The Michigan Department of Agriculture.	4.21	.55	4.17	.69	.35
c. The private sector.	4.05	.70	3.92	.90	.95
5. International concepts should be integrated into every facet of the school curriculum, including:					
a. Grades K-5	3.64	.85	3.62	1.02	.14
b. Grades 6-8	3.86	.70	3.94	.91	.55
c. Grades 9-12	4.25	.70	4.08	.93	1.21
6. International concept should be included in the undergraduate curriculum of college students.	4.22	.60	4.22	.64	.06
7. International concepts should be included in university graduate programs.	4.09	.70	4.16	.68	.59
8. Local agriscience internationalizing initiatives are more likely to be successful if they involve:					
a. Michigan Department of Education.	3.82	.94	3.82	.83	.02
b. MS Department of Agricultural and Extension faculty.	4.06	.66	4.01	.76	.43
c. School administrators.	3.83	.75	3.80	.87	.23
d. Vocational-Technical Education Service personnel.	3.87	.77	3.91	.75	.25
e. Local teachers.	4.10	.65	4.00	.81	.87
f. Local counselors.	3.85	.67	3.92	.78	.60
g. Advisory committee members.	3.95	.72	4.05	.73	.81
h. Individuals from the local agricultural community.	4.09	.64	3.91	.83	1.48
i. FFA alumni.	3.91	.65	3.91	.75	.07
j. Parents.	3.83	.68	3.83	.97	.01

Note. Means were calculated on the basis of a five point Likert-scale 1=Strongly Unfavorable, 2=Unfavorable, 3=Neutral, 4=Favorable, 5=Strongly Favorable.

internationally focused. Therefore, efforts to make the curriculum more internationally focused will be facilitated if program planners use agriscience teachers with more teaching experience. Respondents with different numbers of memberships in professional societies explicitly differed in their attitudes. Hence, program planners might identify agriscience teachers with more memberships in professional societies to provide leadership in making the agricultural education curriculum more internationally focused at the secondary level. Agriscience teachers with high cosmopolitanism had significantly more favorable attitudes toward incorporating international concepts in their local agricultural education curriculums than did teachers with lower levels of cosmopolitanism. Thus, if planners employ agriscience teachers with high cosmopolitanism during the initial stages of the program, this could accelerate the goal of making the agricultural education curriculum more internationally focused at the local level. Reading the Agricultural Education Magazine influenced the attitudes of agriscience teachers relative to internationalizing their local agricultural education curriculums. Thus, additional efforts should be made to encourage more teachers to read the magazine that is published for the profession. The more national seminars in which respondents participated, the more favorable were their attitudes toward internationalizing the agricultural education curriculum. Thus, arrangements should be made to organize seminars/ conferences to help agriscience teachers understand global agriculture and how to make their curriculums more internationally focused. Agriscience teachers who received the IAEP materials and teachers who had not received the materials differed significantly on only 9 of the 91 attitude statements. Thus, there is not sufficient evidence that the instructional materials help improve agriscience teachers' attitudes toward making their curriculum more internationally focused. The favorable attitudes shown by the respondents lead to the conclusion that agriscience teachers in Michigan are willing to internationalize their local agriscience curriculum. Thus, there is potential for expanding internationalization efforts in the state.

Educational Importance

International education has received additional attention in recent years. It is believed that events around the world have caused the educational professions at all levels to give serious attention to the internationalization of various types of educational programs. In agriculture, it is clear that the vitality of one of America's most important industries is directly related to locating and maintaining additional markets abroad. In light of this fact, it is crucial that secondary agriscience programs be internationalized in order to adequately prepare students for competing successfully in a global agricultural market. Prior to addressing this issue, it seems appropriate that we determine the attitudes of agriscience teachers relative to internationalizing secondary programs. This study provides the profession with some data which indicates that agriscience teachers in one state are willing to assist the profession in addressing this issue. Considering that Michigan was selected as one of two states to provide national leadership in this area by the National Council for Agricultural Education, it is most satisfying to see that to a large extent, Michigan's agriscience teachers are willing to internationalize their programs. This study will be most valuable to program planners in Michigan as we attempt to expand our international efforts in the state. Additionally, this study may provide program planners in other states with valuable information in order to effectively expand their respective international thrusts.

References

- Beeman, C. E., & Cheek, J. G. (1990). A Florida perspective on international agricultural education. Agricultural Education Magazine, 52(10), 6-7.
- Edwards, A. L. (1957). Techniques of attitude scale construction. New York: Appleton-Century-Crofts.
- SPSS/PC. (1990). SPSS/PC+ Base Manual. New York: McGraw-Hill.

Symons, W. B., & Cvancara, J. G. (1990).
Integrating international mechanics into a
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Education Magazine, 62(10), 22-23.

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