Perceived competencies and attitudes of Sudanese undergraduate students

Laetitia Akosua Purity Hevi-Yiboe

Iowa State University

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PERCEIVED COMPETENCIES AND ATTITUDES OF SUDANESE UNDERGRADUATE STUDENTS

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Perceived competencies and attitudes of
Sudanese undergraduate students

by

Laetitia Akosua Purity Hevi-Yiboe

A Dissertation Submitted to the
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DEDICATION

Dedicated to my mother,

VICTORIA AMA ABUTIA

who loves so much, no sacrifice is too much

and to my son,

DELALI KODZO HEVI

without whose support and love I never could have completed this venture and who made it worthwhile.
INTRODUCTION

Program evaluation is an essential aspect of any program. In order to determine the effectiveness of a program, appropriate evaluations must be carried out to provide information on which decisions about effectiveness can be based. Evaluation plays an important role in program planning and development by providing the necessary data for program planning decisions. Program evaluation began to be a priority issue in the United States in the late 1950s and the early 1960s. Subsequent to that time, curriculum development projects, health, social, and educational services and vocational education have been evaluated using federal government funds (Rutman, 1984; Madaus, Scriven, and Stufflebeam, 1983).

Program evaluations are important in determining whether a program meets its objectives or not. Program evaluation results provide the basis for making decisions on the improvement of programs. Rutman (1984) defines program evaluation as the use of scientific methods to measure the implementation and outcome of programs for decision-making purposes. Evaluation is defined by Stufflebeam, Foley, Gephart, Guba, Hammond, Merriman, and Provus (1971) as the process of delineating, obtaining, and providing useful information for judging decision alternatives. Further, they state that "the purpose of evaluation is not to prove, but to improve."

From the above definitions, it is apparent that evaluations are important to any program for continued success and improvement. Evaluations enable the evaluator to identify strengths and weaknesses of a
program and enable the administration to make decisions to improve the program.

The literature abounds in different models and frameworks for carrying out program evaluations. Many evaluations are done by using one of these already existing models. Three of these models, the CIPP model (Stufflebeam, 1983), the Discrepancy Model of Evaluation (Steinmetz, 1983), and Rutman's Model of Evaluation (Rutman, 1984), served as the basis for a model which was developed specifically for this study. CIPP stands for context, input, process, and product. The CIPP model provides an ongoing evaluation system to the decision makers in an educational institution. Context evaluation provides information for planning decisions; input evaluation provides information for decisions on organizing the curriculum; process evaluation provides information for guiding the implementation of decisions, and product evaluation serves recycling decisions. The Discrepancy Model seeks to compare the actual results of a program with the expected results. The discrepancy between these two provides information that is useful in making judgments about the adequacy of the program. Rutman's model stressed both the implementation as well as the outcomes of a program and lays down specific steps to go through when carrying out any program evaluation.

The model used for this study is a six-stage model that was developed to suit the circumstances of the study, which was carried out in a small college in Omdurman, a town in Sudan, East Africa.

In the Sudan, the education of women lags behind the education of men. The illiteracy rate for women is about 90%, but it is 55.2% for men.
(Nelson, 1983). The differences in the educational status of the sexes is of concern. Government educational programs began at the time of independence increasingly have encouraged the education of Sudanese (Hall and Ismail, 1981). In addition to government efforts, there exists in the Sudan a number of private educational institutions that supplement government efforts of better education for all. Ahfad University College for Women at Omdurman in the Sudan is one such private educational institution.

Ahfad University College for Women was started as a private college in 1966 to provide educational opportunities for women. Its main objective is to train Sudanese women to become active members of the Sudanese society and who will help other women by training them and organizing different programs for women, especially women in the rural areas (Bedri, 1984). A program of this nature, however, needs constant evaluation so that the curriculum could be adjusted when necessary to serve the needs of the society. An evaluation was deemed appropriate in 1985 to provide information for making decisions regarding the improvement of the Ahfad program.

The general purpose of the study was to evaluate the Ahfad program to determine the extent to which it had achieved the program goals. The three specific objectives of the study are:

1. To develop an appropriate evaluation model to use in carrying out the evaluation of the Ahfad program.

2. To evaluate the extent to which Ahfad University College for Women (AUCW) students in the schools of Family Sciences and the School of
Psychology and Preschool Education perceived they had achieved the competencies desired of the program through a comparison of the perceived competencies of first year students with those of fourth year students.

3. To compare and contrast the attitudes and behaviors of first year and fourth year students, and of students in Family Sciences and students in Psychology and Preschool Education towards the different roles that women can and should play in the Sudanese society.

In order to achieve these objectives, an attitude inventory and two competency questionnaires were designed that were used to solicit data from the students at Ahfad University College for Women in 1985. The results of the study made it possible to draw some conclusions about the program and also to make recommendations that when implemented would contribute to the improvement of the program at Ahfad University College for Women.

Explanation of Dissertation Format

The format used for this dissertation is the "alternative" format which has been approved by the Graduate Faculty at Iowa State University. This format permits the research to be presented in manuscript form suitable for publication in professional journals.

The dissertation consists of an introduction and review of literature which together provide a general background and framework for the research project. The body of the dissertation is composed of two sections which address specific aspects of the research. The first section is a report of the student competency studies, and this manuscript was written for the Ahfad Journal. The second manuscript, which was written for the same
journal, describes the attitudes and behaviors of Ahfad students towards both traditional and nontraditional female roles in the Sudan.

The authorship for the two manuscripts was shared with Dr. Alyce Fanslow, major professor for the dissertation, and with Dr. Donna L. Cowan, Director of the Iowa State University/Ahfad University College for Women Linkage Project, of which this research is a part.

The final chapter is a summary of the research and presents overall findings. Conclusions and recommendations are also included in this chapter.
LITERATURE REVIEW

The education of women is as essential as the education of men to the development of any nation, because men and women constitute the total population of a nation and neglecting the education of women means neglecting about 50% of the population. This neglect results in inadequate development and preparation of about 50% of the human resource of a nation for full participation in the development of that nation. Frequently, the education of women lags behind that of men especially in developing countries as is the case with Sudan.

In developing African countries, women spend more time with the young children than men. The majority of African women take their young ones with them to work, usually strapped at their backs, on the farms and in the markets and trading centers. Those who work in government-type jobs have either a grandparent or a young woman live with them who cares for the young when they are at work. Young children are therefore greatly influenced by women. The more educated and informed women are, the more sound will be the training and character formation of the younger generations. It is, therefore, important to address the question of providing educational opportunities and appropriate educational programs for women in developing countries with the seriousness that it deserves. For women to contribute effectively to national development, they must have the same or equal opportunities for education as men. In those countries that have educational opportunities and programs for women, these need to be evaluated periodically in order to make the programs relevant to the needs of the society.
The present study focuses on the evaluation of the two schools, the School of Family Sciences and the School of Psychology and Preschool Education at Ahfad University College for Women in Omdurman, Sudan. Ahfad is a small, all women's college in the Sudan, East Africa, that prepares young women for leadership roles in the Sudan. This evaluation is aimed at providing information that will help Ahfad personnel to make necessary changes to improve the program. The statement that "the purpose of evaluation is not to prove, but to improve" (Stufflebeam et al., 1971) is very appropriate to this study, which aims at providing necessary information to Ahfad personnel to aid decisions concerning the improvement of the Ahfad College.

In establishing a framework for this study, the literature review has three components: (1) the role of women in development in developing African countries, (2) general information on Sudan, including specific information on the education and role of women in the Sudan, and (3) review of program evaluation literature and ends with a program evaluation model developed for the study.

Roles of Women in Developing African Countries

This section is a short review of some of the major roles that women play in developing African countries. Today, many African countries are in what can be called a state of transition, so that it is impossible to identify one set of roles that apply to all women. However, women in African countries, like women in other developing countries, have long working hours and engage in a variety of tasks. Women do the housework, childcare, and much of the unpaid work around the home (Cebotarev, 1982).
The work of women who do not work outside the home is not considered to have much economic value, but all substitutes for housework are very expensive (Cebotarev, 1982). Housework and childcare, which are done mainly by women in developing countries, are both important to the development of any nation.

Women play important roles in every society. In many African countries, women play active multiple roles. They are mothers and daughters, sisters, aunts, nieces, and grandmothers, as well as wives and home managers. Each woman is expected to play all the applicable roles actively all the time. Each one comes with constant duties and obligations that must be fulfilled (Njoku, 1980). For example, a very old woman is still considered, partially responsible for the actions of a married daughter who herself might be the mother of teenagers or older. This daughter must still obey her mother, consult her in many matters, and take care of her in her old age. This later role might mean providing the financial support or it might mean providing 100% care—depending on whether there are other siblings or not. It is not something that she does if she wants, it is expected. A majority of rural African women are farmers, some are traders, and some are both farmers and traders.

Although it is impossible to identify roles that apply to all women in all the African countries, it is possible to identify major trends that affect African women. These generalizations are presented in an attempt to give a clear picture of the roles of African women. The discussion focuses on women in pre-colonial Africa, past colonial Africa, and brings
out differences between traditional or rural women and "modern" or urban women.

Pre-colonial period

Many social scientists agree that colonialism greatly altered the status of African women, placing them in a more dependent position (Lindsay, 1980). Boserup (1970) and Mullings (1976) assert that in many developing societies prior to colonialism, women's role in agriculture was based to a large extent on equality with men. Women's participation gave them equal access and control over their labor. When hunting and gathering were the primary means of subsistence, the distribution of resources was based on communal styles and goods were distributed fairly equally. As women engaged in agriculture and related activities, they were still central in the distribution of the goods. With the advent of colonialism, the Europeans discouraged farming by women (Lindsay, 1980). Examples include Ugandan women who began growing cotton in the 1920s. The European Director of Agriculture stated that cotton production should not be left to women, and ten years later, men were growing most of the cotton. Women were not taught contemporary farming skills that were taught to the men, therefore giving men advantages over women. Modern farming techniques and equipment were made available to men, leaving women to use primitive farming methods which are time-consuming with poor yields (Lindsay, 1980).

In many African countries, the position and status of women were well-established before the colonial era. Women ruled their people jointly with the men in many African societies. (Both the available
literature and personal experience indicate this happened frequently among more West African and Southern African groups (Meghji et al., 1985; Njoku, 1980).) Women were politically very active in many African countries and many religious leaders were also women. Women, therefore, participated actively in the decision-making process.

In matrilineal societies, which are present all over Africa, life revolved around women. Inheritance was through the maternal line and women controlled the wealth. Marriages were arranged through the woman's family, and food production and distribution were managed by the women. The children belonged to their mothers and major decisions regarding the selection of chiefs were taken only with the approval of women.

Many African women were engaged in trading and marketing as an integral part of pre-colonial life. This role has been greatly eroded as a result of colonial policies which made education and training available to males and thus gave them advantages over the women (Lindsay, 1980).

**Effect of colonialism on women's roles**

At the time of colonization, the colonial masters, unaware of the cultures, carried out their activities along male dominated lines, leaving women out of most of the modern day activities. Formal education was made available to boys and young men in order to train manpower to facilitate the running of the government machinery. This resulted in very few well-educated women compared with the men. Workers' cooperatives were started for men in many parts of Africa. Women were relegated to second place in the society under the colonial system, which also came with
capitalism, which gave men decisive control over wealth produced (Meghji et al., 1985).

The political systems of the African countries were westernized by colonialism and the establishment of a central government took much of the power from the local people and gave it to a few educated elite—men. On the national level, therefore, there are very few African women actively involved in politics. There has been an imbalance in the representation of the sexes in major decision-making positions, especially in development planning. As a result, sometimes development plans provide direct impediments to the progress of women. Most national development plans are made on a sectoral basis—for example, health, education, trade, etc.—and each sector has its major concerns. Unfortunately, no sector has women as its major concern and, thus, the needs of women are not adequately addressed. African women are, however, struggling to regain the status that was once theirs so as to participate fully in decision making (Cabinet of the Executive Secretary of the ECA, Addis Abada, 1985).

Contemporary African women

Today, African women can be regarded as either traditional/rural or modern/urban. The traditional women are usually those women who live mainly in the rural areas, have not gone to school much if at all, and lead simple lives. The modern or urban woman belongs to that group of women who have had formal education and are engaged mainly in salaried jobs—working either for their governments or for major corporations. They live mainly in the urban centers, but teachers who belong to this
group live all over the country. Some of them lead very sophisticated lives.

The rural women

The majority, 80% of rural African women, are engaged in agricultural work. The women produce the bulk of the food to feed their own families and others. It has been said that rural women form the most productive sector of African society, producing the food that feeds the nation (Lindsay, 1980; Njoku, 1980). In many African countries, men direct most of their attention to the production of cash crops like cocoa, coffee, and cotton, which are exported out of the country. The women produce the bulk of the food that they use.

Food production to feed the family is done mainly by women in the majority of African countries. Men participate in agriculture in many instances, when it is possible to do so on commercial scales (O'Kelley, 1980). As more and more men in developing countries move into cash crop production such as cocoa, coffee, and sugarcane for the export market, the burden of food production falls even more heavily on women. Unfortunately, these women still depend on traditional farming methods (Cebotarev and Shaver, 1982; Lindsay, 1980).

In addition to being food producers, some rural women are traders. They distribute goods by sending food from the rural areas to the urban centers and bringing urban goods like clothing, sugar, and other household goods to the rural areas. Over 60% of the market trade in Africa is done by women. Rural women are engaged in various levels of commercial
activity, but limited education or lack of it often limits the scope of their activities (Lindsay, 1980).

In many rural African societies even today, the traditional political systems are still strong on local levels. Rural women are, therefore, more politically active than urban women and are involved in decisions affecting their small communities. These decisions, however, do not affect modern government in any way. It could be said that even though the life of the rural woman might be harder than that of the urban woman, the rural African woman still maintains her status in her small society.

The urban women

Most urban women are either government employed or they work for a firm or corporation or they are traders/marketwomen or businesswomen. After independence, many African countries made formal education equally available to both sexes. Many girls went to school, but the gap still exists between educated males and females. However, a majority of the educated women are nurses, teachers, or secretaries. Women are also getting into areas formerly considered men's work, such as the medical field. There are female medical officers, lawyers, university professors, and very few politicians. The proportion of male to female in these fields is very large, but the gap is closing gradually.

Due to the nature of the government of the African nations which is greatly westernized, the urban women are left out of most political activities.
Many urban women are in trade and commerce. In some African countries, more than 50% of the trade is handled by women. The women organize themselves into various kinds of cooperatives and associations to promote progress and development through helping each other (Meghji et al., 1985; Njoku, 1980). The women seem determined to gain back the equality and status that was once theirs.

To conclude, it can be said that the major role of African women apart from their social contributions is in agriculture. Women form more than 50% or more of the agricultural work force in many African countries, and women are central to the effort to overcome hunger and malnutrition in Africa (Boserup, 1970). Food processing, storage, and distribution are done solely by women. Many African women must either fully or partially assist in the financing of their households. And many African women are in trade contributing directly to the economic development of their countries.

Sudan: The Country, and the Education and Roles of Women

Sudan is the largest country in Africa, with a land area of 2,505,813 square kilometers (almost one million square miles) (Nelson, 1983). Geographically, Sudan is situated in the northeast corner of Africa extending for 1,200 miles from north to south and 1,000 miles from east to west (Connolly, 1980). Sudan shares borders with eight countries and the Red Sea. These are Egypt to the north; the Red Sea and Ethiopia to the East; Kenya, Uganda, Zaire, and Central African Republic to the south; and Chad and Libya to the west. See Appendix A for maps. The White Nile flowing from Lake Victoria in Uganda and the Blue Nile flowing from
Ethiopia join a little north of Khartoum, the capital of Sudan, to form the main River Nile which flows on through Egypt into the Mediterranean Sea.

Sudan stretches between latitude 4 and 22 north and between longitude 22 and 38 west (Bedri, 1986). The country is a land of many contrasts, with a climate ranging from arid desert in the north to tropical forest in the south with torrential rains. The central one-third of the country gets just enough rain for year-round agriculture. The climate is hot all year, with maximum daily temperatures ranging between 24.4° C and 46° C in most areas throughout the year. January is cool with temperatures between 16° C and 32° C. July is the month with most rainfall; the rainfall is between 70 mm in the north and 240 mm in the south (Abu-Shaikha, 1982). Sudan is a predominantly agricultural country, with agricultural exports accounting for 95% of all exports and over 50% of the government reserves.

Transportation in Sudan is mainly by the government-owned Sudanese railways that carries about 80% of the cargo and over 50% of the passengers. In 1980, only 321 km of asphalt road, which is mainly around the capital city, were present. About three-quarters of the roads are unsurfaced and prove impassable during the rainy season. There is some travel by the Nile River (Abbas and Taba, 1981).

Sudan had an estimated population in 1982 of 20 million people, with a birth rate of 4.8 and a population growth rate of about 2.8% per annum. Fifty percent of the population is under 20 years old, and life expectancy at birth is about 49 years (Badri, 1983; Nelson, 1983). Sudan has a very low population density, one of the lowest in the world, of just over seven
people per square kilometer. However, 90% of the population is concentrated on only 15% of the land.

Sudan is about 24% urban, 66% rural, and 9.4% nomadic. A large proportion of the urban population (about 75%) is concentrated in the three cities, Khartoum, Omdurman, and Khartoum North, which together constitute the capital area (Abu-Shaikha, 1982). More than half the Sudanese are Muslim, and 75% of the Muslims live in the north. There are relatively few Christians in the north; most of them are from the south. Many adhere to various traditional religions (Nelson, 1983).

The People

There are many ethnic groups in the Sudan and more than 100 languages are spoken. Arabic is the primary language for more than 50% of the people and the secondary language for many others. English is officially acknowledged as the principal language of the southern region. Dinka is spoken by about 10% of the population. The largest ethnic category consider themselves Arab (over 50%), and they belong to various Muslim groups. Major Muslim but non-Arab groups are the nomadic Beja in the northeast, Fur in the west, and Nubians in the far north. Each constitutes 3-4% of the total population. The south is non-Muslim and includes the Dinka, 10% of total population; Nuer, 3%; the Zande, 2%; and several other smaller Nilotic groups (Nelson, 1983).

Women’s education

It is important here to present a short overview of education in general in the Sudan so that the education of women can be placed in
proper perspective. At the time of independence in 1956, all available schools and colleges in the Sudan were in the big towns and cities, and there were only 147 elementary schools, six intermediate schools, two secondary schools, and three teachers training colleges (Kashif, 1984). However, both government schools and private schools increased rapidly after independence. Girls, though very few, were in the Khartoum University by the late sixties, and in 1966, Ahfad University College for Women was established at Omdurman by the Ahfad Institution.

In the Sudan, the education of women lags behind the education of men. The illiteracy rate for women is almost 90%, while it is 55.2% for men. The Koran schools that were common even in rural areas in northern Sudan were mainly for boys. Formal education stressed academic achievement and ignored technical and vocational training, making parents consider it inappropriate for girls. Moreover, there is more prestige attached to academic education than to technical education (Nelson, 1983).

The education of southern women lags behind that of women in the north, because on the whole, the education in the south lags behind education in the north. There are fewer colleges and only one university in the south. The expulsion of the Christian missionaries from Sudan in the 1960s hindered education in the south greatly (Nelson, 1983; Gama, 1984).

In the Sudan, girls are regarded as assets, while boys are treated as heirs of the father; therefore, more boys are sent to school than girls. The situation, however, is changing gradually and more girls are going to school each year (Gama, 1984). At present, the Sudanese ministry of
education is establishing schools all over the country with the aim of making educational opportunities available to all. The Ahfad University College for Women started in 1966 aims at preparing women for effective participation in the economic, social, and political development of the country. Ahfad provides an opportunity for many young Sudanese women to have a college education.

Women's roles

Sudan, as noted earlier, is a country of diverse cultures and traditions. However, it is possible to make some generalizations about life in the Sudan and what is expected of women in the society in particular (Voll and Voll, 1985). Long-standing traditions have determined the place of the woman both in the north and southern Sudan to be the home.

Like her sister in the North, the Southern woman's place in the home has been determined by long traditions. The role of mother and housewife has always been looked on with respect and dignity. The ideal housewife has always been the woman who bears children, brings them up properly, keeps the house clean, cooks good food and makes ends meet (Bassiouni, 1984).

This quotation indicates that the responsibilities of training the children for adult life are mainly the woman's responsibility. In many African societies and obviously in the Sudan, mothers are blamed for the improper behavior of their children. The wife must be a good housekeeper, but more importantly, she must be a good cook. She must also be able to manage scarce resources for the satisfaction of the family.
Sudanese women marry at a very young age. Approximately 50% of the rural women marry before they are 15, and by age 20, more than 90% are married. Marriage, therefore, plays a very important and central role in a woman's life in the Sudan (Badri, 1983). The paragraph taken from a young college Sudanese woman's term paper presents some of the traditional roles of women in Sudan:

Like their sisters in times past, women are basically domestic. Besides fulfilling their natural role in the house, the rest of their time [was] is given over to assisting in work on which the living of the family depended. Their lot was a hard one which gave little time or no time for leisure or for creative pursuits. Yet, in spite of their contributions, their place and role in society [was] is looked upon as secondary (Kashif, 1984).

Traditionally, there is a clear distinction between male and female roles in the Sudan. In the urban centers, women are expected to be housewives while the men engage in different economic activities (Nelson, 1983). A study in Omdurman of the domestic tasks of housewives showed this distinction very clearly. Cooking the family meal was done solely by the wives, while the husbands were solely responsible for obtaining the food items (Badri, 1983).

The situation of women in the Sudan is in a transitional stage presently, with more and more girls going to school each year and women taking on jobs and occupying positions that were considered to be only for men (Bassiouni, 1984). The Sudanese women's union represents the interests of women in the country and works for the emancipation of women. A number of vocational schools have been established by the union and this is helping young women acquire skills needed for gainful employment.
Ahfad University College for Women in Omdurman, Sudan, is a fairly young all women's university, the first of its kind in the Sudan. The major objective of Ahfad is to prepare young Sudanese women for leadership positions and to help them become change agents in the Sudanese society. There are three schools within Ahfad University College for Women. These are the School of Family Sciences, the School of Management, and the School of Psychology and Preschool Education.

In 1984, Ahfad College officials realized the need for an evaluation of the Ahfad program. This was to facilitate the improvement of the program. Two of the three schools, the School of Family Sciences and the School of Psychology and Preschool Education, were studied.

The purpose of this study was to evaluate the extent to which Ahfad students perceive they had achieved the competencies desired of the Ahfad program, through a comparison of the perceived competencies of first year students with those of fourth year students. The attitudes of the students towards the different roles of women were also studied.

Program Evaluation

Program evaluation is the use of scientific methods to measure the implementation and outcomes of programs for decision-making purposes (Rutman, 1984). Rutman stressed the importance of evaluating not only the results of a program but also the implementation processes. Evaluating the implementation processes enables program managers to modify program activities to have the best chance of achieving program objectives. It also enables decision makers to differentiate between success or failure.
due to the way the program was implemented or due to feasible or unfeasible objectives.

According to Maanen (1979), program evaluation is to determine the operations and effects of a specified program, relative to the objectives that it sets out to reach, in order to contribute to the decision making surrounding the program. He believes that program evaluation is essential and useful to any program and contributes significantly to improved decision making. Cronbach (1983) defined evaluation broadly as the collection and use of information to make decisions about an educational program. Stufflebeam et al. (1971) defined evaluation as the process of delineating, obtaining, and providing information for judging decision alternatives.

Inherent in all these different definitions are three main points: (1) the use of standards or objectives to judge both process and outcome, (2) the use of scientific or systematic methods to collect data, and (3) the availability of the findings to decision makers and administrators. Essentially, program evaluation must be an ongoing process built into program delivery with periodic in-depth studies that provide more detail (Rutman, 1984).

The literature on program evaluation abounds with models or frameworks for carrying out various kinds of evaluation. The type of model or framework selected depends on the purpose of the evaluation and available resources.

The major evaluation models are shown in Table 1; each model is cited followed by the proponents of each model, the major audiences,
Table 1. A taxonomy of major evaluation models (House, 1983, p. 48)

<table>
<thead>
<tr>
<th>Model</th>
<th>Proponents</th>
<th>Major audiences</th>
<th>Assumes consensus on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems analysis</td>
<td>Rivlin</td>
<td>Economists, managers</td>
<td>Goals; known cause and effect; quantified variables</td>
</tr>
<tr>
<td>Behavioral objectives</td>
<td>Tyler, Popham</td>
<td>Managers, psychologists</td>
<td>Prespecified objectives; quantified outcome variables</td>
</tr>
<tr>
<td>Decision making</td>
<td>Stufflebeam, Alkin</td>
<td>Decision makers, esp. administrators</td>
<td>General goals; criteria</td>
</tr>
<tr>
<td>Goal free</td>
<td>Scriven</td>
<td>Consumers</td>
<td>Consequences; criteria</td>
</tr>
<tr>
<td>Art criticism</td>
<td>Eisner, Kelly</td>
<td>Connoisseurs, consumers</td>
<td>Critics, standards</td>
</tr>
<tr>
<td>Accreditation</td>
<td>North Central Association</td>
<td>Teachers, public</td>
<td>Criteria, panel, procedures</td>
</tr>
<tr>
<td>Adversary</td>
<td>Owens, Levine, Wolf</td>
<td>Jury</td>
<td>Procedures and judges</td>
</tr>
<tr>
<td>Transaction</td>
<td>Stake, Smith, MacDonald, Parlett-Hamilton</td>
<td>Client, practitioners</td>
<td>Negotiations; activities</td>
</tr>
<tr>
<td>Methodology</td>
<td>Outcome</td>
<td>Typical questions</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>----------------------------------</td>
<td>-------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>PPBS; linear programming; planned variation; cost benefit analysis</td>
<td>Efficiency</td>
<td>Are the expected effects achieved? Can the effects be achieved more economically? What are the most efficient programs?</td>
<td></td>
</tr>
<tr>
<td>Behavioral objectives; achievement tests</td>
<td>Productivity; accountability</td>
<td>Are the students achieving the objectives? Is the teacher producing?</td>
<td></td>
</tr>
<tr>
<td>Surveys, questionnaires, interviews; natural variation</td>
<td>Effectiveness; quality control</td>
<td>Is the program effective? What parts are effective?</td>
<td></td>
</tr>
<tr>
<td>Bias control; logical analysis; modus operandi</td>
<td>Consumer choice; social utility</td>
<td>What are all the effects?</td>
<td></td>
</tr>
<tr>
<td>Critical review</td>
<td>Improved standards</td>
<td>Would a critic approve this program?</td>
<td></td>
</tr>
<tr>
<td>Review by panel; self-study</td>
<td>Professional acceptance</td>
<td>How would professionals rate this program?</td>
<td></td>
</tr>
<tr>
<td>Quasi-legal procedures</td>
<td>Resolution</td>
<td>What are the arguments for and against the program?</td>
<td></td>
</tr>
<tr>
<td>Case studies, interviews, observations</td>
<td>Understanding; diversity</td>
<td>What does program look like to different people?</td>
<td></td>
</tr>
</tbody>
</table>
methodologies used with each model, and the typical questions that each
model seeks to answer. Within this framework are three models which are
of particular relevance to this study; each is discussed in detail. These
detailed models provided the basis for the development of the model for
this study. The three evaluation models—(1) the discrepancy evaluation
model, (2) the CIPP model, and (3) Rutman's evaluation model—are
presented in detail because each is considered directly relevant to this
study and each one has contributed significantly to the development of the
proposed framework for this study. They stress not only the final outcome
but also the process or implementation of the project. The three models
were selected because they emphasize the improvement function of an
evaluation, and this is the function of this study. The discrepancy model
is presented first, followed by the CIPP model, and finally, Rutman's
model for evaluation. The chapter ends with a proposed framework for this
study.

The discrepancy model

The discrepancy model was proposed by Steinmetz (1983) and focuses on
the element of comparison. He states that "to evaluate a given object, it
must be compared to a standard." A standard could be a list, a
description, or representation of the characteristics or qualities that
the object must possess; it is designated by an S. The standard
expresses, therefore, how things must be and the evaluation task is to
find out whether the standard is actually met.

The next step is to find out how things actually are—to take
performance measures referred to as P. Performance (P) and standard (S)
are then compared, and this yields the discrepancy (D). The evaluation is
the judgment(s) about an object or project based on (D) information
between S and P. The model is referred to as the Discrepancy Evaluation
Model (DEM) and can be modified to suit different situations. Basic steps
in the application of the DEM to a program are outlined below.

The purpose of DEM is program improvement by making S, P, and D
cycles explicit. Usually, the DEM evaluator must depend on the client to
provide S; in some cases, the evaluator helps the client to create S, but
never should S be created solely by the evaluator.

Creating S is an exercise of goal and value clarification which is an
action oriented planning in which the program manager must involve other
staff members, those affected by the program, and those for whom the
program is intended. The program manager utilizes existing knowledge,
his/her own experiences, and values in creating S.

S's often are created by component analysis, whereby the program is
broken down into its major activities, functions, or components. Each is
then broken down into subcomponents. To write a practical description of
each component and subcomponent, an input-process-output analysis must be
done on each. The resources needed or used are the inputs, what is done
using the resources are the process, and the objectives and/or tangible
products are the outputs. The result is a concrete model of the program
or S that also is called program design.

The collection of performance information is guided by the
"evaluation questions." Such questions ask whether inputs are available
as specified, processes are carried out as planned, and whether outcomes
are as intended. Answers to these questions provide the P information needed to determine if the S has been achieved. S and P information are compared and the discrepancy between them yields D.

D information is used by management to exert greater control over program operations to make sure P meets S, or it could be used to modify S if the original S is found to be unrealistic. The decisions involved are made by management, not by the DEM evaluator, although the evaluator facilitates the deliberations involved.

The discrepancy evaluation model offers a pragmatic and systematic way to evaluate different kinds of programs and situations. It has a well-defined outline for information gathering that aids well-informed decision making. One of its strengths is that it makes self-evaluation possible and makes for systematic program improvement.

The CIPP model

The CIPP model for program evaluation was developed by Stufflebeam in 1966 and was based on the belief that the most important purpose of evaluation is to improve and not to prove (Stufflebeam, 1983). Evaluations must help management and other decision makers provide better programs to program recipients. The CIPP model was developed as a result of attempts to evaluate projects that were funded through the Elementary and Secondary Education Act (ESEA) of 1965. The CIPP evaluation is geared to a systems view of education and does not guide the conduct of an individual study; rather, it focuses on providing ongoing evaluation for decision makers in an institution.
CIPP stands for context, input, process, and product, and is, therefore, made up of four kinds of evaluations. Each provides information on a specific aspect of the program. Context evaluation yields information related to what needs were addressed, the importance of the needs, and the relationship between objectives and needs.

Input evaluation addresses questions related to the procedures and plans that were adapted to address the needs. The alternatives considered are examined. The choice of particular alternative(s) and the advantages of this choice also are studied. Resources committed and that could be committed are examined.

Process evaluation answers questions such as to what extent was the project plan implemented, and if it was modified, why? Product evaluation addresses the results of the program. Were the results positive? Negative? Intended or unintended? To what extent were the needs of the target population met?

The role of CIPP evaluation is in effecting improvement in the system by enabling an ongoing evaluation effort that results in overall program improvement and success.

Rutman's evaluation model

Rutman (1984) proposed an evaluation model that places emphasis on both implementation as well as outcomes of a program. He argued that by evaluating the way a program was implemented as well as the outcomes, it becomes possible to know whether success or failure was due to the way the program was conducted or due to the nature of the goals and objectives of the program. It is both a process and product evaluation.
The first step in this framework is the definition of the client, the people who will use the evaluation report. Rutman believes that the design of an evaluation depends on the information needs of a primary client, and the client must be clearly defined in order to make subsequent steps meaningful.

The second step is the determination of the purpose of the evaluation. The evaluator must be clear of the overt purposes of the evaluation and must study the situation well enough to become aware of any covert purposes for the evaluation. Generally, evaluations have three broad purposes: (1) meaningful accountability, (2) improved program delivery, and (3) addition to social sciences knowledge.

Planning the evaluation or evaluability assessment is an analysis carried out at the onset to determine the manner and extent to which a program can be evaluated. The focus is on program structure and determines the extent to which the program, its objectives and effects are clearly defined. The initial assessment indicates the extent to which it will be appropriate to carry out an evaluation. A second aspect of planning is to determine the kinds of methodology that will be most appropriate for the purposes of the evaluation. The feasibility of implementing the appropriate methodology in terms of available resources and data, and within legal and political restraints also must be considered at this stage. This step yields the objectives of the evaluation, issues to be addressed, information to be collected, sources of the data, research design, time frame, and resources.
A working agreement between evaluator and the program manager must be drawn up before actually starting the study. This agreement will outline the responsibilities of each person, identify issues in advance, and forestall misunderstandings, and is, therefore, referred to as an administrative agreement.

The next step is conducting the evaluation; three major activities occur at this stage. The first is measurement and is concerned with the amount and type of information required to address the evaluation questions. Information can be obtained related to program processes, objectives and effects, antecedent conditions, and intervening conditions. However, the emphasis placed on each one will depend on the purpose of the evaluation. Methods of data collection also are considered and could be questionnaires, observations and ratings, organizational records and files, and available government statistics.

The second part of conducting the evaluation is selection of research design that depends primarily on the purpose of the evaluation. The kind of design chosen will depend on whether concern is to make a decision on a particular program or to generalize to all programs.

The third aspect of conducting the evaluation is data analysis. The kinds of analyses used are greatly influenced by the measures and the kind of research design used. The data analysis and kinds of statistical methods used are critical to the kinds of inferences that could be drawn about the program.

Finally, decision makers must be sufficiently involved in the evaluation process to feel committed using the results to improve the
program. It is the duty of the evaluator to provide direction for using the results of an evaluation.

This section has presented three evaluation models that are well known in the field of evaluation. The next section presents a proposed model for the present study. The proposed model incorporates elements from the various models but is designed specifically for the Ahfad situation.

Proposed model for the present study

This section presents an ideal model for the study reported. Under ideal situations, the model presented in Figure 1 is the preferred model for this study. It is a conceptual model with six stages that can be modified for use in different situations. The six stages are Planning Stage I, Planning Stage II, Implementation, Analysis, Comparison, and Decision making. The stages are discussed in detail in the next section. It is both a process and a product evaluation model. It is a process evaluation model because it can be used to determine how the program is carried out, the inputs and outputs and problems and ways of improving delivery. It is product evaluation in that there is concern for the outcome or the final product. The competencies of the students in their final years is the measure of this product--this shows how much they perceive they have or have not learned during the years spent at Ahfad.

Planning Stage I: Consultations occur between Ahfad personnel and Iowa State University personnel involved in the exchange program between the two universities. The two groups hold several meetings to define, among other things, the client for the evaluation, the purpose of the
Figure 1. The six-stage evaluation model
evaluation, and the methodology to be used. It is important at this stage for both sides to be involved because later stages and their success depends on how much each side is committed to the evaluation effort. Also, neither group can decide in isolation what is to be the role of the other group.

Planning Stage II: This stage is also a planning stage during which the goals and objectives of the Ahfad program are clarified. The present curricula are analyzed and discussed extensively and the outcome is a final plan for the study. A draft instrument is developed by ISU and discussed with Ahfad personnel for agreement on areas of emphasis and appropriateness to the culture. The instrument is field tested and finalized. It is important to come to an agreement with the Ahfad personnel over what data are collected, because they are the users of the results of the evaluation and are thus in a better position to tell what will be useful to them.

Implementation: The third stage is collection of data and is referred to as implementation. The instruments are administered to the students with the help and cooperation of the faculty. Both formal and informal interactions between the evaluator on one hand and the students and faculty of Ahfad are highly recommended at this stage of the process. The interaction will contribute significantly to an understanding of the setting of the research and thus aid interpretation of results. Short interviews with both students and faculty are encouraged and, as much as possible, trips should be made to some of the surrounding communities and the villages in which Ahfad students are working with the rural women.
The aim will be to provide the researcher with better insight into the situation and make data interpretation more meaningful.

Analysis: The fourth stage comprises the statistical treatment of the data and report preparation. The data are coded and analyzed and the results are used to draw the relevant inferences. Reports of the findings are prepared after the analysis is completed. Recommendations for improvement are to be included in the reports.

Comparison: The fifth stage is referred to as comparison, because there is a need to make comparisons between goals/objectives and achievement. The performance of the first year students is compared with that of the fourth year students. It also is possible to identify problems or needs at this stage. Conclusions are drawn and recommendations are made clear in the reports. The reports are ready for presentation to the program management, in this case, the administrators of Ahfad College.

Decision making: In this stage, the evaluator presents the evaluation reports to personnel and it becomes the responsibility of Ahfad personnel to use the evaluation information to make relevant decisions and take needed action to improve the Ahfad program. This stage is the last step in this model and could lead back to the first stage; the evaluation could become an ongoing process and an integral part of management activity.

The next two sections present two major aspects of this study. The first manuscript summarizes the perceived competencies of the Ahfad students. The second manuscript deals with the attitudes of the Ahfad
students towards the roles of women in 1985. The implementation of the proposed framework is described in the methodology sections.
SECTION I.

PERCEIVED COMPETENCIES OF AHFAD STUDENTS
PERCEIVED COMPETENCIES OF AHFAD STUDENTS

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The perceived competencies of Ahfad College women in the School of Family Sciences and the School of Psychology and Preschool Education were studied in March 1985. A total of 165 female students comprising 120 first year students and 45 fourth year students from the two schools participated in the study. The women responded to two questionnaires, one for each school, developed to reflect the objectives of the respective Ahfad curricula for each school. In general, fourth year students perceived themselves more competent than first year students. Fourth year students in both schools perceived themselves as most competent in the area of health and child development. The students judged themselves as less competent in the language skills of Arabic and English.
INTRODUCTION

Program evaluation is attracting increased interest in developing countries and among international agencies (Rutman, 1984). Program evaluation is important for determining the degree to which a program meets its objectives and for determining the kinds of changes needed. Evaluation in the context of program evaluation is defined by Rutman as the use of scientific methods to measure the implementation and outcome of programs for decision-making purposes (Rutman, 1984).

There are many evaluation models or frameworks in the evaluation literature. However, the individual evaluator must choose one that suits the need in question or develop an appropriate one (Stufflebeam and Webster, 1983). For the purpose of this study, an evaluation model was developed based on the three frameworks: the CIPP Model, the Discrepancy Model of Evaluation (DEM), and Rutman's Model for Program Evaluation.

The CIPP Model

CIPP stands for context, input, process, and product, and entails these four kinds of evaluations (Stufflebeam, 1983). The CIPP Model is geared towards a systems view of education and provides an ongoing evaluation system to the decision makers in an institution. Context evaluation provides information for planning decisions; input evaluation provides information for decisions on organizing the curriculum; process evaluation provides information that is useful in guiding the implementation of decisions; and product evaluation is evaluation that serves recycling decisions.
The Discrepancy Model of Evaluation (DEM)

DEM seeks to compare the actual conditions and results of a program with the expected. A description of the desired product for a program or object is the standard. The actual conditions or results are referred to as performance. These two are compared and the discrepancy between the two provides information that is used to make judgments about the adequacy of the program or object (Steinmetz, 1983).

Rutman's Model of Evaluation

Rutman (1984) outlined a framework for the evaluation of programs that stressed both the implementation process as well as outcomes. The first step in this model is to define clearly who the client is or the person who will use the results of the evaluation. This is followed by a clear statement of the purpose(s) of the evaluation. The third step is to assess the program in order to outline aspects that could be evaluated. The next step, which is usually ignored by many evaluators but is very important, is to develop an administrative agreement between the evaluator and the program management. This facilitates the smooth execution of the evaluation plan. The evaluation proceeds through collection and analysis of data and concludes with recommendations based on the results of the data analysis (Rutman, 1984).

The evaluation framework used for this study was based on the above three frameworks or models. The model is described in terms of the setting for the study which is Ahfad University College for Women in Omdurman, Sudan. There are six stages in this framework. The first two stages are both planning stages at different levels. The first stage is
Planning Stage I; this stage consists of personnel, mainly administrative, from Ahfad College and Iowa State University engaging in consultations for the purpose of becoming acquainted, understanding each other's program, and identifying resources available for conducting evaluation projects. Planning Stage II is the second step and involves planning the specific research studies and the actions needed to carry them out. At this level, both administrators, faculty members, and graduate students participating in the project meet regularly to develop plans. During this stage, evaluation devices appropriate for each evaluation project are developed. The third stage is data collection and the fourth stage is the analysis of data. At stage five, the findings are interpreted, comparisons are made, and documents are written to be used by Ahfad personnel. The final stage involves making relevant decisions by Ahfad administrators for the improvement of the Ahfad program.

Ahfad University College for Women in Omdurman, Sudan is a women's college; the primary goal of the university is to prepare young women to be change agents in the Sudanese society (Cowan and Badri, 1985). There are three schools within Ahfad University College for Women: the School of Family Sciences, the School of Psychology and Preschool Education, and the School of Organization Management.

In 1984, Ahfad personnel realized the need for an evaluation of their program in order to facilitate improvement of the Ahfad program. In order to accomplish this evaluation, Ahfad University College established a linkage project with Iowa State University (Cowan and Badri, 1985).
The purpose of the study reported was to evaluate the extent to which Ahfad students in the School of Family Sciences and the School of Psychology and Preschool Education perceived they had achieved the competencies desired of the Ahfad program, through a comparison of the perceived competencies of first year students with those of fourth year students. It was hypothesized that there will be a significant difference between the perceived competencies of first year students and fourth year students in both the School of Family Sciences and the School of Psychology and Preschool Education.
METHODOLOGY

The study as conducted followed the stages of the program evaluation model outlined. The study reported proceeds from Stage I through Stage V of the model. The sixth stage, which is the decision stage, is to be carried out by Ahfad University College personnel when they use information and recommendations from this report to make decisions on program improvement.

Instrumentation: Stages I and II

Two questionnaires were developed, one to test the perceived competencies of students in the School of Family Sciences and the second one to test the perceived competencies of students in the School of Psychology and Preschool Education. The questionnaire for Family Sciences had 58 items written in seven subject areas referred to as scales. The scales are: (1) food competencies (11 items), (2) clothing competencies (9 items), (3) child development competencies (2 items), (4) home management competencies (8 items), (5) professional competencies (13 items), (6) health competencies (8 items), and (7) language competencies (7 items). The number of items in each scale was based on the emphasis given the subject matter area in the curriculum. Responses were solicited using a 5-point Likert-type scale with a 1 representing no ability; 2, little ability; 3, moderate ability; 4, good ability; and 5, excellent ability.

The questionnaire for the School of Psychology and Preschool Education had 45 items written in the five subject areas (scales): (1)
child development competencies (8 items), (2) psychology competencies (8 items), (3) special education competencies (19 items), (4) health competencies (3 items), and (5) language competencies (7 items). Weighting of items was in proportion to curriculum emphasis. A 5-point response pattern exactly like the one described for Family Sciences was used to obtain responses from students.

Instructions to the first year students differed from those for fourth year students. Fourth year students were instructed to read the competency statements and rate themselves on how well they believed they could perform each task if given the opportunity. First year students, in addition to these instructions, were told that Ahfad expected them to be able to do those tasks at the end of their training. They were, however, asked to indicate how much they could do already to facilitate better planning of their program of study.

The questionnaires were given to two faculty members of Ahfad University College for Women for subject matter review. The questionnaires were pilot tested on six African women to determine usability and time required for administering. Minor revisions were made following suggestions from both groups.

Sample: Stage III

The sample for the study was all first and fourth year students in the Schools of Family Sciences and the School of Psychology and Preschool Education at Ahfad University College for Women at Omdurman, Sudan, in March 1985. The sampling method used was a census of all the students in these four classes. The appropriate questionnaires were administered to
the students by individual teachers during regular class periods in March 1985. The teacher explained the instructions to the class and was available throughout the class period to answer any questions that students might have while they responded to the items.

Data were collected from 124 first year students and 48 fourth year students; 120 (96%) and 45 (94%), respectively, were usable. For information on the characteristics of the sample, see Hevi-Yiboe and Burchinal (1985).

Data Analysis: Stage IV

Alpha reliabilities were calculated for the twelve scales, seven for Family Sciences and five for Psychology and Preschool Education. The scores on the twelve scales were analyzed using one-way analyses of variance; the source of variance was class (year in college) for each school. Mean scores were determined for each scale by class.
RESULTS

Perceived Student Competencies

There were a total of twelve scales for measuring perceived student competencies of students in both schools. These scales are described below and their alpha reliabilities are also presented.

Competency Scales for Family Sciences

Food competencies: A high score on this scale demonstrated a student's competence in the content of the food and nutrition courses offered at Ahfad. The student is capable of making nutrition-related decisions under varying conditions such as the ability to plan nutritionally adequate meals for different age groups, to explain nutrition needs to others, and to preserve different Sudanese foods (α=.95).

Clothing competencies: A high score on this scale showed mastery in the clothing and textiles content of the curriculum at Ahfad. The student can make patterns for both adult and children's clothes, can make these clothes, use the sewing machine comfortably, and knit and crochet (α=.93).

Child development competencies: A high score denotes a student who perceived herself as competent in the principles of child development and as capable of identifying different kinds of development in children (α=.88).

Home management competencies: A high score represents a student who perceived herself being competent in the decision-making process, capable of setting goals and using available resources to achieve these goals,
able to use basic managerial skills in day-to-day living, and capable of budgeting the family's income (α=.95).

Professional competencies: A high score on this scale represents a student who perceives herself as capable to train village leaders, carry out independent research projects, plan educational programs for women, and able to influence government decisions that affect women (α=.96).

Health competencies: A student who scores high on this scale represents a student who perceives herself as able to identify health problems associated with female circumcision and childhood diseases prevalent in the Sudan, knows basic hygienic principles for the home, able to identify public health problems in the community, and explain family planning methods to others (α=.93).

Language competencies: A high score on this scale indicates a student who perceives herself as capable of writing research reports in both English and Arabic, read and understand reports in English, and speak both English and Arabic fluently (α=.75).

Competency Scales for Psychology and Preschool Education

There were five scales measuring the perceived competencies of students in the School of Psychology and Preschool Education, and these are briefly described. The alpha reliabilities of each scale also are presented.
Child Development Competencies

A high score on this scale represents a student who perceives herself as competent to identify the different kinds of development in children, to use principles of child development in dealing with preschoolers, to plan activities for children, to make appropriate toys for preschool children, and to organize a preschool program in her own neighborhood ($\alpha=.90$).

Psychology Competencies

A student who obtains a high score on this scale perceives herself as competent to identify theories of learning, to recognize factors that influence behavior, to use group interaction techniques to bring about change, and to interpret test scores ($\alpha=.90$).

Special Education

Students who score high on this scale perceive themselves as able to recognize different kinds of learning disabilities in children, plan programs for children with these disabilities, train village leaders and kindergarten teachers, influence government decisions that affect women, and execute research projects in different parts of the Sudan ($\alpha=.93$).

Health Competencies

A high score on this scale indicates a student who can identify the health problems associated with female circumcision, knows the importance of family planning, and can explain the different methods of family planning to others ($\alpha=.80$).
Language Competencies

A high score on this scale describes a student who can write research reports in both English and Arabic, can read and understand reports in English, and can speak fluently, both English and Arabic ($\alpha=.75$).

Scale Differences

It was hypothesized that for each school, fourth year students would perceive themselves as more competent in all the areas of the Ahfad University College program. These included the seven subject areas for the School of Family Sciences and five areas for the School of Psychology and Preschool Education.

The analyses of variance results for the School of Family Sciences are shown in Table 1. The fourth year students had higher mean scores for all subject matter areas than first year students, and all the differences were significant beyond the .001 level. The subject matter areas were Food and Nutrition, Clothing Construction, Child Development, Home Management, Professional Studies, Health, and Language (English and Arabic). All seven hypotheses were supported.

The results of the analyses of variance for the School of Psychology and Preschool Education are shown in Table 2. Fourth year students had higher mean scores than the first year students, and the differences were significantly different beyond the .001 level for all five subject matter areas. The five subject matter areas were Child Development, Psychology, Special Education, Health, and Language Competencies. Therefore, the five hypotheses were supported.
Table 1. F ratios and mean scores for Family Sciences

<table>
<thead>
<tr>
<th>Competencies</th>
<th>F ratios</th>
<th>Mean scores(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1st year</td>
</tr>
<tr>
<td>Health competencies</td>
<td>79.95***</td>
<td>3.44</td>
</tr>
<tr>
<td>Child development competencies</td>
<td>60.64***</td>
<td>3.19</td>
</tr>
<tr>
<td>Home management competencies</td>
<td>75.34***</td>
<td>3.06</td>
</tr>
<tr>
<td>Food competencies</td>
<td>133.46***</td>
<td>2.86</td>
</tr>
<tr>
<td>Professional competencies</td>
<td>99.37***</td>
<td>2.70</td>
</tr>
<tr>
<td>Clothing competencies</td>
<td>55.01***</td>
<td>2.61</td>
</tr>
<tr>
<td>Language competencies</td>
<td>34.92***</td>
<td>3.27</td>
</tr>
</tbody>
</table>

\(^a\)The rating scale is: 1=No ability; 2=A little ability; 3=Moderate ability; 4=Good ability; 5=Excellent ability.

***p<.001.

Table 2. F ratios and mean scores for Psychology and Preschool Education

<table>
<thead>
<tr>
<th>Competencies</th>
<th>F ratios</th>
<th>Mean scores(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1st year</td>
</tr>
<tr>
<td>Health competencies</td>
<td>24.04***</td>
<td>3.59</td>
</tr>
<tr>
<td>Child development competencies</td>
<td>48.07***</td>
<td>2.88</td>
</tr>
<tr>
<td>Psychology competencies</td>
<td>36.23***</td>
<td>3.16</td>
</tr>
<tr>
<td>Language competencies</td>
<td>34.62***</td>
<td>3.29</td>
</tr>
<tr>
<td>Special education competencies</td>
<td>20.03***</td>
<td>3.15</td>
</tr>
</tbody>
</table>

\(^a\)The rating scale is: 1=No ability; 2=A little ability; 3=Moderate ability; 4=Good ability; 5=Excellent ability.

***p<.001.
DISCUSSION: STAGE V

The two schools studied did not have identical curricula, so it was not possible to make a direct comparison of the perceived competencies of the students in the two schools. Most of the mean scores for the first year students from both schools were below 3.2, which showed that these students judged themselves to have moderate or low ability. However, by fourth year, all students from both schools had mean scores close to or above 4 (4.24 to 4.83 for Family Sciences; 3.93 to 4.47 for Psychology and Preschool Education), showing that the fourth year students perceived themselves as having good to excellent ability. Furthermore, the fourth year students in Family Sciences considered themselves as more competent than the fourth year students of Psychology and Preschool Education.

One possible explanation for this observation could be that because the area of Family Sciences deals with more concrete ideas and objects, e.g., food, clothing, and health, and students actually see the results of what they do in their laboratory experiences, it makes them more confident of their abilities. On the other hand, students in Psychology and Preschool Education deal more with abstract concepts and do not have as many practical laboratory experiences as the other students. Therefore, even though they may have the competencies, they are not as sure of themselves and, consequently, rate their abilities slightly lower than students in Family Sciences.

The scale for language competencies was identical for the two schools. The first year students in both schools perceived themselves as having a little above average competency ($\bar{x}$=3.27 for Family Sciences; 3.29
The fourth year students of each school only judged themselves as good ($\bar{x}=4.24$ for Family Sciences; $4.12$ for Psychology and Preschool Education). The perceived competencies for language were the lowest for Family Science but higher than the perceived competencies for Psychology and Preschool Education for language. The results indicate a need for more language skills development.

The fourth year students could be considered graduates of the Ahfad program because at the time the data were collected, students had completed all coursework and were preparing for their final exams. The results, therefore, are an indication that students perceive they have mastered the competencies designed into the curriculum.

Results of this study suggest that Ahfad University College for Women is making a noticeable difference in the perceived competencies of the students. The graduates expressed confidence in themselves and perceived themselves as competent to fulfill roles expected of them by the college.
Based on the findings of this study, a recommendation is made for additional program evaluation studies in the School of Family Sciences and the School of Psychology and Preschool Education. The programs could be evaluated by obtaining additional data on competencies of students through scores on achievement tests, ratings of student performance in laboratory experiences, and judgments by faculty on student competencies. In addition, follow-up studies could be done of graduates one year after graduation via alumni reports or employer evaluations.

Suggestions also are made for revisions in the curricula in the two schools. These include:

1. The design and incorporation of more practical experiences for students in the School of Psychology and Preschool Education. These learning experiences would help students not only to have a practical application of what they have learned, but also to become more confident in their competencies.

2. The development of one or two new courses in language skills that would enable students to improve their language competencies in both Arabic and English.

Additional data obtained from the program evaluation studies recommended would provide a broader base upon which program decisions could be based. These program evaluation studies, plus strengthening of the curriculum, would permit Ahfad University to continue its leadership position in the education of Sudanese women.
REFERENCES


SECTION II.

AHFAD STUDENTS: ATTITUDES AND BEHAVIORS REGARDING WOMEN'S ROLES IN 1985
AHFAD STUDENTS: ATTITUDES AND BEHAVIORS REGARDING WOMEN'S ROLES IN 1985

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The attitudes of college women in the Sudan towards the different kinds of work that a graduate from Ahfad College could do, traditional roles played by women, and social responsibility were studied in March 1985. Their perceptions of the kinds of professional activities that they will take part in, leadership, and group membership behaviors also were studied. A total of 165 female students comprising 120 first year students and 45 fourth year students from two schools at Ahfad University College for Women in Omdurman responded to a 3-part questionnaire on attitudes, behaviors, and demographic information. In general, fourth year students expressed more positive attitudes towards working in the rural areas, combining family and a profession, and the involvement of women in politics than did first year students. Fourth year students perceived themselves as having more of the attitudes and behaviors necessary to facilitate change and to become leaders in the Sudanese society than first year students. In the same way, students in the School of Family Studies were more open to work in the rural areas and to being involved in politics than were students in the School of Psychology and Preschool Education.
INTRODUCTION

Although cultural diversity is present in the Sudan, it is possible to make some generalizations about life in the Sudan (Voll & Voll, 1985). Just as in many other African countries, there is, traditionally, a clear distinction between male and female roles. In the urban centers, women are expected to be housewives while the men go out to engage in different economic activities (Nelson, 1983). In a study of the domestic tasks of housewives in Omdurman, the division was very clear. Cooking the family meal was done solely by the wives, but the husband was solely responsible for obtaining the food items (Badri, 1984b).

Women of both the Northern and Southern Sudan pay a great deal of attention to ornamentation in wearing beads, bangles of gold and other metals, and in decorating the body with dyes such as henna or coloured clay (Hall and Ismail, 1981). The housewives studied in Omdurman regularly engaged in perfumed smokebaths (Dukhan), perfumed massages (Dilka) that soften the skin, and henna decorations on the hands and feet. These activities consume a considerable amount of a woman's time but are considered her duty as a wife because of making her sexually attractive to her husband (Badri, 1985). Women also must spend much of their time visiting friends, relatives, and neighbours.

Since the mid-1960s, many changes have been taking place in the Sudan. Formal education is no longer limited to boys, and as a result of former President Numayri's policy of compulsory education for all children, there are more girls in school in the Sudan. The education of women, however, still lags behind that of men, with an illiteracy rate of
82.1% for women and 55.2% for men. This indicates a need to direct special educational programmes to women so as to bridge the gap between the two sexes.

Many Sudanese women and girls are willing to work outside the home, and in 1983, 13% of white collar workers in the central government were women (Badri, 1983). There are Sudanese women in occupations that were considered men's occupations. There are female lawyers, medical officers, university professors, and many nurses, teachers, and air hostesses in the Sudan (Hall and Ismail, 1981). But there is a need for training more girls, and some private institutions supplement government efforts in education in the Sudan; Ahfad University College for Women at Omdurman is one such private institution.

Ahfad University College for Women at Omdurman is a private college that was started by Shiek Babikr Bedri in 1966 with 23 girls, who believed that girls as well as boys must have formal education (Bedri, 1984). The main objectives of Ahfad are twofold: to train women who will be effective instruments of social change and capable of holding leadership positions, and secondly to train women who will work to improve the quality of life in rural Sudan. These objectives coincide with some of the changes that are underway in the Sudan. It is important to know to what extent Ahfad students acquire the stated objectives.

The purpose of this study, therefore, was to contrast the attitudes and behaviors of the first and fourth year students and to compare perceptions of students in the School of Family Sciences with those in the
School of Psychology and Preschool Education towards the different roles that women can and should play in the Sudanese society.
METHODOLOGY

Instrumentation

A 3-part questionnaire was developed to measure attitudes and behaviors of students and to solicit demographic information on the students. Part I had 33 attitude items written in six areas; they were attitudes towards: (1) rural areas, (2) professional commitment, (3) the role of women, (4) social responsibility, (5) leadership, and (6) group membership. Students responded using a 5-point Likert scale with 1 representing strongly disagree and 5 representing strongly agree. The second part had 21 behavior items related to the following topics: (1) leadership, (2) group membership, (3) rural areas, (4) role of women, (5) social responsibility, and (6) professional commitment. A 5-point response pattern was used again with 1 representing "never done" and 5 being "always done." The third section of the questionnaire had 22 demographic items on family background, place of residence, and rural/urban affiliations.

Two faculty members from Ahfad University College for Women reviewed the questionnaire for content validity and usability. The questionnaire was pilot tested on five African women including two Sudanese women. Minor revisions were made following suggestions from both groups.

Sample

All first and fourth year students in the School of Family Sciences and the School of Psychology and Preschool Education at Ahfad University College for Women were used for the study. The sampling method employed
was, therefore, a census of all students. The questionnaire was administered to the students by individual teachers during regular class periods in March 1985. The questionnaire was explained to the students by the teacher who was present throughout the class period, and students had an opportunity to ask questions both before and while responding to the items.

Data were collected from 124 first year students and 48 fourth year students; 120 (96%) and 45 (94%), respectively, were usable. The composition of the sample is shown in Table 1.

Table 1. Composition of the sample

<table>
<thead>
<tr>
<th></th>
<th>First year</th>
<th>Fourth year</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N  %</td>
<td>N  %</td>
<td>N    %</td>
</tr>
<tr>
<td>Family Sciences</td>
<td>36 65.5</td>
<td>19 34.5</td>
<td>55 100</td>
</tr>
<tr>
<td>Psychology and</td>
<td>84 76.4</td>
<td>26 23.6</td>
<td>110 100</td>
</tr>
<tr>
<td>Preschool Education</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Analysis

Parts I and II of the questionnaire were subjected to factor analysis using the principal component analysis with Varimax rotation. Seven factors emerged, four on attitudes and three on behaviors. Alpha reliabilities were calculated for each factor.

A two-way analysis of variance was carried out on the seven factors that emerged from the factor analysis. The sources of variance were school and class (year in college). Frequencies were computed on the
demographic data. A Pearson product-moment correlation coefficient was calculated between the seven factors and the demographic data.
RESULTS

Student Characteristics

The students in the study were all women, and 97% of them were Sudanese with 3% coming from neighboring countries. All but one student fell within the age range of 18 to 35 years; the average age was 23 years. One student was over 40. The rural/urban distribution was 31% rural and 68% urban. More than 50% considered their parents' home their home. Approximately 70% were single, 14% were married, and the rest were engaged. The students had an average of four sisters and three brothers. Only 9% reported fathers or guardians with an income of 6,000 Sudanese pounds or more per year. Most students (68%) came from families that owned their own house, and 21% came from families that rented housing. A complete description of Ahfad students was presented by Hevi-Yiboe and Burchinal (1985).

Attitude and Behavior Factors

A total of seven factors emerged from the factor analysis. Four were attitude factors and three were behavior factors. The names, descriptions, alpha reliabilities, and sample items follow:

Role of Ahfad graduates: The high score on the factor represents willingness to work in rural areas, to combine profession and family, and to be active in professional organizations. (α=.73) Two sample items are:

1. Female graduates are willing to work in the rural areas, at least for part of their career lives.
2. Women can combine successfully family responsibilities with professional work.
Professional role of women: The high score on the factor represents the acceptance of the potential of a woman to become a professional, be involved in social change efforts, and be active group members. ($\alpha=.69$) Two sample items are:

1. A professional woman is an asset to her family.
2. Ahfad graduates strive to improve the lives of rural people.

Traditional role of women: The high score on this factor represents the attitude that a woman's role is to assume traditional activities and that her fulfillment depends upon her husband rather than herself. Low scores represent a departure from traditional attitudes. ($\alpha=.69$) Two sample items are:

1. A successful woman is one who has a good husband.
2. The role of any woman is to be a housewife.

Social responsibility: A high score on this factor represents the individual's willingness to work for the good of society and the acceptance of the fact that women should be involved in politics and policy making. ($\alpha=.69$) Two sample items are:

1. Women should be actively involved in policy making.
2. Women graduates have a responsibility to work to influence government policies.

Professional aspirations: The high score on this factor represents interest in becoming an active professional woman combining work outside the home with family obligations. Joining and participating in professional associations is an expected part of one's work. ($\alpha=.77$) Two sample items are:

1. It is possible for a woman to become a professional.
2. Women can combine successfully family responsibilities with professional work.
Leadership: A high score on this factor shows a perception of self as the person who leads the group, whom others look up to for direction, whose ideas and guidance friends follow. (α=.61) Two sample items are:

1. I initiate ideas that others follow.
2. Other people look to me to set the direction for action.

Group membership: The high score on this factor represents willingness to work as a group member, to identify social problems, initiate ideas for the group, and follow others. (α=.40) Two sample items are:

1. I like to work as a member of a team.
2. I follow others.

Factor Differences by Class, School, and Demographics

The major hypothesis for class was that fourth year students would express more nontraditional attitudes and behaviors than first year students on each of the seven factors. The analysis of variance results are shown in Table 2. Four out of the seven hypotheses were in the anticipated direction. Fourth year students had significantly higher mean scores than first year students on the four factors, role of Ahfad graduates, social responsibility, professional aspirations, and leadership (see Table 3). Fourth year mean scores for professional role of women and group membership also were higher than first year scores but not significantly, and the mean scores were the same for the factor, traditional role of women.

The major hypothesis for school was that there is no difference between the School of Family Sciences and the School of Psychology and Preschool Education in their perceived attitudes and behaviors. Three of
Table 2. F ratios for attitude and behavior factors

<table>
<thead>
<tr>
<th></th>
<th>Class/year</th>
<th>School</th>
<th>Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role of Ahfad graduates</td>
<td>11.65**</td>
<td>22.57**</td>
<td>0.34</td>
</tr>
<tr>
<td>Professional role of women</td>
<td>0.04</td>
<td>4.60*</td>
<td>1.48</td>
</tr>
<tr>
<td>Traditional roles of women</td>
<td>0.001</td>
<td>0.24</td>
<td>1.79</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>13.05**</td>
<td>14.81**</td>
<td>2.92</td>
</tr>
<tr>
<td><strong>Behavior factors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional aspirations</td>
<td>9.16**</td>
<td>2.42</td>
<td>1.69</td>
</tr>
<tr>
<td>Leadership</td>
<td>8.55**</td>
<td>0.83</td>
<td>6.80**</td>
</tr>
<tr>
<td>Group membership</td>
<td>0.06</td>
<td>0.38</td>
<td>0.04</td>
</tr>
</tbody>
</table>

*p ≤ .01.

**p ≤ .001.

The seven hypotheses were rejected for the factors, role of Ahfad graduates, professional role of women, and social responsibility, indicating statistically significant differences between the two schools in these three factors. For all three factors, Family Sciences had higher mean scores than Psychology and Preschool Education (see Table 4). Family Sciences has consistently higher mean scores for six factors, but the differences in scores were not significant for the factors, traditional role of women, professional aspirations, and leadership. For the factor,
Table 3. Factor mean scores by class

<table>
<thead>
<tr>
<th></th>
<th>First year</th>
<th>Fourth year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitude factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role of Ahfad graduates</td>
<td>3.8</td>
<td>4.1**</td>
</tr>
<tr>
<td>Professional role of women</td>
<td>4.0</td>
<td>4.1</td>
</tr>
<tr>
<td>Traditional roles of women</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>3.7</td>
<td>4.1**</td>
</tr>
<tr>
<td><strong>Behavior factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional aspirations</td>
<td>3.3</td>
<td>3.7**</td>
</tr>
<tr>
<td>Leadership</td>
<td>2.8</td>
<td>3.1**</td>
</tr>
<tr>
<td>Group membership</td>
<td>3.5</td>
<td>3.6</td>
</tr>
</tbody>
</table>

**p < .001.

group membership, Psychology and Preschool Education had a higher mean score than Family Sciences.

There were only two meaningful correlations between the 7 factors and the 22 demographic items; a positive correlation ($r=.21$) between the role of Ahfad graduates and childhood place of residence, and a negative correlation ($r=-.21$) between the traditional role of women and income of father or guardian. Because of the coding used for childhood place of residence and income of father, results suggest that the more urban a
student, the closer her attitudes are to the expectations of Ahfad; and
the higher the income of the student’s family, the less traditional her
attitudes toward the roles of women.

Table 4. Factor mean scores by school

<table>
<thead>
<tr>
<th>Attitude factors</th>
<th>Family Sciences</th>
<th>Psychology and Preschool Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role of Ahfad graduates</td>
<td>4.2**</td>
<td>3.8</td>
</tr>
<tr>
<td>Professional role of women</td>
<td>4.2*</td>
<td>4.0</td>
</tr>
<tr>
<td>Traditional roles of women&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Social responsibility</td>
<td>4.1**</td>
<td>3.7</td>
</tr>
<tr>
<td>Behavior factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional aspirations</td>
<td>3.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.0</td>
<td>2.9</td>
</tr>
<tr>
<td>Group membership</td>
<td>3.5</td>
<td>3.6</td>
</tr>
</tbody>
</table>

<sup>a</sup>Low scores represent nontraditional attitudes toward the role of women and, hence, are more desirable.

*p < .01.

**p < .001.
DISCUSSION

The characteristics of the present students were similar to those of students in Connolly's (1980) study of Ahfad students. The exception was that there were no foreign students in the 1980 sample. The average age was 22.4 years in 1978 and 23 years in 1985. Students in both groups had more sisters than brothers. These findings are interesting because they suggest a stability in student characteristics at Ahfad from 1980 to 1985.

The results of the present study showed that for "role of Ahfad graduates," fourth year students perceived themselves as more willing to go and work in the rural areas of Sudan and more willing to combine family responsibilities with a profession than the first year students. In a similar manner, fourth year students seemed to accept the fact that women should be actively involved in policy making and politics and in identifying social problems than were first year students. For the two behavior factors, professional aspirations and leadership, the fourth year students again perceived themselves as more willing to pursue an active professional career after graduation, to combine work outside the home with family, to join available professional associations, and to work to get government to address social problems than the first year students. The fourth year students also saw themselves assuming leadership roles more than the first year students.

This difference between first year students and fourth year students could be explained by the influence of the Ahfad program on the students. Six of the seven factors reflected the objectives of the Ahfad program, and for all six, fourth year students had higher mean scores. This is
encouraging because it shows that by the time students progress from first year to the fourth year, they acquire both attitudinal and behavioral perspectives that are necessary to facilitate change and to become leaders in the Sudanese society.

For the factor, traditional role of women, there was no gain or loss over the years at Ahfad, showing that these students still hold on to traditional beliefs regarding what women should do. This is not surprising because it is difficult to do away with traditions. It is important to note, however, that even though students still hold to traditional beliefs, they also have learned new avenues and opportunities for women to contribute more to their societies.

The findings for the two schools present an interesting trend. Students in the School of Family Sciences consistently had higher mean scores for all factors except group membership. In general, the students in Family Sciences seemed to identify more with the objectives of Ahfad than the students in Psychology and Preschool Education.

One departure from this trend was observed between the two schools for the factor, traditional roles of women. For this factor, low scores represent a departure from very traditional ways of conceptualizing the capabilities and responsibilities of a woman. Students in Psychology and Preschool Education had slightly lower mean scores than students in Family Sciences. Therefore, students in Psychology and Preschool Education perceive themselves as less traditional than students in Family Sciences. It is recommended that further research be done to facilitate a better understanding of the differences in the two schools.
To conclude, it can be said that Ahfad University College for Women at Omdurman is making an important impact on its students' attitudes and behaviors. An ongoing study is recommended to monitor this impact on students. It is also recommended that this study be carried out using graduates of Ahfad who have been working for two or more years, to study the long-term impact of the program.
REFERENCES


SUMMARY AND RECOMMENDATIONS

The purpose of this study was to evaluate the educational programs of the School of Family Sciences and the School of Psychology and Preschool Education at Ahfad University College for Women (AUCW) at Omdurman in the Sudan. The study had three specific objectives, and these were: (1) to develop an appropriate program evaluation model for implementing this study, (2) to evaluate the extent to which Ahfad University College students (AUCW) in the two schools perceived they had achieved the competencies desired of the program, and (3) to compare the attitudes and behaviors of first year and fourth year students, and of students in Family Sciences and students in Psychology and Preschool Education towards the roles of women in the Sudan.

To accomplish these objectives, a model was developed that was used for the evaluations at Ahfad University College for Women (AUCW). The evaluation model is a six-stage framework for carrying out evaluations of programs similar to the Ahfad program. The six stages are: (1) Planning Stage I, (2) Planning Stage II, (3) Implementation, (4) Analysis, (5) Comparison, and (6) Decision Making.

Six Stages of Model

Planning Stage I

The first stage involves consultations between personnel from the two participating institutions, Iowa State University (ISU) and Ahfad University College for Women (AUCW). The existence of a linkage project between these two educational institutions made this study possible. The
foci of the linkage project were to (1) internationalize the Iowa State University Program and (2) to develop competent personnel for Ahfad University College for Women with the view of producing women as change agents.

In order to achieve this latter goal, it was necessary to determine how students at AUCW judged their competencies and to identify their attitudes toward the role of women. An evaluation was deemed appropriate at this stage to provide the data for improvement decisions. It was agreed that students in the two schools, Family Sciences and Psychology and Preschool Education, would be included in the study. The decision was reached to use both first year and fourth year students of the two schools.

Competency questionnaires reflecting the Ahfad programs, an attitude and behavior inventory, and an interview schedule were to be developed for data collection. The interview schedule was to be used by the investigator to collect detailed information on selected topics from a small proportion of the study sample.

Planning Stage II

This stage is another planning stage in the model. The goals and objectives of the Ahfad University program were clarified and curricula in the two schools were analyzed and discussed extensively. Meetings were held separately with the Iowa State University project director, officials from Ahfad, and these two groups together.

The kinds of data to be collected were identified, and after extensive reviews of the available curricula of Ahfad University and other
relevant materials, four instruments were developed. These included an attitude and behavior inventory; two competency questionnaires, one for each school; and an interview schedule.

The Family Sciences questionnaire had seven scales representing seven subject matter areas (see Appendix A). The Psychology and Preschool Education questionnaire had five scales representing five subject matter areas (see Appendix B). The instructions for first year students were different from the instructions for fourth year students on the competency questionnaires.

An attitude and behavior inventory was developed that reflected the objectives of the Ahfad program. The inventory had seven factors, four on the attitudes of the students towards traditional and modern roles of women in the Sudan and three on the behaviors of the students given certain situations. Students from both schools were to respond to the same inventory (see Appendix C).

Sharing of human resources and costs were discussed. ISU was to assume supervision of the study including development of the questionnaires as well as costs of preparation and duplication of the data collection devices. Costs of data analysis including computer programming, and some local financial needs of the investigator were also to be borne by ISU. The Fulbright Foundation (sponsors of the investigator) was to provide costs of round-trip air travel. Ahfad University was to provide consulting on the project and room and board and transportation during the stay in the Sudan for the principal investigator.
Implementation

The third stage in this evaluation model was data collection. The investigator planned to travel to the Sudan and stay for two months during Winter 1985, within which she was to administer the four instruments to the students; interact with both students, faculty, and the environment; and gain more insight about the people and the culture. Unfortunately, the Fulbright Foundation could not provide the air travel funds as planned. The investigator, therefore, could not travel to the Sudan as planned. It became necessary to make some adjustments in the original plans. The interviews were cancelled and the other three instruments were sent to Ahfad through an Ahfad faculty member. The instruments were administered to the students by their teachers during regular class periods. The data were returned to ISU in three batches by Ahfad University personnel traveling to the United States.

Analysis

The fourth stage comprises the statistical analysis of the data and data interpretation. The 172 returned questionnaires were sorted and seven were found either incomplete or illegible and these were discarded. The data were coded and entered onto computer tape. Only those students who completed both the competency questionnaire and the inventory were included in the study.

The competency data were analyzed separately by school. Reliabilities of the scales, means, and standard deviations were calculated. A one-way analysis of variance was calculated with class as the source of variance.
The attitude and behavior data were factor analyzed and seven factors emerged, four on attitudes and three on behaviors. Means, standard deviations, and reliabilities were calculated for each factor. Two-way analyses of variance were computed for each factor with school and class as the sources of variance.

Comparison

The fifth stage is referred to as comparison, because at this stage, comparisons are made between goals/objectives and achievements. The results of the analyses were examined and were used to draw conclusions about the Ahfad program.

The study comprised two main components. Section I was a discussion of the perceived competencies of the students. Section II examined attitudes and behaviors of these students in relation to both traditional roles of women and modern or changing roles of women in the Sudan. These are discussed separately in the following paragraphs.

The perceived competencies of the first year students and fourth year students in both schools are reported below.

<table>
<thead>
<tr>
<th>Competencies</th>
<th>1st year</th>
<th>4th year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health competencies</td>
<td>3.44</td>
<td>4.87</td>
</tr>
<tr>
<td>Child development competencies</td>
<td>3.19</td>
<td>4.83</td>
</tr>
<tr>
<td>Home management competencies</td>
<td>3.06</td>
<td>4.79</td>
</tr>
<tr>
<td>Food competencies</td>
<td>2.86</td>
<td>4.73</td>
</tr>
<tr>
<td>Professional competencies</td>
<td>2.70</td>
<td>4.61</td>
</tr>
<tr>
<td>Clothing competencies</td>
<td>2.61</td>
<td>4.31</td>
</tr>
<tr>
<td>Language competencies</td>
<td>3.27</td>
<td>4.24</td>
</tr>
</tbody>
</table>
The fourth year students had higher mean scores than the first year students in all the competencies studied for the two schools. This is an indication that fourth year students perceived themselves as more competent than the first year students. On the whole, fourth year Family Sciences students had higher mean scores competent than the fourth year Psychology and Preschool Education students even though Psychology and Preschool first year students had higher mean scores than first year Family Sciences students. This could be due to the fact that Family Sciences students have more practical experiences during their course of study and, thus, are more confident of their abilities than students in Psychology and Preschool Education who do not have many laboratory experiences.

Students in both schools had low scores in the language competencies. An examination of the items in this scale, however, revealed that students in both schools generally had higher scores on the Arabic items than on the English items. The students felt more comfortable with Arabic than with English and perceived themselves as able to write papers and reports and generally more competent in Arabic than in English.

The attitudes and behaviors of the students toward the different roles that women can play in the Sudan are shown below:
The results showed that fourth year students had more positive attitudes towards modern roles of women and social responsibility than first year students. The fourth year students also have more positive behaviors towards professional aspirations of women and leadership of women than first year students. There was no difference between the two classes on their attitudes toward traditional roles of women, an indication that these young women believe that women need to be traditional in addition to taking on other modern roles in the society.

Fourth year students seem to have been influenced by the Ahfad program and, thus, they are more positive towards becoming professional women, playing the roles that the college hopes they will play in the society, and they are also more positive in matters of social responsibility than the first year students. However, even though the fourth year students are more willing to do many things that women did not do in the Sudan in the past, they are still just as willing as the first
year students to play their traditional roles as women. So for these young women, it is not a question of replacing certain roles with new ones, it is one of adding new roles to their already existing roles.

Students in Family Sciences had higher mean scores on both the attitudes and behaviors than students in Psychology and Preschool Education. This shows that students in Family Sciences are more willing to work towards becoming professional women, playing the expected roles of Ahfad graduates, and are more willing to taking on social responsibilities. Family Sciences students are more supportive of traditional roles than Psychology and Preschool Education students. The professional aspirations of the Family Sciences students were significantly higher than those of Psychology and Preschool Education students. Again, it is possible that the modes of teaching in the two schools might contribute to the attitudes and perceptions of the students.

**Decision making**

The final stage (stage six) of the model is the stage at which Ahfad personnel use the recommendations and the conclusions in the reports in decisions concerning the Ahfad University program. The potential of the findings to help the faculty personnel at Ahfad University College improve their program has already been acknowledged by some Ahfad personnel. Dialogue with some Ahfad personnel suggest that some or all of the recommendations will be implemented at some point in time. It is hoped that this will happen in the near future, so that this evaluation effort will actually result in positive changes in the program.
Recommendations for Further Study and Action

Based on the findings of this study, it is recommended that additional program evaluation studies be conducted in the two schools. Suggestions for these additional studies are to obtain data on competencies of students through scores on achievement tests, ratings of students' performance in laboratory experiences, and judgments by faculty on students' competencies. Follow-up studies of competencies of graduates one year after graduation could be done via alumni reports and/or employer evaluations. In addition, it is recommended that the study of attitudes and behaviors be done using graduates of Ahfad University who have been working for two or more years, to monitor the long-term impact of the program. Finally, because of the significant differences in perceived competencies of students between the School of Family Sciences and the School of Psychology and Preschool Education, it is recommended that further research be done to facilitate a better understanding of the curricula in the two schools.

Some revisions in the curricula in the two schools also are recommended. They include:

1. The design and incorporation of more practical experiences for students in the School of Psychology and Preschool Education to provide learning experiences that would help students to develop more confidence in themselves so as to become more confident in their competencies.

2. The development of one or two new courses in language skills that would enable students to improve their language competencies in both Arabic and English.
Conclusion

Program evaluations provide data for program improvement decisions and are important to all programs if the programs are to achieve at least some of their objectives. All programs start with some objectives; program evaluations make it possible to assess how much of these objectives the programs are able to achieve. Sometimes, as a result of program evaluations, the program has to be changed or the objectives have to be restated.

The importance of program evaluations cannot be overemphasized. Program evaluation provides data for improvement decisions and enables program managers to see clearly the direction that their efforts are going. Questions such as "Is the program successful?" "Are all or some of the objectives achieved?" "Could it be done at less cost or in less time?" "Could the program reach more people?" or "Are changes needed and if so what?" are all answered by program evaluation.

This study is seen as a beginning evaluation of the program at Ahfad University College for Women at Omdurman, Sudan as personnel are involved in the quest to improve and expand the curricula. Results document that fourth year students perceive themselves as more competent than first year students and that they are more positive towards the modern role of women. As changes are implemented in the Ahfad program as a result of this study, there will be a need for other evaluations that will include all the schools and provide information on other aspects of the program not covered by this study.
REFERENCES


ACKNOWLEDGMENTS

The author would like to thank all those who contributed in diverse ways to the completion of this work. First of all, I would like to thank Dr. Alyce M. Fanslow, my major professor, who provided guidance, encouragement, and support through all the stages of my research and the writing of this dissertation. The road together has been long, and there were times I couldn't talk about the many other complications in my life that directly affected my work, but Dr. Fanslow was patient and was able to bear with me to the end. Thank you, Dr. Fanslow.

Special thanks also go to Dr. Michael Whiteford, who is a member of my committee and the individual who made me aware of the existence of the Sudan/ISU project and thus was instrumental in the conceptualization of this research.

I wish to thank Dr. Irene Beavers, Dr. Gordon Bivens, Dr. Donna L. Cowan, Dr. Ruth P. Hughes, and Dr. Michael Whiteford, members of my committee, for their support and encouragement. I also want to thank Dr. Sally Williams and Dr. Ruth Hughes for editing my manuscripts and providing valuable comments.

I want to thank the Fulbright Foundation of the United States of America for the scholarship that made it possible for me to study for my doctoral degree. I promise them that this opportunity will benefit not only me but my country in diverse ways.

I want my son, Delali K. Hevi, to know that of all the people who contributed towards my pursuit of a Ph.D., that his contribution was the greatest. He settled for less in everything and instead of complaining,
encouraged me even at his tender age. I wish to thank him for that and also for helping me staple the questionnaires together. Thank you very much, Delali. I want to thank all members of my family, my mother Victoria Ama Abutia, my sisters Agnes Ama Ahenkorah and children, Josephine Adzo Agbavor and family, Rev. Sister Vera Aku Yiboe, and my brother Cleophas Wallace Komla Tsetse Yiboe, whose constant letters and words of encouragement helped to keep me sane. I want to thank Paul Yao Hevi, my husband, for his blessings to come back to school. My thanks also go to all my relatives and friends both at home and in the United States for their encouragement and help in diverse ways.

It is no fun being away from home, especially when home is thousands of miles away, but a number of special friends helped to make my stay and my research a success. I would like to thank Ms. Diane Flynn and her family for their friendship and support in many ways, Dr. Rachel Christensen and her family for their friendship and support, Linda and Peter Sawyer for their friendship and support, and Ms. Marge E. Graves and her family for their friendship and support.

I would like to thank the Sudan/ISU linkage project for the opportunity to do my research at Ahfad University College for Women in Omdurman, Sudan. My sincere thanks go to all the faculty members at Ahfad College for administering the questionnaires to the students for me and also to the students who took part in this study. Special thanks go to Dr. Gasim Bedri, Amna Bedri, Sidahmed Mahmoud Alfadl, Dr. Lee Burchinal, and Edith Grotberg, who gave me insight into life in the Sudan.
Finally, I would like to thank Mrs. Pat Tuberty and Ms. Barbara Larson for their readiness to type earlier stages of this work and Mrs. Bonnie Trede for a good job done in typing the final copy of my dissertation.
APPENDIX A.

MAPS ON SUDAN
Country Profile "Nelson, 1983"

Country
Formal Name: Democratic Republic of Sudan.
Short Form: Sudan.
Term for Citizens: Sudanese.
Capital: Khartoum.
Independence Achieved: January 1, 1956.
Sudan showing neighboring countries and provinces "Nelson, 1983"
APPENDIX B.

COMPETENCY QUESTIONNAIRES FOR FAMILY SCIENCES
Ahfad University College for Women expects that at the end of your four years at the college you will be able to do some, if not all, of the following. However, the college is very much interested in knowing just how much you know already so that your training can be planned to suit your needs. It is not likely, however, that you as a first-year student can do any of the following excellently.

Please read each statement and rate how well you believe that you can perform each task if given the opportunity. Choose 1 if you think you have no ability to perform the task, 5 if you think you have excellent ability or a number in between the two that shows how well you can perform each task.

<table>
<thead>
<tr>
<th>No Ability</th>
<th>A Little Ability</th>
<th>Moderate Ability</th>
<th>Good Ability</th>
<th>Excellent Ability</th>
</tr>
</thead>
</table>

Place the number chosen on the answer blank to the right of each statement. Please answer all statements. Thank you.

1This questionnaire was developed by Laetitia A.P. Hevi-Yiboe, Lecturer, University of Ghana, Legon. She is presently a Ph.D. candidate in the Department of Home Economics Education, Iowa State University, Ames, Iowa, U.S.A.
A. FOOD AND NUTRITION
1. Explain how nutritional needs change during growth and development.
2. Illustrate the main sources of the different nutrients in Sudanese food items.
3. Analyze foods for nutrient content.
4. Plan nutritionally adequate meals.
5. Guide food choices for an adequate diet for people in varying conditions.
6. Selects food preservation methods appropriate to the food.
7. Use different methods of preserving food to minimize nutrient loss.
8. Identify nutrition problems in the population.
9. Make cheese and butter from milk.
10. Plan a vegetable garden.
11. Manage a vegetable garden.

B. CLOTHING CONSTRUCTION
15. Use the sewing machine competently.
16. Convert old clothes into new clothing items.
17. Make clothes for self and others.
18. Use sewing techniques appropriate to fabric.
19. Make knitted products.
20. Make crocheted products.

C. CHILD DEVELOPMENT
21. Know the principles of child development.
22. Identify different kinds of development in children (e.g., motor, physical, emotional, and social/cognitive).
D. HOME MANAGEMENT

23. Know the decision-making process and all elements that can affect it.
24. Set goals.
25. Identify and evaluate alternate actions in specific situations.
26. Utilize available resources to accomplish goals.
27. Evaluate the extent to which goals are accomplished.
28. Use basic managerial skills in your day-to-day living.
29. Plan budgets appropriate to the family.
30. Weigh the advantages and disadvantages of using different fuel sources in the Sudan.

E. PROFESSIONAL DEVELOPMENT

31. Communicate effectively with individuals, families, and groups.
32. Train village leaders.
33. Work in a position that demands residence in a rural area.
34. Work in a position that demands residence in an urban area.
35. Carry out independent research projects in different parts of the Sudan.
36. Plan educational programs (lessons, group meetings, etc.) to meet the needs of individuals and families.
37. Utilize research findings in your work.
38. Influence decisions of government that affect women in the Sudan.
39. Evaluate the effectiveness of public assistance programs in the Sudan.
40. Analyze issues in the Sudan.
41. Identify types of social change taking place in Sudanese communities.
E. PROFESSIONAL DEVELOPMENT (continued)

42. Utilize knowledge in educating the public on topics of concern, e.g., female circumcision, family planning, etc.

43. Utilize basic statistical knowledge to evaluate past research.

F. HEALTH

44. Identify the health problems associated with female circumcision.

45. Distinguish among the types of childhood diseases prevalent in the Sudan.

46. Select appropriate methods of care for children with childhood diseases.

47. Know basic hygienic principles in the home.

48. Identify public health problems in the community.

49. Utilize knowledge of microbiology to achieve food safety when handling foods.

50. Know the importance of family planning.

51. Explain different methods useful in family planning.

G. LANGUAGE

52. Write research reports in English.

53. Write research reports in Arabic.

54. Write original short stories and poems in English.

55. Write original short stories and poems in Arabic.

56. Read and understand reports and manuals in English.

57. Speak fluently in English.

58. Speak fluently in Arabic.

PLEASE GO BACK AND CHECK THAT YOU HAVE ANSWERED EACH ITEM. THANK YOU.
COMPETENCY QUESTIONNAIRE

Instructions

Please read each statement and rate how well you believe that you can perform each task if given the opportunity. Choose 1 if you think you have no ability to perform the task, 5 if you think you have excellent ability or a number in between the two that shows how well you can perform each task.

1  2  3  4  5

No  A Little  Moderate  Good  Excellent
Ability  Ability  Ability  Ability  Ability

Place the number chosen on the answer blank to the right of each statement. Please answer all statements. Thank you.
A. FOOD AND NUTRITION

1. Explain how nutritional needs change during growth and development.
2. Illustrate the main sources of the different nutrients in Sudanese food items.
3. Analyze foods for nutrient content.
4. Plan nutritionally adequate meals.
5. Guide food choices for an adequate diet for people in varying conditions.
6. Select food preservation methods appropriate to the food.
7. Use different methods of preserving food to minimize nutrient loss.
8. Identify nutrition problems in the population.
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17. Make clothes for self and others.
18. Use sewing techniques appropriate to fabric.
19. Make knitted products.
20. Make crocheted products.

C. CHILD DEVELOPMENT

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22. Identify different kinds of development in children (e.g., motor, physical, emotional, and social/cognitive).
D. HOME MANAGEMENT

23. Know the decision-making process and all elements that can affect it.

24. Set goals.

25. Identify and evaluate alternate actions in specific situations.

26. Utilize available resources to accomplish goals.

27. Evaluate the extent to which goals are accomplished.

28. Use basic managerial skills in your day-to-day living.

29. Plan budgets appropriate to the family.

30. Weigh the advantages and disadvantages of using different fuel sources in the Sudan.

E. PROFESSIONAL DEVELOPMENT

31. Communicate effectively with individuals, families, and groups.

32. Train village leaders.

33. Work in a position that demands residence in a rural area.

34. Work in a position that demands residence in an urban area.

35. Carry out independent research projects in different parts of the Sudan.

36. Plan educational programs (lessons, group meetings, etc.) to meet the needs of individuals and families.

37. Utilize research findings in your work.

38. Influence decisions of government that affect women in the Sudan.

39. Evaluate the effectiveness of public assistance programs in the Sudan.

40. Analyze issues in the Sudan.

41. Identify types of social change taking place in Sudanese communities.
E. PROFESSIONAL DEVELOPMENT (continued)

42. Utilize knowledge in educating the public on topics of concern, e.g., female circumcision, family planning, etc.

43. Utilize basic statistical knowledge to evaluate past research.

F. HEALTH

44. Identify the health problems associated with female circumcision.

45. Distinguish among the types of childhood diseases prevalent in the Sudan.

46. Select appropriate methods of care for children with childhood diseases.

47. Know basic hygienic principles in the home.

48. Identify public health problems in the community.

49. Utilize knowledge of microbiology to achieve food safety when handling foods.

50. Know the importance of family planning.

51. Explain different methods useful in family planning.

G. LANGUAGE

52. Write research reports in English.

53. Write research reports in Arabic.

54. Write original short stories and poems in English.

55. Write original short stories and poems in Arabic.

56. Read and understand reports and manuals in English.

57. Speak fluently in English.

58. Speak fluently in Arabic.

PLEASE GO BACK AND CHECK THAT YOU HAVE ANSWERED EACH ITEM.
THANK YOU.
APPENDIX C.

COMPETENCY QUESTIONNAIRES FOR
PSYCHOLOGY AND PRESCHOOL EDUCATION
Ahfad University College for Women expects that at the end of your four years at the college you will be able to do some, if not all, of the following. However, the college is very much interested in knowing just how much you know already so that your training can be planned to suit your needs. It is not likely, however, that you as a first-year student can do any of the following excellently.

Please read each statement and rate how well you believe that you can perform each task if given the opportunity. Choose 1 if you think you have no ability to perform the task, 5 if you think you have excellent ability or a number in between the two that shows how well you can perform each task.

1 2 3 4 5
No Ability A Little Ability Moderate Ability Good Ability Excellent Ability

Place the number chosen on the answer blank to the right of each statement. Please answer all statements. Thank you.

1This questionnaire was developed by Laetitia A.P. Hevi-Yiboe, Lecturer, University of Ghana, Legon. She is presently a Ph.D. candidate in the Department of Home Economics Education, Iowa State University, Ames, Iowa, U.S.A.
A. CHILD DEVELOPMENT AND PRESCHOOL EDUCATION

1. Identify the different kinds of development in children (e.g., motor, physical, emotional, social and cognitive).

2. Use the principles of child development.

3. Know guidance and discipline techniques appropriate for preschool children.

4. Use the different methods of studying children.

5. Plan activities to develop children.


7. Develop suitable educational materials for preschool children using local materials.

8. Organize a preschool program in your neighbourhood.

B. PSYCHOLOGY

9. Identify major elements of different theories of learning.

10. Recognize factors that influence behaviour.

11. Recognize how personality influences behaviour.

12. Identify major trends in personality theories.

13. Explain how group behaviour influences individual behaviour.

14. Use group interaction techniques to bring about change.

15. Recognize different types of abnormal behaviour.

16. Interpret test scores and other measurement data.
C. SPECIAL EDUCATION

17. Recognize different types of learning disabilities in children.

18. Diagnose different types of learning disabilities in children.


20. Communicate effectively with individuals, families, and groups.

21. Train village leaders.

22. Train kindergarten teachers.

23. Work in a position that demands residence in a rural area.

24. Work in a position that demands residence in an urban area.

25. Carry out independent research projects in different parts of the Sudan.

26. Plan educational programs (lessons, group meetings, etc.) to meet the needs of individuals and families.

27. Utilize research findings in your work.

28. Influence decisions of government that affect women in the Sudan.

29. Evaluate the effectiveness of public assistance programs in the Sudan.

30. Analyze issues in the Sudan.

31. Identify types of social change taking place in Sudanese communities.

32. Utilize knowledge in educating the public on topics of concern, e.g., female circumcision, family planning, etc.

33. Recognize when an individual needs professional help and needs referral.
SPECIAL EDUCATION (continued)

34. Manage psychiatric patients. 34.

35. Utilize basic statistical knowledge to evaluate past research. 35.

E. HEALTH

36. Identify the health problems associated with female circumcision. 36.

37. Know the importance of family planning. 37.

38. Explain different methods useful in family planning. 38.

F. LANGUAGE

39. Write research reports in English. 39.

40. Write research reports in Arabic. 40.

41. Write original short stories and poems in English. 41.

42. Write original short stories and poems in Arabic. 42.

43. Read and understand reports and manuals in English. 43.

44. Speak fluently in English. 44.

45. Speak fluently in Arabic. 45.

PLEASE GO BACK AND CHECK THAT YOU HAVE ANSWERED EACH ITEM.

THANK YOU.
UNIVERSITY AFFILIATIONS PROGRAM
IOWA STATE UNIVERSITY
AND
AHFAD UNIVERSITY COLLEGE FOR WOMEN, SUDAN

COMPETENCY QUESTIONNAIRE

Instructions

Please read each statement and rate how well you believe that you can perform each task if given the opportunity. Choose 1 if you think you have no ability to perform the task, 5 if you think you have excellent ability or a number in between the two that shows how well you can perform each task.

1 2 3 4 5

No Ability A Little Ability Moderate Ability Good Ability Excellent Ability

Place the number chosen on the answer blank to the right of each statement. Please answer all statements. Thank you.

This questionnaire was developed by Laetitia A.P. Hevi-Yiboe, Lecturer, University of Ghana, Legon. She is presently a Ph.D. candidate in the Department of Home Economics Education, Iowa State University, Ames, Iowa, U.S.A.
A. CHILD DEVELOPMENT AND PRESCHOOL EDUCATION

1. Identify the different kinds of development in children (e.g., motor, physical, emotional, social and cognitive).

2. Use the principles of child development.

3. Know guidance and discipline techniques appropriate for preschool children.

4. Use the different methods of studying children.

5. Plan activities to develop children.


7. Develop suitable educational materials for preschool children using local materials.

8. Organize a preschool program in your neighbourhood.

B. PSYCHOLOGY

9. Identify major elements of different theories of learning.

10. Recognize factors that influence behaviour.

11. Recognize how personality influences behaviour.

12. Identify major trends in personality theories.

13. Explain how group behaviour influences individual behaviour.

14. Use group interaction techniques to bring about change.

15. Recognize different types of abnormal behaviour.

16. Interpret test scores and other measurement data.
17. Recognize different types of learning disabilities in children.
18. Diagnose different types of learning disabilities in children.
20. Communicate effectively with individuals, families, and groups.
21. Train village leaders.
22. Train kindergarten teachers.
23. Work in a position that demands residence in a rural area.
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26. Plan educational programs (lessons, group meetings, etc.) to meet the needs of individuals and families.
27. Utilize research findings in your work.
28. Influence decisions of government that affect women in the Sudan.
29. Evaluate the effectiveness of public assistance programs in the Sudan.
30. Analyze issues in the Sudan.
31. Identify types of social change taking place in Sudanese communities.
32. Utilize knowledge in educating the public on topics of concern, e.g., female circumcision, family planning, etc.
33. Recognize when an individual needs professional help and needs referral.
SPECIAL EDUCATION (continued)

34. Manage psychiatric patients. 34. 
35. Utilize basic statistical knowledge to evaluate past research. 35. 

E. HEALTH

36. Identify the health problems associated with female circumcision. 36. 
37. Know the importance of family planning. 37. 
38. Explain different methods useful in family planning. 38. 

F. LANGUAGE

39. Write research reports in English. 39. 
40. Write research reports in Arabic. 40. 
41. Write original short stories and poems in English. 41. 
42. Write original short stories and poems in Arabic. 42. 
43. Read and understand reports and manuals in English. 43. 
44. Speak fluently in English. 44. 
45. Speak fluently in Arabic. 45. 

PLEASE GO BACK AND CHECK THAT YOU HAVE ANSWERED EACH ITEM.

THANK YOU.
APPENDIX D.

ATTITUDE AND BEHAVIOR INVENTORY
This questionnaire was developed by Laetitia A.P. Hevi-Yiboe, Lecturer, University of Ghana, Legon. She is presently a Ph.D. candidate in the Department of Home Economics Education, Iowa State University, Ames, Iowa, U.S.A.
Questionnaire on the Role of Ahfad Graduates

Part I
Instructions: This section is composed of a list of statements. The scale provided below should guide you to indicate your own ideas or feelings about each statement. For each statement, place the number chosen on the answer blank to the right of each statement. There are no right or wrong answers. Please answer all statements.

1. The Ahfad program prepares students to work in rural Sudan.

2. Female graduates are willing to work in the rural areas, at least for part of their career lives.

3. Female graduates have a keen interest in helping rural families in the Sudan.

4. It is beneath the dignity of a graduate to work in the rural areas.

5. Ahfad graduates are concerned about the situation of rural Sudanese women.

6. Women are the most suitable persons for extension work in rural areas.

7. Being a professional requires a lifelong commitment to learning.

8. Professional organizations contribute to one's professional growth.

9. Professionals have an obligation to share their knowledge with others.

10. Professionals have an obligation to participate actively in their associations.

11. A woman's first priority must be social obligations e.g., funerals, weddings.

12. A successful woman is one who has a good husband.

13. Women can combine successfully family responsibilities with professional work.
14. The role of any woman is to be a housewife.
15. It is possible for a woman to become a professional.
16. It is essential for women to belong to voluntary associations.
17. Women should be actively involved in policy making.
18. A professional woman is an asset to her family.
19. Women should be involved in politics.
20. Ahfad graduates strive to improve the lives of rural people.
21. Women graduates have a responsibility to work to influence government policies.
22. Each of us has a responsibility to help others.
23. Women should be involved in social change efforts.
24. Everyone has a responsibility to identify social problems.
25. It is appropriate for women to lead groups containing men.
26. Everyone has something to contribute to his or her group decision.
27. All group members should participate in group decisions.
28. Group decision-making is better than individual decision-making.
29. Compromise is essential in group decision-making.
30. Leaders are born not made.
31. Authoritarian leadership is more efficient than democratic leadership.
32. Women make poorer leaders than men.
33. It takes longer to make group decisions than individual decisions.

Please continue to the next page.
Part II
Instructions: This section describes actions you might take or what you might do. For each statement, place the number chosen from the scale below on the answer blank to the right of each statement to show how often you might do the task.

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<th>Never</th>
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</table>

1. I am the person who leads the group. 1. ___
2. Other people look to me to set the direction for action. 2. ___
3. My friends follow my ideas, guidance and direction. 3. ___
4. I follow others. 4. ___
5. I am the person who rarely speaks in a group. 5. ___
6. Colleagues will do what I say. 6. ___
7. I initiate ideas that others follow. 7. ___
8. I like to work as a member of a team. 8. ___
9. I like to work alone most of the time. 9. ___
10. I plan to work in a rural area at least for a part of my career life. 10. ___
11. I plan on pursuing an active professional career after graduation. 11. ___
12. I plan to combine work outside the home with family responsibilities. 12. ___
13. I plan to devote all of my attention to my family when married. 13. ___
14. I plan to be involved in politics. 14. ___
15. I work to help others in my community. 15. ___
16. I identify social problems.  
17. I will strive to get government to address social problems. 
18. I will need to go back to school sometime in the future. 
19. I plan to join the available professional organizations. 
20. I plan on organizing and participating in seminars. 
21. I would be willing to serve on professional committees if asked.

Background Information Questionnaire

Part III
Instructions: Write the appropriate number in the blank next to each question.

1. Class
   1. 1st year
   2. 4th year

2. School
   1. Family Sciences
   2. Psychology and Pre-School Education

3. Where were you born?
   1. Rural
   2. Urban

4. Childhood place of residence?
   1. Rural
   2. Urban

5. From which province do you come?
   1. Northern
   2. Red Sea
   3. North Darfur
   4. Nile
   5. Khartoum
   6. Kassala
   7. Gazira
   8. White Nile
   9. Blue Nile
   10. Upper Nile
   11. Jonglei
   12. Eastern Equatoria
   13. Western Equatoria
   14. El Buheyrat
   15. Bahr El Chazal
   16. South Kordofan
   17. South Darfur
   18. North Kordofan
6. Age

1. 18 or under  
2. 19  
3. 20  
4. 21  
5. 22  
6. 23  
7. 24  
8. 25  
9. 26-30  
10. 31-35  
11. 36-40  
12. 40 or above

7. Present place of residence:

1. Omdurman  
2. Khartoum  
3. Khartoum North  
4. Other—Specify

8. Where do you consider home?

1. Where I live now.  
2. Where I was born.  
3. Where my parents live.  
5. Other—Specify

9. Marital status?

1. single; skip to question 13  
2. engaged; skip to question 13  
3. married  
4. divorced  
5. widowed

10. Number of children?

1. None  
2. 1-2  
3. 3-4  
4. 5 or above

11. If married, does your husband

1. live with you in town  
2. live in another town in Sudan  
3. live outside the country

12. If married, please specify husband's occupation.
13. Father's occupation; please specify: ____________________________

14. Father's level of education:
   1. no schooling
   2. literacy
   3. elementary school
   4. intermediate school
   5. secondary school
   6. postsecondary
   7. university
   8. post university

15. Yearly income of father or guardian:
   1. Less than 1,000 Sudanese pounds
   2. 1,000 - 1,500
   3. 1,501 - 2,000
   4. 2,001 - 2,500
   5. 2,501 - 3,000
   6. 3,001 - 3,500
   7. 3,501 - 4,000
   8. 4,001 - 4,500
   9. 4,501 - 5,000
  10. 5,001 - 5,500
  11. 5,501 - 6,000
  12. Above 6,000

16. Mother's occupation:
   1. housewife
   2. other, please specify ____________________________

17. Mother's level of education:
   1. no schooling
   2. literacy
   3. elementary
   4. intermediate
   5. secondary
   6. postsecondary
   7. university
   8. post university

18. Number of brothers:
   1. None
   2. 1-2
   3. 3-4
   4. 5-6
   5. More than 6
19. Number of sisters?
   1. None
   2. 1-2
   3. 3-4
   4. 5-6
   5. More than 6

20. Does your father own or rent the house you live in?
   1. Own
   2. Rent
   3. other, please specify

21. If married, does your husband own your house?
   1. Own
   2. Rent
   3. other, please specify

22. Which of the following does your family own? Write all numbers that apply on the blank.
   1. House rented to others
   2. Automobile/Car
   3. Truck
   4. Bus
   5. Tractor
   6. Land
   7. Others, please specify
## APPENDIX E.
### CORRESPONDENCE REGARDING RESEARCH

<table>
<thead>
<tr>
<th>Document Description</th>
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<td>120</td>
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<tr>
<td>Letter from Ahfad</td>
<td>122</td>
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<tr>
<td>Statement to Students</td>
<td>123</td>
</tr>
</tbody>
</table>
INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH

IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

1. Title of project (please type): Perceived Competencies of College Women at Ahfad University College for Women at Omdurman—Sudan

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

Laetitia Akosua P. Hevi-Yiboe 1/10/85
Typed Name of Principal Investigator Date

219 MacKay Hall Campus Address 294-3250 Campus Telephone

3. Signatures of others (if any) Date Relationship to Principal Investigator

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects, and (D) covering any topics checked below. CHECK all boxes applicable.

- Medical clearance necessary before subjects can participate
- Samples (blood, tissue, etc.) from subjects
- Administration of substances (foods, drugs, etc.) to subjects
- Physical exercise or conditioning for subjects
- Deception of subjects
- Subjects under 14 years of age and/or Subjects 14-17 years of age
- Subjects in institutions
- Research must be approved by another institution or agency

5. ATTACH an example of the material to be used to obtain Informed consent and CHECK which type will be used.

- Signed Informed consent will be obtained.
- Modified Informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: 2 1 85

Anticipated date for last contact with subjects: 3 30 85

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and/or identifiers will be removed from completed survey Instruments: 12 31 85

8. Signature of Head or Chairperson Date Department or Administrative Unit

9. Decision of the University Committee on the Use of Human Subjects in Research:

- Project Approved
- Project not approved
- No action required

George G. Karas 1/18/85 Home Economics Education
Name of Committee Chairperson

- Project Approved
- Project not approved
- No action required

Name of Committee Chairperson
Title: Perceived Competencies of College Women at Ahfad University College for Women at Omdurman - Sudan

Purpose:
1) To assess the perceived competencies of the first and fourth year students in the school of family sciences and the school of psychology and preschool education.
2) To assess the attitudes of these students towards working in different positions and in the rural areas of Sudan.
3) To determine the strengths and the weaknesses of the Ahfad program as perceived by these students.

Method:
A questionnaire on background information and the role of Ahfad College will be distributed to all students in the first and fourth years in the schools of family sciences and psychology and preschool education. In addition, a competency questionnaire will be administered to the students in psychology and preschool education while a second competency questionnaire will be administered to the students in family sciences. An open ended interview will be administered to 40 students of the two schools, 20 from first year and 20 from fourth year.

A total of about 180 first year students and about 60 final year students between the ages of eighteen and forty years will be involved in the study.

Informed Consent:
No informed consent forms will be signed. Participants in the study will be adult women and participation is voluntary and completion of the questionnaires implies consent.

Risks:
Confidentiality. Names are obtained to facilitate matching of responses to the three questionnaires. However, data will be treated as confidential. Although the names are on the questionnaires, only the investigator will see these names and there is no risk to the respondents.

For purposes of summarizing and reporting data, code numbers will be assigned to each respondent. Data will be reported collectively and not individually.
December 12, 1984

Mrs. Martha Turner  
Institute of International Education-  
Midwest Region  
Sun-Times Building, Suite 534  
401 North Walash Avenue  
Chicago, IL 60611

Dear Mrs. Turner:

This letter is to confirm that Ahfad University College for Women, Omdurman, Sudan has approved and will support Mrs. Laetitia Hevi-Yiiboe's dissertation work during spring 1985. We understand that her Fulbright Scholarship will pay for round trip air fare from Des Moines, Iowa to Khartoum, Sudan, Ahfad University will provide food and housing and Iowa State University will provide costs for data collection and data analysis.

Mrs. Hevi-Yiboé plans on being in the Sudan from January 24, 1985 through April 1, 1985 (approximately). Her dissertation work will be a part of the University Affiliations Program between Iowa State University and Ahfad University College for Women.

We look forward to having Mrs. Hevi-Yiboé at Ahfad University, and to having the results of her dissertation work to aid us in program development.

Sincerely,

Gasim Badri,  
Principal
Statement to be read to each group of students before each administration of questionnaires.

First the investigator will introduce herself to the students and tell them a little about herself and explain what the collected data will be used for.

Dear Student(s):

This study is being conducted to assess the perceived competencies of first and fourth year students in your college, and also to determine the strengths and weaknesses of the program at Ahfad as perceived by you. The information will help the college to make any necessary changes and improvements to make the program more suitable for student needs.

All your responses will be treated as confidential and the answers will be reported only on a group basis and not individually. However, I do need you to put your name on this questionnaire so that I can match this one with two others that you will answer. Only the investigator will know the names.

Your cooperation will be highly appreciated but please note that participation is voluntary and you may choose not to complete the questionnaire. Please read the instructions for each section carefully and answer all questions. This will be most helpful to me in completing my dissertation research and will be greatly appreciated.

Feel free to ask me any questions that you may have.

Thank you very much indeed.