AN EVALUATION OF HIGH SCHOOL HOME SCIENCE CURRICULUM IN KENYA

By

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D E C L A R A T I O N

This Thesis is my original work and has not been presented for a degree in any other University.

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An Evaluation of High School Home Science Curriculum In Kenya

ABSTRACT

For the last two decades, home science teachers, students and professionals have expressed a need for improvement of the high school home science curriculum. The major purpose of this study was to; 1) investigate the extent to which the present curriculum meets the aims and objectives of home science education; 2) find out whether home science curriculum in high school was relevant to the needs of the students and the Kenyan society; 3) find out the extent to which the home science curriculum was integrated to cater for all round competencies or skills required by students; and 4) give suggestions and recommendations towards the improvement of home science curriculum.

The following null hypotheses, HO (X) were tested:

HO (1) There will be no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness.

HO (2) There will be no significant difference in the mean scores of teachers and students in their ratings of curriculum items.

The null hypotheis HO (1) was answered by using the spearman's Rank Difference correlation method (rho), whereas, the null hypothesis HO (2) was answered by using the t test.

Data was collected by means of two questionnaires supplemented by interviews. The construction of the questionnaires was guided by the aims, objectives and suggested content outlined in the secondary school curriculum guide as well as the secondary school home science syllabus provided by the Kenya National Examinations Council. The questionnaire was divided into three parts. Part 1 had 12 items that sought for selected background information about the respondents and home science courses. Part II consisted of 49 curriculum items arranged into the following curriculum components; six items on the general aims of home science; six items on balance in curriculum; seven items on curriculum objectives; nine items on content; seven items on learning activities; eight items on examinations and six items on curriculum construction. Curriculum items were rated on a five-point degree of satisfaction scale. The highest point in the scale indicated a high satisfaction and was assigned figure 4 while the lowest point indicated lack of that specific curriculum item and was assigned zero (0). The last part of the questionnaire had ten items that sought for the strengths, weaknesses and suggestions for improvement in home science curriculum. The questionnaires and interview guides were developed and pretested for content validity and reliability.

The population of the study comprised of 53 home science teachers, 866 home science students, 40 former high school home science students and 15 secondary school administrators. A total of 50 stratified and randomly selected high schools were visited in the study.

Analysis of data indicated that teachers and students ranked home management first in usefulness. The other courses in descending order of their usefulness were, foods and nutrition, clothing and textiles and science in the home. The following courses not extensively taught were ranked in descending order of usefulness by both the teachers and students: family life education, child development, consumer education, home furnishings and household equipment. The Spearmans Coefficient of Agreement indicated that both teachers and students agreed in their order of ranking home science courses for their usefulness. The null hypothesis HO (1) was accepted at the $P < .05$ level.

Curriculum items with a mean score of 3.50 were considered as being very satisfactorily achieved but none of them received that score. Those with mean scores of 2.50 to 3.49 were considered as being achieved to a satisfactory degree and there were altogether 13 and 37 on the teacher and student ratings, respectively. Curriculum items with a mean score below 2.50 were considered as being unsatisfactorily achieved. The teachers' ratings indicated 36 curriculum items as being unsatisfactorily

achieved whereas the students' ratings indicated 12 curriculum items. Thus, the students ratings were slightly higher than those of the teachers.

Examination of the subject content involved in those curriculum items rated as being satisfactorily achieved (Ms = 2.50 - 3.49) included the objectives dealing with personal qualities of students, knowledge in one core area of home science, improvement of the standard of living and family life, and acquisition of some basic skills useful for self reliance.

The subject content in those curriculum items with mean scores below 2.50 indicated that they were related to the specific needs and problems of adolescents and their role in the community, basic skills in all core areas of home science, development of students' artistic values and encouragement of originality, adaptation to societal changes and challenges of daily living.

The t test revealed that the student and the teacher respondents had significant differences in the mean scores of 19 curriculum items out of 49. This indicated that the two groups did not statistically differ in their ratings of 30 curriculum items, the level of significance being $P < .05$. Hence, the null hypothesis HO (2) was accepted on the 30 curriculum items with the mean scores that did not statistically differ. However, the

same hypothesis HO (2) was rejected on the 19 curriculum items that had significant differences in the mean scores.

The findings of the present study suggested that the respondents perceived the present curriculum as achieving its general aims (Ms = 2.50 and above) however, they felt that the specific objectives were not being satisfactorily achieved (Ms = below 2.50). Furthermore, evidence from low mean scores (unsatisfactory) of 12 curriculum items related to relevance in home science suggested that the present curriculum was not relevant to the needs of the students and the society. The majority (75%) of former home science students indicated that some parts of home science curriculum were not relevant to the student and society. Based on the findings, it has been concluded therefore, that (1) the present curriculum has met the objectives of those students who are likely to proceed on for further studies in home science but not for those whose high school education is terminal; (2) the present curriculum is too specialized and the findings called for a need to generalize the home science curriculum in high school.

Recommendations based on the findings included the need for home science curriculum improvement through an introduction of a general home science curriculum, clarification of curriculum objectives, revision of content, emphasis on home assignments, inservice training, a closer interaction between administrators,

University lecturers, home science teachers and students, and further research studies related to the needs of individual students, their families, and their communities.

CHAPTER 1

I N T R O D U C T I O N

In common with every other subject in the high school curriculum, home science education must be regularly assessed and evaluated in terms of its contribution to the total education of the student. Important factors to be considered are the extent to which the course objectives are being achieved, the relevance of the course objectives to the needs of the students, the availability of the subject to all the students who want to study it, the content, the length and continuity of courses, and its real lasting value to the young people in a changing society.

Any evaluation study on home science is necessarily linked with its historical development. Hence, it would be useful to first give a brief historical perspective of the development of home science. The first chapter, therefore, describes in general terms, the historical background of home science education and a statement of the research problem. The chapter concludes with the purpose of the study, significance of the study, basic assumptions, working definition of terms used in the study, limitations of the study, hypotheses and a brief description of the design of the study and organization of the rest of the study.

Historical Development

Home Science programmes in Kenya were started at the

beginning of the 20th Century initially through the church missionary institutions. Most girls schools where home science courses were introduced were first built on the mission ground (Sheffield, 1964). Later on, home science programmes were administered by the Government through the department of Education, Community Development, Agriculture and Health. The first Jeanes School in Africa was started at Kabete, Kenya, in 1925 through the mission schools, but by 1934, the Government had assumed full responsibility. The Government saw that it was necessary to get special education in the art and science of homemaking to meet the demands of modern times. At Jeanes School, women were instructed in health and sanitation, childcare and general "home economics" (Sheffield, 1964).

Initially, home science was introduced as Domestic Science and became part of the school curriculum in the country. It was referred to as "Science applied to the home and study of food values". The first general courses to be considered were cookery, needlework, childcare, first aid, housewifery and nutrition (Wandera, 1967).

In 1955, the Education Department of the then Colony and Protectorate of Kenya set up domestic science syllabus for intermediate schools and a scheme of work to accompany it. Along with the notes to guide teachers was a statement:-

> A Government syllabus is provided because it helps to maintain a good standard and to make work easier for inexperienced teachers. It is however impossible to provide one syllabus which is ideal for both town and country schools and for every single district. It is therefore very important to use this syllabus only as a guide and to adapt it to suit local conditions. (p. 3)

Until 1957, domestic science was compulsory to all girls in all elementary and intermediate schools. After 1957, it was eliminated from the Kenya Preliminary Examinations (high school entrance examination). The Education Department of the Colony and Protectorate of Kenya observed that the programme had failed to fulfil the purpose for which it was established ... to prepare young women for their role as future wives. That, the new skills learnt were not practical (Sheffield, 1964).

In the sixties, however, every effort was made to promote the teaching of home science in the elementary schools. The subject was already part of the secondary school curriculum. However, lack of finances, lack of suitable facilities and equipment, large number of students in a class, and lack of qualified personnel were all contributory factors to its slow beginning (Ministry of Education, 1973).

One of the most crucial and persistent handicaps in the discipline has been lack of qualified teachers. From 1956 until 1971 the only home science training was a three-year training course in teaching that was offered at the Royal Technical College,

now University of Nairobi. Some students were not enthusiastic about a teacher training certificate especially those who desired degrees. In 1972, the department of home economics was transfered from the University of Nairobi to Kenyatta University College. This marked the beginning of a degree programme at Kenyatta University but the graduates usually find better offerings in other positions besides teaching (Ministry of Education, 1973).

Furthermore, according to the Review of Graduate Teacher Education, some problem areas that needed improvement in the Bachelor of Education, Home Economics at Kenyatta University were observed as follows:-

- that too many students haven't taken home science at secondary school level.
- that teachers who have only one or two courses of home science at "O" level have problems teaching the subject.
- that the discrepancies among entrants to the course have made it impossible to offer a course which begins at University level (University of Nairobi, 1979).

Since independence (1963), home science in all its varying branches has expanded rapidly. The course that took an early lead was needlework (clothing and textiles), later on cookery (foods and nutrition) and housecraft (home management)

were introduced. In 1963, 46 candidates sat for "O" level housecraft examinations, 256 sat for cookery and 417 sat for needlework. Hence, a total of 719 candidates sat for "O" level home science examinations (See Appendix E, p.240).

An analysis of the 44 schools entering candidates for school certificate in 1969 shows that:-

6 schools entered candidates for cookery only.

1 school entered candidates for cookery and needlework.

3 schools entered candidates for general housecraft only.

1 school entered candidates for general housecraft and needlework.

24 schools entered cnadidates for needlework only (Ministry of Education, 1973).

This indicates that there was a heavy concentration on needlework and was due to the fact that cookery and housecraft necessitated expensive equipment and supplies.

There were no home science "A" level candidates in 1963, but 10 years later, in 1973, there were twenty four candidates. This was the time when the "A" level home science syllabus was tested for the first time. The two courses (at "A" level) introduced in May, 1971 were foods and nutrition and clothing and textiles. The introduction of "A" level courses was both timely and a step in the right direction. With the establishment

of the degree course at Kenyatta University College, only those candidates with any one home science course at principal level could opt to study that course at the University level (Ministry of Education, 1973).

At present, home science subject is fully accepted as part of the school curriculum. It is offered as a compulsory subject to both boys and girls in all primary schools, (Ministry of Education, 1984). In the secondary schools, home science is offered mostly in girls schools and mixed schools as a compulsory subject in form one and two but as an optional subject in the upper forms. The high school curriculum is mainly outlined in the Curriculum Guide for Secondary Schools published in 1973 by the Ministry of Education. The guide gives a full description of aims, content, methods and ways of evaluating home science and other subjects in the secondary school. The secondary school course outline is also given in the Regulations and Syllabuses issued every year by the Kenya National Examinations Council (Kenya National Examinations Council 1981 - 83).

The main aim of high school home science has been to provide students with basic knowledge for good home-making, to become better members of their communities and society as a whole or for a career which is usually teaching or training in various extension programmes. Home science is therefore a fully recognized subject in Kenya secondary schools. This was further confirmed in 1981 when the subject became

compulsory to forms one and two students in all girls and mixed schools (Ministry of Education, 1981).

In the first two years of secondary education, students learn some basics about home science with special emphasis on foods and nutrition, clothing and textiles and home management. The last course includes childcare, housewifery, laundry and personal hygiene. The syllabus is more general and throughout the course emphasis is on the students and their needs, problems and the role of students in their families and communities (Kenya Institute of Education, 1981). At present it is notable that very few girls have the chance of continuing with home science after form two, a circumstance which emphasizes the importance of teaching this subject in the first years of secondary education.

After the first two years of secondary school, home science is sub-divided into foods and nutrition, home management, clothing and textiles (Kenya National Examinations Council, 1981-1983). Very few girls' secondary schools and mixed schools are able to offer home science courses at Kenya Certificate of Education (K.C.E. - "O" level). Home science teaching at this level tends to be optional and depends upon the availability of qualified and interested teachers, facilities and finances. For those schools that are able to offer home science courses at "O" level, they may choose to offer foods and nutrition, or home management or

clothing and textiles or two of the three courses, often depending on the size of the school and physical facilities available (Kenyatta University College, 1974). No more than two or three home science courses may be offered (Ministry of Education, 1973).

At present there are about 122 schools in Kenya offering home science courses at "O" level (Ministry of Education, 1981). This number is very small compared to the need for home scienctists in the country (Ricketts, 1968). From the available figures, form four enrollment of girls in all secondary schools in Kenya in 1978 was 21,219 (Ministry of Education, 1980). Out of this only 2,282 girls enrolled in "O" level home science courses (Kenya National Examinations Council, 1978). This indicates that only 10.3 percent of girls had an opportunity of studying home science at ordinary level.

It is also notable that most of the students who continue with home science courses at "O" level, study only one course in home science. Of the secondary school students in Kenya who studied home science at "O" level in 1974, 60 percent studied clothing and textiles, 23 percent home management and 17 percent studied foods and nutrition. (See Appendix E, p. 240)

Students who pass home science examinations and meet the requirements for "A" level studies have very limited opportunity

for further studies. As present there are about 20 "A" level schools in the country offering home science (Ministry of Education, 1981). In these "A" level schools, the number of students range from 4-12 in a class. Hence, the present enrollment of students in home science subjects at "A" level is very low. According to the Kenya Advanced Certificate of Education (K.A.C.E) syllabus, only two courses have been offered for the last ten years or more. These are clothing and textiles and foods and nutrition. Foods and nutrition at "A" levels is linked with "Science in the Home" and it has a strong emphasis in the application of natural sciences (Kenya National Examinations Council, 1982).

The importance of teaching home science in high schools cannot be over-emphasized. This discipline should be better recognized for its valuable contribution to individuals and to national development. Thus, the underlying philosophy of the syllabus and the whole curriculum should be oriented towards the needs, interests and capabilities of individual students. The syllabus should also take into account the changing nature of societal needs and values with respect to matters concerned with family studies, food and nutrition, home management, clothing and textiles, the changing role of men and women and current trends in home science education. The ultimate goal in the curriculum or syllabus being to fulfil its general objectives (Cox, 1974).

Statement of the Problem

Teachers, students and professional home scientists alike, have expressed a need for improvement of the current home science curriculum. One of the points emphasized at the Seminar on Long-term Planning of Home Economics for selected English Speaking Countries of Africa held in Denmark in 1968 was the need to reconsider new directions in high school home science, and especially the necessity for continuous updating and improvement of curriculum content.

Food and Agricultural Organization report on improving Family Life in Kenya (1977) expressed the following:

> The teaching of home science in Kenya needs to be updated. It has been found that the books which are being used in schools especially in the teaching of foods and nutrition did not always meet the needs of the pupils, especially those in rural areas. These books are geared to European type of cookery. (p. 135)

A recent study conducted by Mbae (1984) on the relevance of home management to individual and family needs indicated that home science is not valued by most school administrators, parents and students.

That, the syllabus in secondary school home management had been more western oriented or tends to favour the affluent classes in Kenya. The same study revealed that 12.5 percent of the

urban students and 50 percent of the rural students stated that the subject was not useful to them in their present home environment. The urban students here were not participating in any activities at home. Those from low economic class complained that they were not in a position to practice some of the skills they were taught in the schools. For instance, they could not bake at home due to lack of ovens. They were taught how to clean carpets and care for flush toilets but they did not have these things in their homes. They were not taught how to improvise or use locally available equipment.

In another study carried out by Kasuku (1984) teachers expressed that home science curriculum particularly foods and nutrition was too western in terms of recipies, menus and ingredients and that the syllabus needed to be Africanized to fit the local situations and the low income families.

Home science skills are important, yet they are taught in isolation and not in the context of real life situations. Home science students are not able to identify problems and work towards solutions in their own homes and in the communities they live.

Students are known to carry out tasks which are not of immediate use at home. Thus, it is questionable whether the aims and objectives of teaching home science in secondary schools are being achieved and whether the learning experiences

are relevant to the needs of the students and the Kenyan society.

Basically, the aims and objectives of home science in high school are to:

1. Focus on youth, their needs, problems and the part they play in their family and community.
2. Train the students in homemaking by giving them the basic knowledge and skills of food and nutrition, clothing and textile, and home management.
3. Give basic knowledge for further professional training in various fields of home science and related areas.
4. Develop their personality and artistic values, and their appreciation of good design and beauty.
5. Encourage the intelligent use of time, energy, finance, and other resources in the home.
6. Prepare the students to adapt to changes of developing and modern societies.
7. Equip students to play full part in the society in which they live by raising their own standards of living and that of their community as a whole.
8. Stimulate the students interests so that they will want to carry on learning and experimenting after leaving school (Ministry of Education, 1973, and Kenya National Examinations Council, 1981-83).

Cox (1974) emphasized that the important curriculum issue is not which courses in home science have higher scholastic status, but what objectives across the curriculum make for sensible, vital learning experiences for high school students. Hence, the following research questions guided the present study:

1. To what extent does the present curriculum meet the stated aims and objectives of home science education in Kenya?
2. Is the home science in high school relevant to the needs of the students and the Kenyan society?
3. To what extent is the home science curriculum integrated to cater for all round competencies or skills required by students?

In order to initiate curricular improvement the foremost need was a fairly clear understanding of the present status of high school home science curriculum.
A careful collection of facts and information was deemed necessary before any suggestions for improvement could be given.

Hence, the study reported below intended to evaluate the high school home science curriculum in Kenya and to provide suggestions and recommendations for improvement in the light of its identified strengths and weaknesses.

Purpose of the Study

The purpose of the study was to:-

1. assess the extent to which long-term objectives and aims of home science curriculum in the secondary schools were being achieved.
2. identify the suitability of the curriculum against the needs of secondary school students in particular and/or society in general.
3. identify the strengths and weaknesses of home science curriculum in the secondary schools.
4. investigate the perceptions of students and teachers towards the content of home science in high school.
5. make suggestions and recommendations towards improvement of high school home science curriculum.

Significance of the Study

There are many problems related to one or more areas of home science that needed to be clarified and studied. The findings, conclusions and recommendations of this would hold a great promise in providing curriculum developers with some needed information that can be used to improve secondary school home science. This study also has a great potential for comparative purposes in future studies. Furthermore, it would help in identifying and answering some of today's pressing needs, and also in predicting and preparing for future problems

and prospects in home science education.

It is also important to note that this study is particularly relevant in a time when leaders in curriculum development in most fields of study, are faced with the responsibility of selecting from a vast reservoir of knowledge that is most important and relevant to the objectives of a new educational structure - 8-4-4 (Republic of Kenya, 1983). In home science, this means determining the most important objectives, content and learning experiences for high school home science courses.

Additionally, research findings from the study would identify the major objectives and concepts to be accounted for when designing the curriculum and deciding on course content and scope in home science courses for the new 8-4-4 educational system. The results would also help in clarifying and mediating educational objectives and priorities in the curriculum. Moreover, it would identify the visible linkage between the curriculum and the home science student, teacher, and school administrator. The results would also be of value in several other significant ways; it would act to stimulate curriculum designers to a greater interest in restructing and strengthening high school home science courses and it would also provide some facts and motivational ideas or techniques from which curriculum workers may draw in planning timely, relevant and challenging courses in home science.

Basic Assumptions

The following assumptions were considered of basic importance to the success of the study.

1. The necessity for thoughtful evaluation of home science curriculum was a timely need in Kenya due to rapid social change and increasing pressure in areas related to families.
2. As they go through high school, students who study home science gather experiences and skills that they feel are important in fulfilling their needs as individuals. Hence, their perceptions concerning curriculum should have a place in curriculum development.
2. High school home science curriculum has a responsibility for preparing students for the purpose of education for personal development, family living or home-making and wage earning or for professional preparation.
4. It is possible to identify different forces that induce or necessitate high school curriculum changes.
5. The participants in the study would be happy and willing to respond to the questionnaires.
6. The Kenya Institute of Education and the Ministry of Education would find the results of the study of great value to their curriculum development programmes.

Working Definition of Terms Used in the Study

The following are some operational definitions of terms considered necessary for successful understanding of the study:-

Curriculum.

Curriculum is a term used in the study to refer to what is taught under home science in high schools. It means the course outline as stated in the Regulations and Syllabuses by the Kenya National Examinations Council. It also includes content, general aims, general methodology and syllabuses as outlined in the Curriculum Guide for Secondary Schools set by the Ministry of Education.

Home Science Education.

Home Science Education in Kenya comprises: General home science taught in Forms 1 and 2; foods and nutrition., clothing and textiles and home management taught at "O" level. In "A" level schools, Home Science Education includes only two areas, foods and nutrition with science in the home and clothing and textiles. The term Home Economics is often used to designate this educational field in higher institutions of learning.

Home-making.

Home-making is a term used in the study to refer to -

education which is specifically centered on home activities and relationships. It is mainly designed to enable youth to assume responsibilities of making a home, or improving home and family's level of living and well-being.

Evaluation.

Evaluation is a term used in the study to refer to the process of determining the degree to which the high school home science curriculum is achieving or not achieving the long-term objectives of the syllabus and curriculum guide. In other words, an appraisal of the present curriculum and recommendations for its improvement.

New Education System.

The term new education system is used in the study to refer to the 8-4-4 system of formal education which was introduced into the school system in 1985.

The Present Home Science Curriculum.

The present home science curriculum is used in the study to refer to the home science syllabus and curriculum content that has been and will continue to be in use in the high schools until the new education system (8-4-4) syllabus is fully implemented.

Limitations of the Study

Because of the broad nature of home science education, this study was limited to high school home science courses. And, because of the comprehensive nature of high school home science programme, the study only concentrated on the evaluation of the present curriculum. More specifically, the evaluation study centered on the aims and objectives, content and learning experiences in high school home science courses together with its perceived merits and short comings.

The study was limited to a few schools selected through stratified sampling method, the obvious reason being lack of adequate finances and limited time.

Another limitation of the present study was that parents were not included in the sample. The population sample was based and mainly confined to students, teachers and school administrators. The study would have been extensive and difficult to accomplish within the given time and funds available. Furthermore, most parents may not be knowledgeable in terms of curriculum evaluation studies.

Statement of the Null Hypotheses

The following hypotheses were tested in the study:-

HO (1) There will be no significant difference between

the perceptions of teachers and students in the ranking of home science courses for their usefulness.

HO (2) There will be no significant difference in the mean scores of teachers and students in their ratings of curriculum items.

Design of the Study

The research procedure used in this study primarily consisted of personal interviews, self-administered questionnaires and library search. Library sources included books, government publications, educational journals and newspaper articles. The conversational method of interviewing was follwed. People interviewed included home science teachers in the schools visited, former high school graduates, officials of the Ministry of Education, members of the Inspectorate and Kenya National Examinations Council, and some staff members of the Kenya Institute of Education.

The researcher's former experience as a high school teacher and administrator placed her in a unique strategic position to carry out research in the schools and offices visited. The questionnaires were extensive and managed to gather alot of information from the respondents. An added advantage to the good responses in the questionnaires was that the researcher went personally to all schools sampled for the purpose of administering the questionnaires and interviews.

Organization of the Rest of the Study

This chapter has decribed in general a historical perspective of the development of home science education and a brief statement of the research problem. The chapter concludes with the purpose of the study, the significance of the study, basic assumptions, working definition of terms used in the study, limitations of the study, statement of the hypotheses and a brief description of design of the study.

The second chapter mainly concentrated on the review of related research, other literature related to the study and a rational for an evaluation study.

Chapter three presented a detailed description of the research design. It includes procedures used in developing the research instruments - the questionnaires and interview guide.

Chapter four dealt with the analysis and interpretation of data collected from the administered questionnaires and interviews. The analysis basically attempted to answer the three original research questions as stated under the problem.

Chapter five presents discussions, implications and specific suggestions for home science curriculum improvement in Kenya.

Chapter six covers the summary of the findings, conclusions and recommendations for curriculum improvement.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Limited research studies are available in the literature of home science education in Kenya, especially those dealing with the curriculum. However, a general overview of studies done in other countries was found useful in setting appropriate guidelines for the treatment of the topic.

Review of literature in this study was done in order to identify the factors and bases for curriculum evaluation and improvement. Review was also done to support the general theory of this study, which assumes that home science curriculum need some improvement inorder to cater for the needs of students in particular and society in general. That, research which dealt with curriculum issues using students, teachers and administrators of home science as data sources would portray the situation that exists, bringing to light its strengths and its weaknesses and would identify areas that need improvement.

Literature reviewed was taken from two broad areas; curriculum design and improvement; and curriculum evaluation. More specifically review of literature in the study is divided into the following sections; factors and basis for curriculum design and improvement, theoretical basis for curriculum evaluation, curriculum studies in Kenya, and a rationale for curriculum improvement.

Literature Reviewed on the Factors and Bases for Curriculum Design and Improvement.

Kern (1968) defined curriculum as "all learning experiences which are planned and guided by the school, whether they are carried on by groups or individually, inside the school". This definition was altered in the present study to mainly mean all that is taught under home science in high school. Curriculum design, therefore, means structural plan followed by home science teachers in providing learning experiences.

In describing the nature of the curriculum, Taba (1962) said:

> Curriculum design is complex and involves many kinds of decisions. Decisions need to be made about the general aims which the school should pursue, and the specific objectives of the instruction. The major areas or subjects of the curriculum must be selected as well as the specific content to be covered in each. Choices must be made about the type of learning experiences with which to implement both the content and understanding of objectives. Decisions are needed regarding how to evaluate what students are learning and the effectiveness of the curriculum in attaining the desired ends. Finally, a choice needs to be made regarding what the overall pattern of the curriculum is to be. (p.6)

Simpson (1968) saw that curriculum design in home economics posed a great challenge. After discussing the purposes of home economics at various levels, she suggested certain bases for curriculum decisions, and says:

> Keeping in mind programme purposes in home economics at various levels, we may find it helpful to view our curriculum in terms of six major bases for curriculum decisions:
>
> i) condition of the society and related needs;
> ii) needs of the students;
> iii) needs related to local situation;
> iv) content and organization of the subject field;
> v) development in the educational field;
> vi) philosophical basis. (p.768)

Onuorah (1976) on the other hand suggested guidelines on the planning of home economics programme for primary and secondary school in view of the present trends and changes in Nigeria. According to Onuorah the following were essential considerations in the planning of home economics at these levels:

i) traditional knowledge;
ii) future activities of pupils;
iii) present activities of pupils;
iv) personal/social needs;
v) development needs of adolescence;

vi) involvement of federal and state representatives on the planning panel;

vii) pupil/teacher involvement in curriculum planning;

viii) setting up tentative objectives;

ix) evaluation of curriculum. (p.2)

The curriculum factors and bases mentioned by Simpson and Onuorah were found relevant to the evaluation study. These factors were used in the selection and organization of the curriculum items rated under different curriculum components. This was mainly done in conjuction with the home science syllabus and curriculum guide. It is worth mentioning here that whereas Onuorah saw the importance of pupil/teacher involvement in curriculum planning, this study has gone further by emphasizing the importance of pupil/teacher participation in curriculum evaluation.

Spitze (1977) in study entitled 'the future of secondary home economics' posed a question 'how can home economics contribute to society through the high school curriculum in the decades ahead?' She maintained that:

> much of the impact home economics can and should have in helping to solve today's social problems and direct societal change - in areas such as population; world food supply; environment; energy; roles of women, men, young and old; residential patterns; and attitudes towards work

and leisure - will come through the interaction of secondary teachers with students in home economics classes". Spitze, also, emphasized that curriculum in secondary schools must incorporate the above mentioned concepts into home economics and explore, enhance, and use them to promote an improved quality of life for all.

Spitze went on to emphasize that home economics curriculum must change along with society, if the profession is to make any impact at all on individual's ability to survive in a rapidly changing world. She defined the objectives of curriculum in terms of teacher expectations. That, teachers sometimes expect the wrong things from students, things that students have correctly deemed irrelevant to their lives. Many teachers have also expected too little of their students and, hence, students have expected too little of themselves. She, therefore, suggests that teachers should perhaps set higher objectives in all domains - cognitive, affective and psychomotor - for all students, and not just for those they consider brighter or more talented than the "average" student.

Concerning curriculum content, Spitze continued to reiterate that educators need to adapt home economics curriculum to include those areas most essential to survival in today's world. Some of these areas must surely be population and factors affecting the rate of population increase, family life education, and impact on consumer decisions and life-styles on the environment.

Spitze's projections on the future of secondary home economics gave some guidelines in the development of curriculum components rated in the evaluation study as well as in the specific curriculum items identified under each curriculum component.

Another document relevant to this study is the 'Home Economics Inservice Courses' conducted by Department of Education in Sydney, Australia (1974). In discussing home science syllabus for year 11 and 12 (forms 3 and 4) Cox emphasized "the philosophy underlying the organization of home science syllabus and implementation of the revised home science syllabus".

Recommendations on revised syllabus were given as follows:

- equal weighting of both areas of the syllabus;
- greater emphasis on the objectives and aims of the course;
- greater emphasis on problem solving and issues of importance in home science rather than a fairly mixed prescribed body of content;
- greater freedom of choice for both teachers and students;
- less emphasis on chemistry of nutrients and more on the sociological aspects of nutrition and food science;
- emphasis on the development of central ideas, principles, concepts and generalizations which will give the content more meaning for the solving of problems in future

unknown situations, whatever the time or place;

- ° greater concern for the development of young people as students and their ability to communicate;
- ° greater emphasis on the role of people as the users of resources - both human and material - that is, on decision - making and increased consumer competence;
- ° provision for in-depth studies will allow for individual students to develop their own specific interests, while survey courses will give the opportunity for sufficient breadth of study to provide for a wholistic approach to the course. (pp. 39 - 47)

The evaluation study found these observations relevant and attempts were made to find out if a similar situation appears to be in the Kenyan home science syllabus. The recommendations were also relevant because it centered mostly on improving the home science curriculum in the secondary school. The revised syllabus also attempted to raise current issues in the field of home science rather than a great deal of factual material. In this way the students would be more involved with the subject rather than merely learning about the subject. These issues have often been cited in the home science syllabus in Kenya. The present study would attemp to further verify these issues.

One other major research study on curriculum development and improvement on secondary home science was conducted in United

States of America in 1961. The findings were published in a book entitled 'Concepts and Generalizations. There Place in High School Home Economics Curriculum Development' (1967). The basic concepts and generalizations were identified during a three-year period by home economics teachers, supervisors, teacher educators, and scholars with concentration in home economics subject areas and related disciplines.

It was agreed by participants in the above-mentioned study that identification of basic concepts and generalizations would provide structure for various subject matter areas, valuable resource materials for curriculum development at state and local levels, curriculum flexibility, adjustment for changing local conditions, basis for sequential learning, facilitate evaluation of teaching-learning process, and provide a useful framework for evaluating new ideas and information and it might indicate needed research as well as new approaches to curriculum. (American Home Economics Association, 1967) These factors and others discussed in the book formed valuable guidelines for the evaluation study.

Literature Reviewed on Theoretical Bases for Curriculum Evaluation

In his report on 'a conception of curriculum evaluation involving teachers, parents and other educational decision-makers' Merriman (1971) emphasized the problems related to the question

of values and decision-making. He observed that there was a growing concern at the local level with educational decision-making. To understand the problem, Merriman introduced the term 'educational' community as consisting of those persons in a community who have an interest in education - parents, teachers, students, administrators, and other interested citizens.

Merriman further explained how he sees a curriculum evaluator. He pointed out that the evaluator is concerned not only with improving educational opportunities for students but also with providing information to members of the educational community so that they will be able to make decisions with respect to those opportunities. Merriman's point was found relevant to this study and therefore, teachers, students and administrators provided data that was used in the curriculum evaluation and improvement. Merriman, however, saw some practical difficulties with such a practical program. He warned:

> In addition to the time and energy required, the provision of adequate information can be more costly than the money invested in the program. The cost and time of performing a 'saturation' collection of information may jeopardize a program, preventing it from functioning and reducing its ability to attain the established objectives.

In view of these difficulties, parents were not included in data collection for the evaluation study. Similar difficulties were

foreseen in the present study. Another constraint in the inclusion of parents would have been due to the fact that most parents may not be knowledgeable in terms of curriculum evaluation studies.

In conclusion, Merriman gave some guidelines for a conception of curriculum evaluation based on decision-making at the audience level, That the evaluator should:

1. recognize the concept of the educational community';
2. first evaluate to satisfy the need of multiple audiences for information.
3. involve himself with the educational community to gain an awareness of the multiple criteria with which different groups are concerned;
4. accept a professional responsibility for presenting information in such a way that it can be understood and used by the several audiences receiving the report;
5. recognize the costs involved and perform a minimal-cost-benefit analysis;
6. facilitate curriculum improvement, providing a balance between the need for information and the freedom necessary for the development of a satisfactory curriculum. (pp. 23-25)

Gooler and Grotelueschen (1971) in 'accountability in curriculum development' said that, there are a number of roles

the evaluator can play in the performance of his task. He may raise questions; he may collect and interpret data; he may serve as judge. The evaluator collects, throughout the developmental process, data about what audiences are thinking, feeling, and wanting with respect to various departmental focuses. He may study and interpret data, thus continually reminding the curriculum developer of his accountability. The evaluator can be the amplifier of consumer demands as well as the communicator of curricular needs. Merriman, Gooler and Grotelueschen's views on curriculum evaluation and the role of the evaluator assisted the present researcher, in providing some suggestions on the role of the evaluator and the importance of curriculum evaluation as a whole.

Basically, the role of the present evaluator was seen as that of collecting and interpreting data on home science curriculum as well as the communicator of curricular needs.

Functions of Evaluation

Alkin, (1973) in discussing evaluation mentioned that, a number of potentially worthwhile evaluations are hampered because either the nature of what is being evaluated is not specified or that the specification relies upon educational terms that are imprecise or ambiguous. That, education must specify whether it is an educational product, or teachers, or perhaps

a program that is to be evaluated. Alkin further emphazed that one has to be very specific - "Does the evaluation concern the program's goals, the program as described in the program plan, or the program as implemented?" Alkin maintained that such focal specification is necessary to the context and direction of the evaluation and that an evaluation will use educational terms to establish focus.

The present study accepted Alkin's theoretical framework of being very specific. Hence, the present study concentrated mainly on curriculum evaluation as an evaluation of the objectives and the aims of home science curriculum.

Grotelueschen and Gooler (1972) in discussing 'evaluation in curriculum development' saw that the characteristics common to each of the perceptions of evaluation in studies done in the past is a focus on what has been done or what is presently being done. They proposed that evaluation also be applied to things not yet done. The present study accepted this proposition by including some projected long-term objectives of the curriculum.

Grotelueschen and Gooler went on to maintain that traditionally, evaluation has sought to determine the extent to which students in a program achieve goals set for the program. Their view of evaluation was broader than that. They contended that evaluation has tended to emphasize too heavily on preciseness

of measurement of present and past events, and in so doing has forfeited possibilities of more futuristic thought. They emphasized that too often the goals of a curriculum are regarded as constants. That, those who look at the curriculum tend to consider ways through which implementation would be changed, not whether the goals of the curriculum are appropriate. They further, stressed that goals should be examined - their quality and their appropriateness ought to be assessed - before they are implemented and that evaluation should also delineate alternative goals.

The present study accepted this theoretical framework through the evaluation of the general aims, objectives and projected long-term objectives of home science curriculum. The present study also attempted to delineate alternative goals.

In addition to examining goals, Grotelueschen and Gooler argued that evaluation should seek to identify alternative means of accomplishing the goals a curriculum program includes. They went on to further discuss the profiles of goal priorites. They used a technique called the Q-sort to determine how six educational goals were rated by a variety of people. Using this method, the investigator asks the respondents to sort a series of possible goals into categories according to perceived importance of each goal. The average ranking assigned to each goal by the group of people being questioned was computed. On the basis of these rankings, the entire group of goal statements was ranked for each

group of people. The results were plotted as profile. Another way the information could have been presented would be simply list the goals according to average ranking.

The present study adopted a similar rating scale with some modifications on the scale. The items were rated on a slanting degree of satisfaction scale. The framework was modified especially on the perception of courses. For instance, Grotelueschen and Gooler's study gave a profile of mean ratings of perceived importance of courses and content areas of secondary school curricula, whereas the present study centered on the profile of mean ratings on the satisfactory level of different curriculum components.

Grotelueschen and Gooler went on to argue that it is important to consider a variety of goals for any program. This argument was accepted in the evaluation study as genuine. Their speculation that the study of goals and people's perceptions ought to be pursued in order to orient planning toward the future rather than toward the past was also accepted and gave direction to the present study.

Evaluation Models

To date, Tyler's evaluation model (1950) has remained a predominant influence upon evaluation theory despite some attacks

upon its adequacy. One of the inadequacies is that the Tyler model encompasses a number of practices that educators would like to apply, but that they usually do not have time for it. Finn (1972) reviewed the Tyler evaluation model and observed that the model stresses the need to consider a wide variety of instructional outcomes. But, while teachers' "statements of objectives" usually acknowledge this need, their formal evaluations frequently rest primarily on the results of a very small number of paper - and - pencil tests. Furthermore, it is generally observed that 'teachers treat [testing] as being of minor importance in helping them understand how well they have done. The limited data collected are often not fully exploited.

Finn, in his paper on 'evaluation of instructional outcomes: extension to meet current needs', proposed an extension of the Tyler evaluation model that encourages a broader view of educational evaluation. He emphasized a systematic means for the collection and consideration of a wide variety of types of data at all educational levels. He proposed modifications with a view to satisfying the basic principles of the original Tyler model. He revised the model with special consideration on the basic data by placing them in a broader spectrum consisting of many types of objective and subjective data. He contended that the expanded model will allow for consideration of a variety of types of data, which should be combinable in such a manner as to yield valid indicators of both the extent to which educational goals are

being met and the extent to which they are not. That, the usual evaluation procedures do not meet these needs.

Looking at the specifics of the basic Tyler evaluation model, an outline of seven steps of the evaluation process as it applies to educational outcomes is given. These involves:

1. formulating the objectives;
2. classifying and clarifying the objectives;
3. defining the objectives in terms of pupil behaviour;
4. suggesting situations in which achievements of the objectives may be shown;
5. selecting and trying promising evaluation methods
6. developing and improving methods of appraising the utility of the evaluations; and
7. interpreting the results. (Smith, et. al., 1942)

The role evaluation plays in the educational setting is central, and is described by the set of eight assumptions listed by Smith and Tyler (1942).

1. Education is a process which seeks to change behaviour patterns of human beings.
2. The kinds of changes in behaviour patterns in human beings that the school seeks to bring about are the educational objectives.
3. An educational program is appraised by finding out how

far the objectives of the program are actually being met.

4. Human behaviour is ordinarily so complex that it cannot be adequately described or measured by a single term or single dimension.
5. The way in which a student organizes his behaviour patterns is an important aspect to be appraised.
6. The methods of evaluation are not limited to the giving of paper-and-pencil tests; any device which provides valid evidence regarding the progress of students toward educational objectives is appreciated.
7. The nature of the appraisal influences teaching and learning.
8. Responsibility for evaluating the school program belongs to the staff and clientele of the school.

Finn (1972) observed that, evaluation done by the school staff, on the extent to which objectives are being realized is necessary but not sufficient to meet current needs. He extended his thoughts with respect to assumption 3 and 8 above that necessitates an extended set of evaluation principles to further those of "assessment". Finn, went on to give an eight step procedure taken in "assessment".

First step includes the objectives to which the course or school should address itself. The second step is to describe in all ways possible, the behaviour of individuals who are or who are not successful in performing the objectives. Third, involves

developing quantitative indices of each of the indicators of success, and fourth, tests and classroom situations are designed which give the assessees the opportunity and compulsion to display behaviors of importance. The fifth step involves the combining of the numerous "bits" of evidence gathered at the previous stage to yield a holistic picture of the degree to which the objectives are being met. The sixth step involves preparing non-technical summaries of the data collected and step seven is holding group conferences for reviewing and correcting the data summaries. The final step would be preparing methods for appraising the extent to which the assessment procedures have been successful.

Table 1 (on page 40) outlines the expanded evaluation model and summarizes the basic principles upon which it rests.

Looking at the expanded evaluation model, one would admit that data are difficult to collect that satisfy the principles of the models, and appears to be difficult to analyze. Finn, himself admits this fact.

Another relevant model is that which Hilda Taba (1962) discussed in "evaluation of the outcomes of curricula'. Taba first explains that:

> the nature of an evaluation program depends, first, on what objectives are pursued and how each objective is defined and, secondly, on the purposes for which the results

TABLE 1

SUMMARY OF THE EXTENDED MODEL OF EVALUATION

ASSUMPTIONS:

1. Educational "achievement" involves numerous types of behaviour changes. As such, the outcome of the system is the holistic view of each individual or class.
2. The evaluation framework must allow for obtaining evaluatory data on special groups of students who may not be amenable to testing by usual paper-and-pencil instruments. Also it must allow for the evaluation of a variety of noncognitive behaviors: e.g., attitudes, habits, activities, and personality and language variables.
3. Evaluations may differ in stimulus and response from one individual to another. Two individuals may have comparable overall levels of a given trait, but may manifest them quite differently.
4. Behavior samples may be reanalyzed at later points in time to obtain information on other variables of interest or on the progress of certain behaviors over the grades.
5. Adequate evaluation is expensive in time, money, and facilities. Application of the full model may require the services of a professional evaluator, in addition to speicalists in measurement and computer technology.

PROCEDURES:

1. List potential instructional outcomes. [Assessment step 1]
   a) teacher objectives;
   b) school and societal objectives;
   c) unspecified potential outcomes derived from observation and prior study of classes of interest.
2. Formulate behavior dictionary. [Assessment step 2] list a variety of ways in which achievement of each outcome listed may be shown-- i.e., cognitive-affective testing results, observations of academic or free-time performance, teacher ratings, pupil self-ratings, structured or unstructured interview or language data, observations or reports of out-of-class activities. The behavior dictionary may be modified according to the particular behavior samples collected, to allow each student to contribute indicators of achievement not manifested by his peers. Assign weights to each according to its importance as an indicator of achievement of each outcome listed.
3. Construct tests, define rating scales, etc. [Assessment steps 3, 4] Collect behavior samples.
4. Select and score items from behavior samples, using measurement and computer technological assistance. [Assessment step 5] Adjust relative weights of various bits of evidence.
5. Write complete description of achievement of each individual on class. [Assessment steps 6, 7, 8] Hold staff conference for reviewing and for suggesting student placement and curriculum modifications.

Source Finn, J.D., 'Evaluation of Educational Outcomes'.

> of evaluation are used. The more comprehensive and complex the objective, the more complex, the task of evaluation. A school concerned only with mastery of information will confine its efforts to assessment of mastery of information ... A school whose objectives include development of various intellectual skills and attitudes needs not only a broader range of evidence but also ways of appraising that evidence other than comparing its test scores to national norms. Evaluation conceived in this manner is an integral part of curriculum development, beginning with the concern about objectives and their attainment ...

Taba proposes a comprehensive evaluation program that fits the requirements of a particular type of curriculum to include the following elements:

1. Formulation and clarification of objectives.
2. Selection and construction of the appropriate devices for getting evidence.
3. Application of evaluative criteria.
4. Information on the background of students and the nature of instruction in the light of which to interpret the evidence.
5. Translation of evaluation findings into improvement of the curricular and instruction.

Taba's elements together with the different factors discussed by Finn and Tyler models were found useful to the present study. The three models were adopted for the purpose of developing appropriate procedures for curriculum evaluation.

Literature Reviewed on the Research Done in Kenya.

Although quite a number of research on curriculum in Kenya has been done, very little seems to deal specifically with home science curriculum. A number of studies have dealt with the high school education in general or other specialized areas.

Indire's (1971) study centered on the development of a curriculum for secondary school in Western Kenya. Indire criticized the secondary school curriculum in that it only prepared students for work outside the local community. The present study, poses a similar criticism that the high school home science curriculum does not adequately prepare the majority of students for useful service to themselves and to the nation.

One major study on the curriculum development in Kenya was carried out in 1972. The findings (also known as Bessey Report) indicated that insufficient attention was paid to the special needs for girls in secondary schools.

The report noted that time was allocated to home science but they were badly taught and in a way which was irrelevant to African needs. The report went on to say that lack of continuity of staffing was a serious problem for the teaching of home science courses since it affected the quality of teaching.

The Bessey Report reiterated that most girls passing through secondary schools face the challenge of family life combined with a career. The report further, pointed out that Kenya needed more women to share the professional and leadership of the country. The same women as mothers of the pre-school age children are the most important single education force in the country. The report recommended that as a matter of urgency, all girls in schools be provided with a continuing course based on the needs of home and family education in Kenya.

The Bessey Report also noted with some interest, the progress in planning revisions and improvements especially in the home science syllabuses, and stressed that urgent steps be taken to make available in schools, apparatus and equipment sufficient for the needs of home science courses.

Recommendations from the Bessey Report were incorporated in the Curriculum Guide for Secondary Schools published by the Ministry of Education in 1973. The guide contains the aims and objectives for teaching home science. The present study

used the aims and objectives in the guide as a basis for selecting items to be rated in the questionnaire. Also, the present study further investigated the issues revealed in the Bessey Report.

Another study carried out by Muthui (1980) mainly concentrated on clothing and textiles. The study had its primary purpose to determine the major problems in the teaching of clothing and textiles in Kenya as recognized by teachers of the subject and made recommendations regarding how the teachers would help to overcome those problems identified. Among the curriculum related problems identified in the study were:-

a) inability to complete the coursework in time for the National Examinations.

b) inability to adequately cover the theoretical part of the syllabus.

c) irrelevancy of some parts of the syllabus to students' future needs.

d) National Examinations require knowledge outside the syllabus.

The study went on to give the following recommendations regarding the curriculum related problems. That:-

- it should be made more practical to accomplish within the time allowed.

- it should be made more relevant to the needs of the students.
- its objectives should be precisely defined.
- National Examinations should be set within the limits of the curriculum.

A recent study conducted by Mbae (1984) on the relevance of home management to individual and family needs aimed at showing the following:

- ° home management is an essential subject which should be given special attention.
- ° home management should be imparted to both men and women formally or informally because its contents involves our everyday living.
- ° those people who ridicule the subject have the wrong concept.
- ° the subject is useful and necessary to individuals, families and the nation as a whole. (p. 5)

Mbae in her study, interviewed 20 students from both urban and rural areas in three secondary schools in Meru district. All the interviewees agreed that home management was an essential course that could be used in many fields. Mbae also, found out that 25 percent of the urban groups and 75 percent of the rural felt that some topics in the syllabus were not relevant. The present study attempted to identify some of those topics. Most interviewees expressed that the syllabus was too

extensive to be covered in two years and yet most of the students woundn't have the opportunity to pursue the subject in higher institutions of learning. Concerning the usefulness of home management, 62.5 percent of the urban group and 46 percent of rural expressed that they were not well informed about the usefulness of the subject. However, all the interviewees recommended that the teaching of home management should be encouraged and improved in the future.

Mbae concluded that the syllabus in Kenya curriculum for home management in secondary schools has been more western oriented and favoured the affluent classes in Kenya. She further expressed that students in secondary schools appreciated the course but pointed out the problems of its alien nature especially among the rural students.

Another study done recently by Kasuku (1984) had its major purpose, the identification of the main factors leading to the low acceptability of home economics as a subject in Kenya secondary schools. One hypothesis examined by Kasuku was that, there was need to revise the entire home science syllabus. Her findings indicated that 93 percent of the teacher respondents commented that home science syllabus was too wide and outdated, and it very much needed to be revised.

Teachers also expressed that the curriculum particularly

in foods and nutrition was too western oriented and needed to be Africanized to fit the local situation and low income families.

Kasuku listed the following causes of curriculum related factors leading to the low acceptability of home economics in Kenya secondary schools:

i) the time allowed for the coursework was too limited.

ii) most students were not interested in theory lessons.

iii) theory was boring both to teach and to learn especially in textiles and science in the home which most students found too scientific.

iv) some parts of the syllabus would not help the students find a job or solve day-today problems, especially those from low income families.

The above summaries of studies done in the past on secondary home science revealed that the information was only received from mainly the teachers of home science and also from a very limited sample. The present study attempted to obtain responses from the teachers as well as the students and administrators in those schools offering home sciences. Furthermore, the present study covered a wider sample to include most of the provinces in Kenya.

Rationale for Curriculum Evaluation

The above review of some of the studies that have been

carried out on the curriculum affirmed the necessity for an evaluation of home science curriculum. Only through such a study could the strengths and weaknesses of the program be noted. What is good in the curriculum could then be identified and strengthened and the weaknesses on the other hand could be identified hence changes could be made. The areas that are less important and need to be deleted could also be isolated. Above all, the curriculum today should be conversant with the original and new aims and objectives of home science. Thus, revision of the curriculum and syllabus has to be made to be agreeable with the needs of today's youth and society.

Another important fact in the above studies reviewed, is that the views and the changes were recommended by home science teachers. How about the views of the students? The student is the recipient of the syllabus and is entitled to the best the curriculum could offer. Hence, the perceptions of the students concerning the curriculum were considered very vital. Also the perceptions of administrators were taken into account. The present study, therefore, considered the perceptions of the administrators, home science students and teachers concerning the objectives of home science courses. The study also involved identifying the weaknesses and strengths of home science curriculum and suggested recommendations for its improvement.

The choice of this study was also dictated by the major changes that had taken place within the Kenyan Educational system,

namely, the implementation of the 8-4-4 system. (Development Plan, 1984-88). With the restructing of the new 8-4-4 system of formal education, the curriculum is subject to change. "Curriculum development will be used to influence those changes needed to make education more relevant to the needs of the majority of school leavers". According to the Development Plan 1984-88, curriculum for secondary education would be expected to 'enable the students to continue with further formal education, enter vocational training and direct employment". In secondary home science, this would mean that the curriculum would be revised with its main objective to prepare the learner for self-reliance, training and further education.

Summary of the Reviewed Literature.

This chapter highlighted some of the curriculum related studies done in Kenya and in other countries. The literature revewed emphasized the factors and bases for curriculum design and improvement, together with the theoretical bases for curriculum evaluation. Literature reviewed on research done in Kenya identified the need for revision and improvement of secondary home science curriculum. The chapter concludes with the statement of the rationale for curriculum evaluation with specific reference to the new 8-4-4 system of formal education.

Based upon the research findings which pointed to the problems in secondary home science and the need for curriculum

improvement, this researcher wished to investigate: the extent to which the present curriculum meets the aims and objectives of home science education; find out whether the home science curriculum in high schools was relevant to the needs of the students and Kenyan society; the extent to which the curriculum was integrated to cater for all round competencies required by students; and give suggestions and recommendations towards the improvement of home science curriculum.

The next chapter outlines the research design and procedures adopted in the collection of data.

CHAPTER 3

RESEARCH DESIGN

In order to carry out the objectives of the present study, the following steps were taken. First, the venue and subjects of the study were chosen. Next, the instruments were developed and pretested before being administered to the subjects for data collection.

Venue of Study

A list of all high schools offering home science as recorded by the Ministry of Education, Inspectorate (INS/MHE/B/22/7/121. 1983) was used as basis for selecting schools that were visited. (See Appendix B) There were 138 schools offering home science courses in Kenya. A stratified, random sample of 50 high schools was selected in order to give a nationwide representation according to; geographical distribution or representation of each province in Kenya to include both rural and urban population; and the type of home science course offered - foods and nutrition, home management and clothing and textiles.

More specifically, all the schools on the list were divided into the seven provinces (North-Eastern was not included due to distance and limited finances). The schools in each province were placed on a stratified sample according to their locality whether rural or urban. In order to get a more

accurate representation, the schools within each province were further sub-divided into stratified subsamples of the following five subgroups: schools offering foods and nutrition; schools offering home management; schools offering clothing and textiles; schools offering both home management and clothing and textiles and schools offering all the three courses - home management, foods and nutrition and clothing and textiles.

Within each subgroup, simple ramdom sampling was done to get a more representative sample. The researcher selected the first and every other school on the subgroups until 50 schools had been selected. The researcher's final sample was a fairly national representative and would be possible to generalize the study's findings to a national population of all the schools offering home science.

Sample of Subjects

The subjects for study included home science students in the 50 schools selected, together with home science teachers and head teachers (administrators).

Table 2 gives the classification of subjects by location. It is observed that, of the 866 student respondents, 519 studied in urban schools and 347 studied in schools located in rural areas. This indicated that both rural and urban student populations were represented. A total of 53 teacher respondents, on the other

TABLE 2

Classification of Respondents by Location

Sample	Rural		Urban			
	No.	%	No.	%	Total	%
Students	347	40.1	519	59.9	866	100.0
Teachers	22	41.5	31	58.5	53	100.0

hand, were studied; 31 teachers taught in the urban schools and 22 in rural schools. A more specific breakdown is shown on Table 2.

Students

The sample included students enrolled in "O" and "A" level home science courses in the 50 schools selected.. High school students who took part in the study were randomly selected from forms 3, 4, 5 and 6. These classes were selected for the study because most of their members had had the benefits of more than two years exposure to the home science curriculum and therefore had a fair knowledge of the syllabus content. A total sample of 866 students responded to the questionnaires. Table 3 gives the number and percentage of student respondents by classes.

TABLE 3

Number and Percentage of Student Respondents by Classes

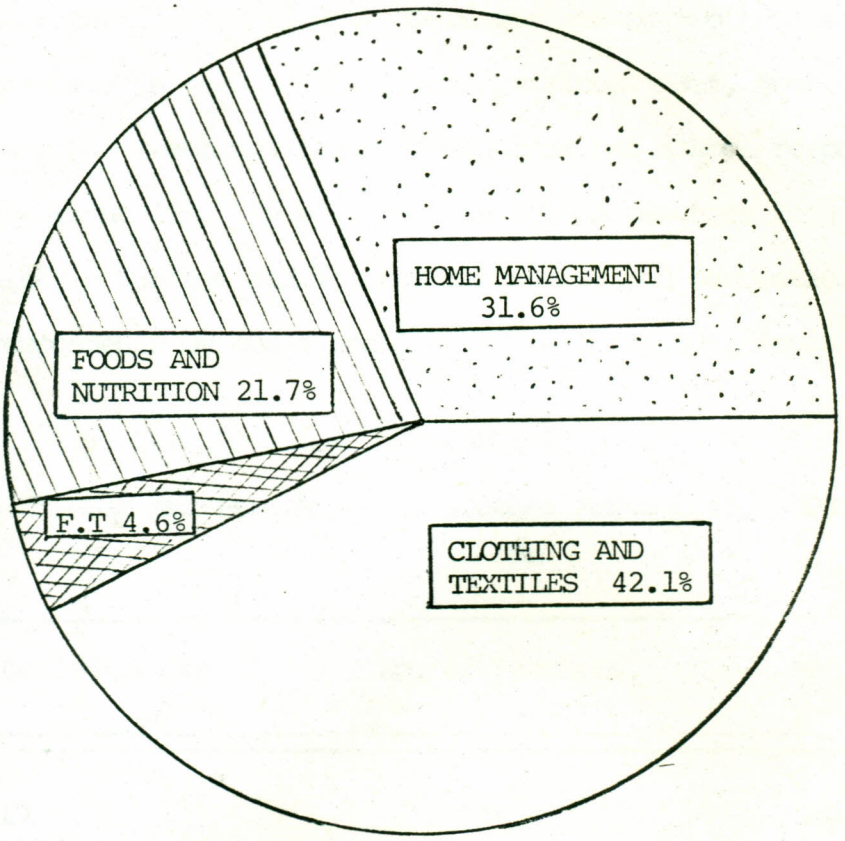
Class	No. of Students	Percentage
Form 3	169	19.5
Form 4	589	68.0
Form 5	53	6.1
Form 6	55	6.4
Total	866	100.0

Students were included in the study because they were consumers of the curriculum. Hence, their inclusion in the curriculum evaluation study was very important. Students were able to indicate or project as to whether their objectives were being met or not. Also, they were able to highlight what they viewed were the shortcomings of the present curriculum.

Table 3 indicated that 68 percent of the student respondents were in form four whereas 19.5 percent were in form three, 6.1 percent in form five and 6.4 percent in form six.

Figure 1 shows that student respondents enrolled in various home science courses. The Figure indicated that 42.1 percent of the respondents were taking clothing and textiles where as 31.6 percent were enrolled in home management. Those enrolled in foods and nutrition were 21.7 percent and 4.6% were taking

fashion and tailoring.



KEY: F.T - Fashion & Tailoring

Figure 1

Student Respondents Enrolled in various Home Science Courses.

Teachers

Teachers of home science courses in the selected schools took part in the study. There was one or two home science teachers in each of the schools visited. But, due to the pressure of their teaching loads, one teacher per school responded to the questionnaire. In all, 53 high school teachers took part in the study. Table 4 and 5 shows the number and percentage of teacher respondents by qualification and teaching experience.

TABLE 4

Number and Percentage of Teacher Repondents by Qualification.

Qualification	No. of Teachers	Percent
SI	14	26.4
Dip Ed.	13	24.5
B. Ed.	20	37.7
M. Ed.	1	1.9
Other*	5	9.4
Total	53	100.0

* Approved teachers.

TABLE 5

Number and Percentage of Teacher Respondents by Teaching Experience

Experience	No. of Teachers	Percent.
1 Year	6	11.3
2-5 Years	17	32.1
6-10 Years	14	26.4
11-15 Years	11	20.8
16 or more Years	5	9.4
Total	53	100.0

Table 4 shows that a large proportion of the teacher respondents had a bachelor of education degree (37.7 percent). This was followed by 26.4 percent with S1, 24.5 percent with a diploma in education, 1.9 percent with masters degree and 9.4 percent approved teachers.

Table 5 indicated that 32.1 percent of teacher respondents have been teaching for a period between two to five years. Those who had been teaching for the last six to ten years constituted 26.4 percent of the total sample. The long serving teacher respondents had been teaching for the last 11 to 15 years and constituted 20.8 percent of the total sample.

Home science teachers were included in the sample because they could easily identify areas that needed revision in the

curriculum. Teachers were aware of some of the factors that have caused learning difficulties and were in a better position to suggest a means of improving the curriculum. Furthermore, teachers who have studied the needs of the young people, home life, and society in general as part of their preparation for teaching were in a better position to plan for improvement of home science curriculum.

Administrators

This category included ten heads of schools visited, two home science inspectors, one official in the Ministry of Education incharge of home science, one officer in charge of home science at the Kenya Institute of Education and one officer in charge of examinations at the Kenya National Examinations Council. In all, fifteen administrators, took part in the study.

School administrators were included in the study because they could effectively assist in identifying changing curriculum content and student needs. Administrators could be effective in encouraging the staff members to keep on approving and proposing curriculum improvement. As they recognize reported needs and proposals, administrators could facilitate tryouts and support staff members in their successes and failures in curriculum innovation. Administrators were also seen as important participants in curriculum evaluation since they were the ones who would be sensitive to pressures and imbalance in

the school curricula.

Former Home Science Students

Another group of respondents who were interviewed in the study included former home science students who were being given orientation for further studies in home science. There were altogether 40 students who had been selected for admission into Kenyatta University, department of home economics. This group was seen as an important contribution to the study due to the fact that they had gone through high school home science education and had been at home in their local communities for at least one year. Hence, they could share their first hand experiences as to whether their objectives had been met or not.

Development of Research Instruments

Written data was collected by means of two questionnaires which were supplemented by interviews.

Questionnaires

The construction of the questionnaires was guided by the aims, objectives and content outlined in the secondary schools curriculum guide as well as the home science syllabus. The questionnaires were made up of both closed and open ended questions and were divided into three parts (see Appendix C on page 224).

Part 1. The first part of the questionnaire mainly asked for certain background information about the respondent and/or course. This part varied slightly according to the two groups of respondents teachers and students. The respondent was asked to give certain background information that included qualifications; experience; class; courses; influence on subject choices, and others. The respondent was also asked to rank home science courses in order of their usefulness to high school students.

Part II. In order to obtain the items necessary for evaluating the curriculum, considerable time was spent in reviewing the curriculum guide for secondary schools and home science syllabuses. From this review, 49 curriculum items were identified for assessing the home science curriculum. An assessment of the identified curriculum items served both to indicate the extent to which the curriculum objectives were being achieved and identified aspects of the curriculum that needed improvement.

In evaluating the home science curriculum, attention was focused on the curriculum as a whole. Hence, the curriculum items were grouped into seven major curricula components of:-

A - General aims of home science

B - Balance in the curriculum

C - Objectives of the curriculum

D - Curriculum content

E - Learning experiences/activities

F - Examinations

G - Curriculum construction.

Respondents were requested to rate the curriculum items under each component to indicate the degree of satisfaction (DS) on a five point slanting scale. The curriculum items were rated as being present to a:-

Very Satisfactory Degree	=	4 points
Satisfactory Degree	=	3 points
Unsatisfactory Degree	=	2 points
Very Unsatisfactory Degree	=	1 point
Not Present	=	0

By rating a stated objective as being present to a very satisfactory degree, a respondent indicated that, that particular objective was being achieved or met in the curriculum. Likewise, rating an objective as not present indicated that, that particular objective was non-existent in the then high school home science curriculum.

Part III. In part III of the questionnaire, respondents were asked to give their opinion on the home science courses. They were also asked to state the strengths and weaknesses in each course and were also required to write down some suggestions for improvement.

In order to get an overall appraisal of the questionnaire, to test out the soundness of the items and to estimate the length of time required to answer the questionnaire, the questionnaire was pretested in a pilot study. Questionnaires were administered in four schools. 40 students and five home science teachers responded to the questionnaires. The questionnaires were then evaluated.

More specifically the pilot study was carried out in order to:-

1. evaluate the instructions to respondents, and the items for clarity of wording.
2. determine the relevancy of the items with a view to considering omiting any which seemed inappropriate to the respondents.
3. determine whether any more items needed to be added to the questionnaire.
4. get the respondents comments on the questionnaire in regard to any other points of construction, clarity of wording, repetition of items or mechanics.
5. determine if some guidelines could be developed for use in administering the questionnaires.

From the results of the pilot study, an alternative order and sequence of the questions was suggested. It was felt that respondents' backgrounds should be recorded first before being asked to rate the different curriculum items.

The responses received were used to develop more closed questions. And, from the analysis of the pilot study, some of the questions were restructured and guidelines for administering the questionnaires and for carrying out the interviews were established. The subjects in the pilot study were not included in the final study.

The draft questionnaire was also pilot tested for validity and reliability and the necessary modifications were made before the study was implemented.

Content Validity

The content validity of the questionnaire was determined by a panel of curriculum experts. The panel of ten experts in home science assessed the content as it related to the syllabuses and curriculum guide for secondary schools. They examined the representativeness of the questionnaire content in order to determine whether the content validity was met. They then indicated whether there were any changes in areas of content that needed to be readjusted. The panel consisted of one headmistress, two university lecturers, and seven high school teachers.

Reliability of the Instruments

The test-retest method was used to estimate the degree to which the questionnaire was reliable. The following procedures were used:

1. The questionnaire was first developed.
2. The questionnaire was then answered by a group of 10 people.
3. The answered questionnaire was scored.
4. The same questionnaire was given to the same people after a time interval of two weeks.
5. The questionnaire was again scored.
6. A comparison between the answers in 3 and 5 was done.
7. Reliability co-efficient was calculated and was found to be 0.64. Using Best (1977) criterion for the evaluation of a coefficient where:

Coefficient (r)	Relationship
.00 to .20	negligible
.20 to .40	low
.40 to .60	moderate
.60 to .80	substantial
.80 to 1.00	high to very high

The coefficient of reliability was subsitantial and that the instrument could be viewed as reliable.

Interviews

An "Open-ended" interview schedule was used as a supplementary instrument to the questionnaire. This assisted the researcher in gaining access to objective data, for instance the strengths and weaknesses in the curriculum as perceived by school administrators.

Informal interviews were conducted with ten head teachers, 2 home science inspectors, 3 teachers and 40 former home science students to ascertain factors concerning the present home science curriculum.

Interviews assisted the researcher in obtaining relevant information related to the problem and factors which could not otherwise be obtained from the questionnaire which varied with particular persons in specific circumstances. The information obtained communicated some of the opinions and attitudes of different groups of people towards the home science curriculum.

The "funnel approach" was selected as desireable sequence for questioning. In other words the most general questions were asked first, followed by a series of more restricted questions (see appendix D on page 239).

Procedure and Data Collection

For the researcher to visit the schools, an authorization letter was obtained from the Office of the President and it was photocopied and enclosed together with the letter of transmittal (see Appendix A on page 221).

Addresses of the 50 schools sampled were first secured from the Ministry of Education, Post Office Directory and Kenyatta University College Teaching Practice Office. The

letter of transmittal, (see Appendix A,) plus the stamped self-addressed envelopes, were mailed to the headmasters/ Headmistresses of the 50 schools between September, 1983 and March, 1984.

The letter of transmittal gave a brief description of purpose of the study and its usefulness. The letter also gave suggested range of dates that the researcher found convenient for visiting the schools. The letter also requested the head teacher to fill in the space provided, convenient date, time and to sign the letter. Part of the letter was then mailed back to the researcher.

Only six of the 50 letters (12%) were not returned to the researcher in which case six more schools were selected for the study. Three of the letters returned (6.8%) gave a negative reply in which case other schools were selected in their place. Only four letters (8%) failed to arrive in time for the scheduled visits. But, the schools co-operated so that the researcher was allowed to visit the school at her convenience.

After receiving the letters, the researcher made arrangements, to visit the school on the date suggested by the school in order to administer the questionnaires and interviews in the schools sampled.

Within each school, the researcher spent the first five

minutes giving instructions to the respondents on how to complete the questionnaire. The respondents were also asked to indicate by show of hands anytime they had a question or needed some clarity concerning any part of the questionnaire. The questionnaire took at the most 40 minutes to be completed.

In regard to administrators to be interviewed in offices, two visits were made to their place of work. The first visit was for the purpose of acquaintance and also for making an appointment for the interview. The second visit was made on the appointed day and time, for the purpose of interviewing.

Summary of Research Design

All high schools offering home science as recorded by the Ministry of Higher Education were used as basis for sampled schools. The construction of the instruments was guided by the curriculum guide for secondary schools and the home science syllabuses. The draft questionnaire was pilot tested for validity and reliability and the necessary modifications were made before the study was carried out. Figure 2 gives the summary of the framework for the study of high school home science curriculum.

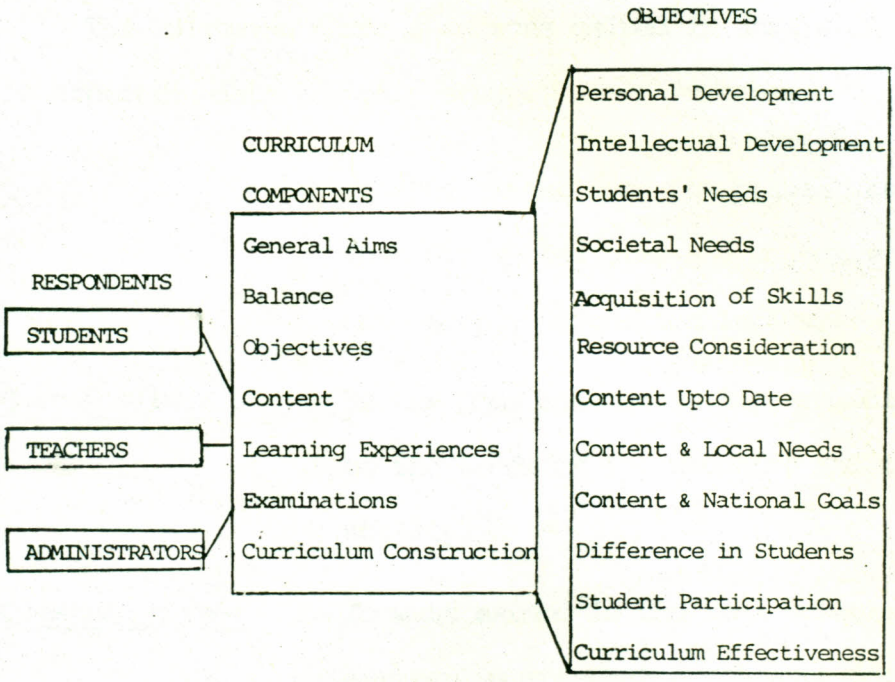


Figure 2

Framework for the study on Evaluation of High School Home Science Curriculum in Kenya.

CHAPTER 4

ANALYSIS AND INTERPRETATION OF DATA

The following three questions helped in analysing and interpreting data for this study:

Question one: To what extent does the present curriculum meet the stated aims and objectives of home science education in Kenya?

Question two: Is the home science in high school relevant to the needs of the students and the Kenyan society?

Question three: To what extend is the home science curriculum integrated to cater for all round competencies or skills required by students?

In order to answer these questions, data in this chapter was organized into three main sections as follows:

1. ~~Information on~~ home science courses ~~taught~~.
2. Assessment of curriculum components by respondents.
3. Perceptions of respondents on the strengths and weaknesses of the home science curriculum and their suggestions for its improvement.

In the first section data was analyzed to find out (a) teachers information on home science courses, people who should be involved in planning the curriculum and the problems

teachers encounter when teaching home science; (b) students information on home science courses and their attitude towards home science; (c) comparisons on how each group of respondents ranked home science courses for their usefulness. In this connection it was necessary to test the first hypothesis ... HO (1) There will be no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness.

In the second section, data was analyzed to show how respondents rated each of the curriculum components. The curriculum components rated were:

A - General aims of home science
B - Balance in the curriculum
C - Objectives of the curriculum
D - Curriculum content
E - Learning activities
F - Examinations
G - Curriculum construction

Under each curriculum component, there were specific curriculum items. Respondents were asked to rate specific curriculum items in a five point slanting scale. The highest point in the scale was assigned figure 4 while the lowest point in the scale was assigned zero (0). The highest point in the scale indicated a high satisfaction, while the lowest point indicated lack of that specific item.

The scale required the respondent to indicate degree of satisfaction with a specific curriculum item. Consequently, a respondents' rating of very satisfactory degree scored 4, that of satisfactory degree scored 3, while unsatisfactory degree scored 2, whereas very unsatisfactory degree scored 1, and absence of a specific curriculum item scored zero (0). In interpreting data in this section it was found necessary to convert the rating scale into a judging scale. Hence, a very satisfactory degree had a mean score ranging from 3.50 and above, satisfactory degree ranged from a high mean score of 3.49 to a low score of 2.50, whereas unsatisfactory degree was judged from a high mean score of 2.49 to a low score of 1.50, very unsatisfactory degree ranged from 1.49 to 0.50 while the absence of an item was judged within the range of 0.0 to 0.48 mean scores.

In section two it was also necessary to analyze data to test the second hypothesis ... HO (2) There will be no significant difference in the mean scores of teachers and students in their ratings of curriculum items. This was done by comparing the mean scores of specific curriculum items by both teachers and students. The t test was used to determine whether the mean scores differed significantly from one another.

In section three, data on the strengths and weaknesses of the curriculum as perceived by respondents was analyzed. This was done by listing the strengths and weaknesses under each

home science course. Suggestions for improvement were summarized and recorded after each set of strengths and weaknesses. Some of the issues that were not readily categorized into courses were recategorized into, the following: (i) some comments on home science curriculum from former home science students, (ii) some comments on home science curriculum from the administrators.

Information on Home Science Courses Taught

Teachers and students were asked to give some specific information on various aspects of home science courses.

Information Obtained from Teachers

Some of the information reported by teacher respondents included; home science courses they had taught, the courses they preferred to teach, the courses they currently teach, people they thought should be involved in planning the curriculum and the problems teachers encounter when teaching home science.

Courses Previously Taught. Home science teachers were asked to indicate the courses they had previously taught in the past. Table 6 shows the different courses teachers had taught. From the table, it is observed that a large percentage (35.5%) of the teacher respondents, had taught home science in forms one and two. Almost thirty percent of the

TABLE 6

Number and Percentage of Teacher Respondents by Courses and Level Previously Taught

Course	No. & % of Teachers (N=53)					
	"O" Level		"A" Level			
	No	%	No	%	TOTAL	%
Home Science F1 & F2	44	35.5	-	-	44	29.9
Clothing & Textiles	37	29.8	6	26.1	43	29.3
Home Management	28	22.6	-	-	28	19.0
Foods & Nutrition	15	12.1	17	73.9	32	21.8
TOTAL RESPONSES	124	100.0	23	100.0	147	100.0

respondents had taught "O" level clothing and textiles as indicated on Table 6. This was followed by home management with about twenty three percent teachers having previously taught. Very few teachers (12.1%) had taught foods and nutrition at "O" level.

Further examination of Table 6 showed that the only two courses previously taught at "A" level were foods and nutrition (73.9%) and clothing and textiles (26.1%). Thus, at "A" level, foods and nutrition was widely offered as compared to clothing and textiles. From these results, it can be concluded that the three courses that most teachers previously taught ... home science forms one and two, clothing and textiles, and home

management ... were offered in most high schools at "O" level.. It would also appear that few teachers had previously taught those courses that were not widely offered in schools for instance, "O" level foods and nutrition and "A" level clothing and textiles.

Course Preference. Teachers were asked to indicate the courses they preferred to teach. Table 7 shows the number and percentage of teachers that preferred to teach different home science courses.

TABLE 7

Number and Percentage of Teacher Respondents by Courses Preferred.

Course	No. of Teachers (N = 53)	Percentage
Home Management	31	36.1
Foods & Nutrition	29	33.7
Clothing & Textiles	26	30.2
TOTAL RESPONSES	86	100.0

Table 7 indicates that home management was preferred by 36.1 percent of teachers. But, 33.7 percent of teachers preferred to teach foods and nutrition and 30.2 percent preferred to teach clothing and textiles, the two courses being very close in preference. Moreover, Table 7 showed individuals perceptions on home science courses whereby most teachers preferred to teach

home management, whereas Table 6 showed the schools' perception whereby clothing and textiles was mostly offered. Hence, home management might be preferred by many teachers because it is a more general course as compared to other home science courses.

Courses Teachers Currently Teach. Teachers were asked to record the courses they currently teach. Table 8 shows the number and percentage of teachers currently teaching different course.

TABLE 8

Number and Percentage of Teacher Respondents by Courses Taught.

Courses	No. of Teachers (N = 53)	Percentage
Clothing & Textiles	22	31.4
Home Management	16	22.9
Foods & Nutrition	3	4.3
Other Courses*	29	41.4
TOTAL RESPONSES	70	100.0

* Not home science courses/subjects.

Examination of Table 8 indicates that 41.4 percent of the teacher respondents teach other courses or subjects besides home science. However, 31.4 percent of the teachers teach

clothing and textiles and 22.9 percent teach home management. Very few teachers (4.3%) teach foods and nutrition. These results indicated that the majority of the schools offered clothing and textiles and home management, whereas a few schools offer foods and nutrition.

Curriculum Planning. Teachers were requested to identify people who should be involved in planning home science curriculum. The teachers identified different groups of people as shown in Table 9. Since many questions have been raised concerning, home science curriculum, it was necessary to find out from teachers which people they thought should be invclved in curriculum planning. Table 9 revealed that teachers gave the highest rating to administrators (34.3%), followed by students (25.0) and parents (16.7%). Thus, teachers perceived administrators as people who should be involved in planning the curriculum. Administrators have more control over the school resources and this could be the reason why they were rated high.

TABLE 9

Respondents Choice of People that Should be Involved in Curriculum Planning.

Group	No. of Teachers (N = 53)	Percentage
Administrators	37	34.3
Students	27	25.0
Parents	18	16.7
Teachers	10	9.2
All the above	16	14.8
TOTAL RESPONSES	108	100.0

Curriculum developers maintain that curriculum planning is a co-operative effort. Table 9 indicated that only 14.8 percent of the respondents supported the cooperative effort by rating 'all the above'. Table 9 also, revealed that students and parents were recognized as part of curriculum planners. Teachers on the other hand rated low (9.2%) in curriculum planning.

Problems in Teaching Home Science. Home Science teachers were asked to indicate the kind of problems they encountered when teaching home science courses. The teachers rated problems as shown in Table 10.

TABLE 10

Number and Percentage of Teacher Respondents by Problems Encountered in Teaching Home Sciencs

Problems	No. of Teachers (N = 53)	Percentage
Lack of adequate room	35	39.8
Insufficient equipment	28	31.8
Too large a group	23	26.1
Too little time	2	2.3
TOTAL RESPONSES	88	100.0

Examination of Table 10 showed that 39.8 percent of teachers indicated lack of adequate room as a major problem in teaching home science. Almost 32 percent felt that insufficient equipment posed a problem in teaching, while 26.1 percent perceived the large number of students were the major problem encountered in teaching home science. Only a very small percentage (2.3%) of teachers recorded too little time as a problem. It can be concluded, therefore, that time allocation was not one of the major problems in teaching home science. These findings are similar to those of Muthui (1981) except for the ratings on timing which were lower than those reported by Muthui.

Information Obtained from Students.

Students' information recorded were; persons who influenced

their choice of subjects, reasons for studying home science and their attitude towards home science as a subject.

Influence on Subject Choice. Table 11 gives the list of different categories of people who influenced students in their choice of home science.

TABLE 11

Number and Percentage of Student Respondents by Persons who Influenced Subject Choice

Persons	No. of Students (N = 866)	Percentage
Parents	502	40.3
Home Science Teacher	331	26.5
Friends	201	16.2
Career Teacher	139	11.1
Headmistress/Master	74	5.9
TOTAL RESPONSES	1247	100.0

Table 11 indicated that 40.3 percent of the student respondents recorded parents had the greatest influence on their choice of subject, 26.5 percent were influenced by their home science teacher, and 16.2 percent were influenced by their friends. The career teacher (11.1%) and the head teacher (5.9%) had the least influence on subject choice. These results suggested that parents were more influential in

subject choices. The results on Table 11 further suggested that the home science teacher played a major role in subject choices.

After finding out that parents had the greatest influence in subject choice, it was necessary to know the role of parents in subject choice. In Table 12, the roles that most parents played were that of advicing (51.7%), offering encouragement (30.5%) and contributing finances for certain expenses on home science (4.4%)

TABLE 12

Number and Percentage of Student Respondents by Role of Parents in Subject Choice.

Role	No. of Students (N = 866)	Percentage
Advice on Importance	463	51.7
Offered Encouragement	273	30.5
Does not have a say	120	13.4
Contributes Finances Only	39	4.4
TOTAL RESPONSES	895	100.0

Among the student respondents, 13.4 percent indicated that their parents did not have a say in their subject choice. These results justifies an earlier observation in this chapter that parents should participate in curriculum planning.

Reasons for Studying Home Science. Home science students were asked to give reasons why they studied home science. Table 13 provides the summary of the reasons given and the percentages of students responding.

TABLE 13

Distribution of Student Respondents by Reasons for Studying Home Science

Reasons	No. of Students (N = 866)	Percentage
Liked the subject	477	38.0
Personal conviction	381	30.4
Professional Occupation/wage	141	11.2
Good Examination Results	107	8.5
Choice Between Sciences	80	6.4
Not good in Science	69	5.5
TOTAL RESPONSES	1255	100.0

Examination of Table 14 revealed that students studied home science because they liked it (38%) and because of their own conviction (30.4%). Some students studied home science because of potential professional occupation or wage earning (11.2%). Table 13 further indicates that 6.4 percent of the students studied home science because they had to choose between home science and other science subjects, whereas 5.5 percent enrolled in home science because they were not good in other science

subjects. This meant that if they studied home science, they had to opt out of other science subjects. However, about nine percent of the students choose to study home science because of good examination results. These findings suggested that students studied home science for varied reasons.

Attitude of Students Towards Home Science. Students were asked the following three questions to find out their attitude towards home science as a subject: (1) With the knowledge you have about home science, would you advice a friend to study the subject? (2) Do you share with your friends what you have learnt in home science? (3) Taking into account what you know about home science, would you still choose to study the subject in future? Student responses varied as shown in Figure 3.

From Figure 3, it appears that the majority of the student respondents had a positive attitude towards home science as a subject. For instance, 80 percent would advice their friends to study home science, 82 percent would share with their friends what they have learnt in home science and 76 percent recorded that they would pursue home science in future if given the opportunity. Less than 10 percent of the students had a negative attitude toward home science as a subject.

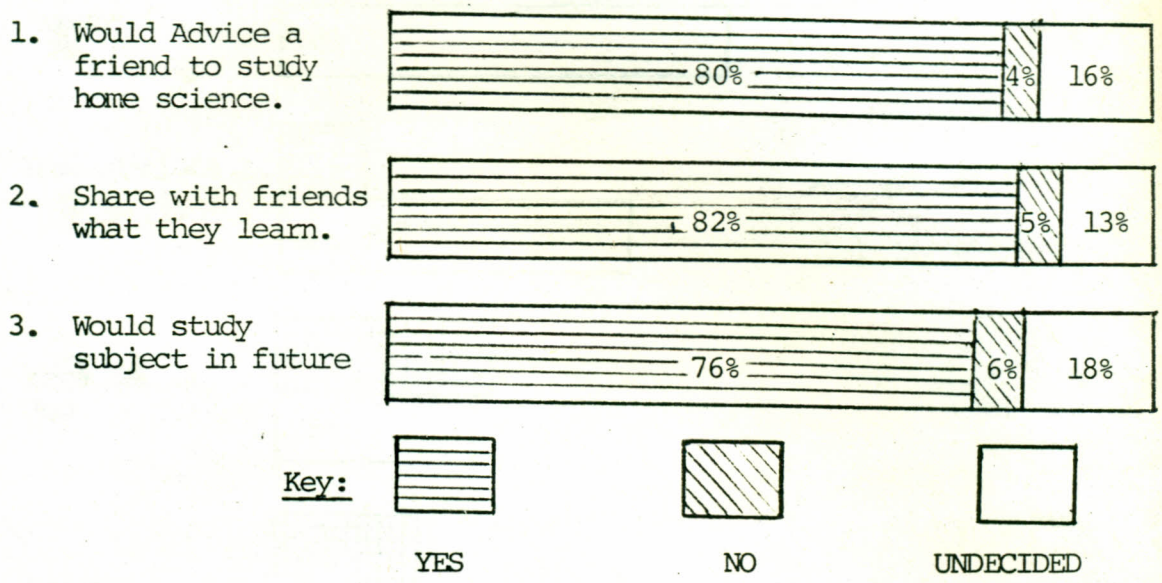


Figure 3. Students Attitude Towards Home Science as a subject.

What does the Present Curriculum Prepare Students for? The teacher and student respondents were asked to record what they perceived was the purpose for which the present curriculum prepared the students. It was necessary to ask what the respondents thought was the major aim of teaching home science as this would be indicated by the type of preparation given to students. Figure 4 showed their varied perceptions.

It was noted from Figure 4 that 58 percent of the student respondents and 74 percent of the teacher respondents perceived the present curriculum as preparing students for homemaking. Teachers on one hand, rated wage earning (28%) next to homemaking followed

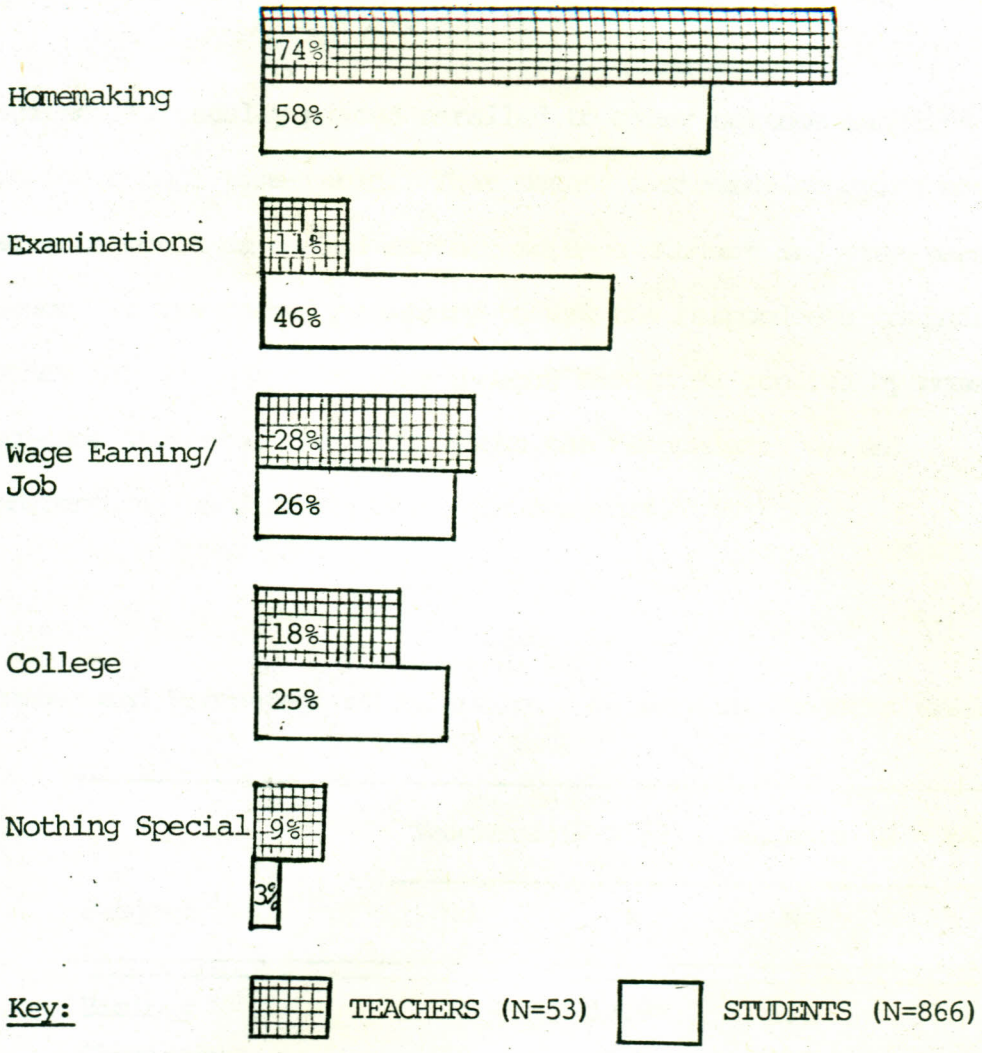


Figure 4. Preparation of students as perceived by Home Science Teachers and Students.

by college (18%). Students, on the other hand, rated examinations (46%) as next to homemaking followed by wage earning (26). These findings suggested that teachers and students differed in their perceptions of the present curriculum regarding student preparations. They, however, in general agreed that the present curriculum mostly prepared students for homemaking.

Respondents Perceptions on Other Science Subjects. Home

science is usually placed paralled to other science subjects on the school time-table. That means, a student studying home science would be denied another science subject and vice-versa. Hence, it was deemed necessary to ask the respondents to indicate other science subjects they thought should be studied by home science students. Table 14 shows the respondents varied preferences on different science subjects.

TABLE 14

Number and Percentage of Respondents by Science Subjects Preferred.

	Teachers (N = 53)		Students (N = 866)	
Subject	No	%	No	%
Biology	21	17.9	664	37.6
Chemistry	38	32.9	403	22.9
Maths	18	15.4	379	21.5
Physical Science	1	0.9	207	11.7
Physics	39	33.3	111	6.3
TOTAL RESPONSES	117	100	1764	100

The results on Table 14 revealed that about 33 percent of teacher respondents chose physics and 32 percent chose chemistry as two major science subjects that should be studied alongside home science. Students, on the other hand, chose biology (37.6%) and chemistry (22.9%). Since home science means

application of science principles in the home to solve problems, home science students need to have a strong science background. Thus, Table 14 revealed that both teachers and students would like to see opportunities given to home science students to study other science subjects.

Ranking of Home Science Courses. Data was analyzed to compare how each group of respondents ranked home science courses for their usefulness. Special reference was given to the student and community needs as this was one of the major course objectives. The course that was perceived as the most useful to the student was ranked one (1), the next in usefulness was ranked two (2) and so on.

The summary on course ranking shown in Table 15 indicated that home management was ranked first in usefulness by teachers but ranked second by students. The student respondents ranked combination of all courses as first in usefulness follwed by home management. Both groups ranked foods and nutrition third, followed by clothing and textiles and science in the home, as fifth. These rankings appear to indicate that all home science courses were perceived by respondents as useful but if one were asked to select one course, then home management would be favoured as the most useful of all the home science courses. The reason for favouring home management could be due to the fact that, home management covers content from all the other home science courses.

TABLE 15

Respondents' Ranking of Courses in Order of Usefulness

Course	Teachers Ranking (N = 53)								Students Ranking (N = 866)							
	1	2	3	4	5	6	0	Total	1	2	3	4	5	6	0	Total
Home Management	21	8	5	2	1	-	16	53	196	203	127	105	19	-	216	866
All Courses Useful	15	-	1	-	11	-	26	53	226	37	66	49	226	-	262	866
Foods and Nutrition	9	15	11	4	-	-	14	53	185	153	187	123	2	-	206	866
Clothing & Textiles	7	13	13	6	-	-	14	53	119	135	190	188	14	-	220	866
Science in the Home	3	2	7	25	2	-	14	53	38	78	175	338	17	-	220	866
Family Life Education	27	10	12	2	2	-	-	53	369	178	169	62	33	2	52	866
Child Development	10	19	15	5	4	-	-	53	140	327	208	106	52	-	33	866
Consumer Education	10	18	14	6	5	-	-	53	151	172	221	128	134	3	50	866
Housing and Home Furn.	3	4	6	20	14	2	4	53	110	81	160	279	185	6	45	866
Household Equipment	-	1	7	17	28	-	-	53	58	89	129	247	302	4	37	866

In ranking the courses not taught extensively but are useful, Table 15 indicated that family life education was ranked first by both teachers and students. Teachers ranked child development second, consumer education in third place and housing and furnishings, and household equipment in fourth and fifth places respectively. Students, on the other hand, ranked consumer education second, child development third and the fourth and fifth places were the same as the teachers' rankings. These results indicated that students and teachers were almost in agreement in their order of ranking home science courses in their order of usefulness to the student. This was further verified when the results were subjected to the Spearman's Rank Order Correlation.

It was first assumed that the teacher and student ranking were independent on each other. Each set of scores were placed in a rank order, with the highest score having a rank of 1. To test the null hypothesis that there was no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness, Spearman's rank difference correlation method (rho) was employed between the rank orders of sample groups.

$$\text{rho} = 1 - \frac{6 \leqslant d^2}{N(N^2 - 1)}$$

Where

Σd^2 = Sum of the squared differences between ranks

N = Number of pairs of measurement

X = Teachers ranking

Y = Students ranking

A more specific breakdown in the computation of Spearman's rank difference correlation is shown in Table 16.

TABLE 16

Spearman's Coefficient of Agreement (rho/r_s)

Subject	X	Y	d=x-y	d^2
Home Management	1	2	-1	1
Foods & Nutrition	3	3	0	0
Clothing & Textiles	4	4	0	0
Science in Home	5	5	0	0
All useful	2	1	+1	1
Consumer Education	3	2	+1	1
Family Life Education	1	1	0	0
Child Development	2	3	-1	1
Household Equipment	5	5	0	0
House & Home Furn.	4	4	0	0

° Computed rho from the data was 0.90.

° Critical value or Table value of rho at P< .05 level for N = 5 was found to be 0.9.

The results presented on Tables 15 and 16 showed that the teachers and students agreed in their order of ranking home science courses for their usefulness. In other words, the first null hypothesis ... There is no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness ... was accepted. Hence, both teachers and students perceived home management and family life education as the most useful courses in the secondary school curriculum because of their multi-aspect nature in content.

Assessment of Curriculum Components by Respondents

In evaluating the home science curriculum, attention was focused on different curriculum components and items. Data in this section was, therefore, analyzed to show how respondents rated each of the curriculum components. The curriculum components rated were:-

A - General aims of home science

B - Balance in the curriculum

C - Objectives of the curriculum

D - Curriculum content

E - Learning activities

F - Examinations

G - Curriculum construction.

Respondents were asked to rate the specific curriculum items

under each curriculum component in a slanting five point Degree of Satisfaction (DS) scale. The curriculum items were rated as being present to a:-

Very Satisfactory Degree	-	4 points	(Ms 3.50 - 4.00)
Satisfactory Degree	-	3 points	(Ms 2.50 - 3.49)
Unsatisfactory Degree	-	2 points	(Ms 1.50 - 2.49)
Very Unsatisfactory Degree	-	1 point	(Ms 0.50 - 1.49)
Not Present	-	o	(Ms 0.0 - 0.49)
No Rating Shown	-	9	

By rating a curriculum item as being present to a very satisfactory degree, a respondent indicated that, that specific item was being achieved or met in the curriculum. Likewise, rating a curriculum item as not present indicated that, that specific item was non-existent in the present high school home science curriculum.

The summary ratings and mean scores of specific curriculum items by the teachers and students are presented under each curriculum component.

General Aims of Home Science.

The general aims of teaching home science are; to develop personal qualities, intellectual development, aesthetic

appreciation, meet the needs of adolescents, students future needs and to acquire necessary skills and knowledge. Teachers and students alike were asked to assess the present curriculum in view of its general aims. The summary ratings of different aims are presented on Table 17.

Examination of Table 17 revealed that the teacher respondents rated most general aims as being achieved to a satisfactory degree. These aims include, development of personal qualities ($\underline{M}$ = 2.68), development of aesthetic appreciation ($\underline{M}$ = 2.98), meeting students' future needs ($\underline{M}$ = 2.89) and development of necessary skills and knowledge ($\underline{M}$ = 3.07). Teachers rated two aims as being unsatisfactorily achieved. These aims were; intellectual development ($\underline{M}$ = 2.49) and catering for the needs of adolescents ($\underline{M}$ = 2.48). The students, on the other hand, rated five aims as being achieved to a satisfactory degreee. These were development of personal qualities ($\underline{M}$ = 2.54), intellectual development ($\underline{M}$ = 2.60), needs of adolescents ($\underline{M}$ = 3.14), students future needs ($\underline{M}$ = 3.34) and necessary skills and knowledge ($\underline{M}$ = 2.54). Students perceived one aim as being unsatisfactorily achieved. This was development of aesthetic appreciation ($\underline{M}$ = 2.06).

The results indicated that teachers' and students' perceptions on the general aims of teaching home science differed especially on three specific items. Teachers, on one

TABLE 17

Respondents Mean Ratings on General Aims of Home Sciences

General Aims	% Frequency Distributions							
	4	3	2	1	0	9	%	Mean
Teachers (N = 53)								
1. Development of personal qualities	20.0	37.0	25.5	11.9	4.0	1.6	100	2.68
2. Intellectual Development	17.0	33.0	22.0	16.7	9.4	1.9	100	2.44
3. Development of aesthetic appreciation	33.0	41.0	18.0	5.0	3.0	0	100	2.98
4. Cater for Needs of Adolecents	17.5	33.0	30.2	14.6	4.3	0.4	100	2.48
5. Meet students future needs	32.7	32.7	25.8	8.2	0.6	0	100	2.89
6. Necessary Skills and Knowledge	38.2	38.2	17.5	5.2	0.9	0	100	3.07
Students (N = 866)								
1. Development of personal qualities	31.2	25.3	11.9	10.8	18.8	2.0	100	2.54
2. Intellectual development	33.7	22.3	11.1	10.6	19.5	2.8	100	2.60
3. Development of aesthetic appreciation	19.0	22.8	17.8	14.7	23.7	2.0	100	2.06
4. Cater for needs of adolescents	51.0	21.7	8.3	6.9	9.4	2.7	100	3.14
5. Meet students future needs	39.5	27.7	13.3	8.9	4.1	6.5	100	3.34
6. Necessary skills and knowledge	20.8	26.1	17.9	12.9	16.5	5.8	100	2.54

hand, felt that the present curriculum does not meet the intellectual development and needs of adolescents adequately. The students, on the other hand, perceived these aims as being achieved satisfactorily. Another difference was that the majority of the students felt that the present curriculum offered the development of aesthetic appreciation to an unsatisfactory degree whereas, the teachers seemed to be satisfied with this particular aim. These results revealed that students interests, values and experiences are different from the teachers. Hence, the students' ratings differed from the teachers in the items indicated.

Balance in Curriculum Offerings

Home science in secondary school level serves the triple purposes of educating for home and family, for personal development and for professional work. Home science teachers and students rated the above items low, thus indicating their dissatisfaction on the balance in the present curriculum offerings. Table 18 shows the details on the summary of their ratings.

The teachers' mean ratings for the six items were 2.57, 1.17, 1.19, 2.30, 1.62, and 1.34 respectively. These ratings were very low or unsatisfactory except for the first item ... that each course contributes to the students education for home and family ($\underline{M}$ = 2.57). The students ratings, on the other hand, were slightly higher than the teachers. The students'

TABLE 18

Respondents Mean Ratings on Balance in Curriculum Offerings.

Curriculum Item	% Frequency Distributions							
	4	3	2	1	0	9	%	Mean
Teachers (N = 53)								
1. Ed. for Home & Family	22.6	26.4	28.3	13.2	7.5	1.9	100	2.57
2. Courses Open to all	9.4	11.3	15.1	15.1	49.1	0.0	100	1.17
3. All Students encouraged	9.4	13.2	11.3	18.9	47.2	0.0	100	1.19
4. Students Personal Development	13.2	22.6	26.4	22.6	11.3	3.8	100	2.30
5. Prep. for Professional Work	5.7	15.1	26.4	24.5	26.4	1.9	100	1.62
6. Service Courses	1.9	17.0	18.9	37.7	24.5	0.0	100	1.34
Students (N = 866)								
1. Ed. for home and family	27.6	23.3	16.6	10.4	13.0	6.7	100	2.78
2. Courses open to all	25.4	27.0	17.0	13.2	10.2	7.3	100	2.77
3. All students encouraged	24.4	26.3	17.2	8.3	6.5	17.2	100	3.49
4. Students personal development	17.0	23.7	18.4	16.1	21.9	3.0	100	2.18
5. Prep. for professional work	17.3	22.1	16 6	19.5	19.4	5.1	100	2.34
6. Service Courses	13.3	21.4	18.9	18.8	17.2	10.4	100	2.67

mean ratings for the six items were 2.78, 2.77, 3.69, 2.18, 2.34, and 2.67 respectively. The students rated the item ..."All students are encouraged to study home science" ... higher (M = 3.49) than the other items.

The findings on Table 18 indicated that both teachers and students perceived the present curriculum offerings as unbalanced especially in fostering students personal development (Ms = 2.30 and 2.18, respectively), and in preparation for professional work (Ms = 1.62 and 2.34, respectively). Both categories of respondents also perceived the present courses as contributing satisfactorily to the students education for home and family.

Objectives of the Curriculum. In evaluating home science curriculum, attention should be focused on the objectives of the curriculum. These may include bases used in determining the objectives and the use of curriculum objectives in planning instruction. Hence, home science teachers and students were asked to rate different curriculum items that would portray their perceptions towards the objectives of the curriculum. Table 19 indicates the summary ratings on the objectives of the curriculum, the last column showing the mean ratings.

The highest mean rating by teacher respondents include the curriculum item that the objectives are accepted by teachers (M = 2.70). Moderately low ratings expressing the teachers'

TABLE 19

Respondents Mean Ratings on Objectives of the Curriculum

Curriculum Items	% Frequency Distributions							
	4	3	2	1	0	9	%	Mean
Teachers N = 53								
1. Relevance to Students needs	11.3	22.6	17.0	39.6	9.4	0.0	100	1.87
2. Relevance to Needs of Society	7.5	18.9	34.0	24.5	15.1	0.0	100	1.79
3. Consideration of Resources	1.9	17.0	30.2	26.4	24.5	0.0	100	1.45
4. Objectives & Students Behaviour	3.8	24.5	45.3	17.0	3.8	5.7	100	2.47
5. Objectives accepted by teachers	3.8	22.6	41.5	18.9	3.8	9.4	100	2.70
6. Objectives accepted by students	1.9	7.5	50.9	24.5	5.7	9.4	100	2.42
7. Objectives easily achieved	1.9	11.3	52.8	22.6	3.8	7.5	100	2.38
Students (N = 866)								
1. Relevance to students needs	22.1	28.2	12.0	10.4	14.7	12.7	100	3.2
2. Relevance to needs of society	18.6	23.4	20.0	7.7	20.8	9.5	100	2.78
3. Consideration of Resources	18.4	20.8	14.7	10.4	21.6	14.2	100	3.03
4. Objectives & Student Behabiour	34.3	26.4	11.4	5.8	15.1	6.9	100	3.07
5. Objectives accepted by Teachers	25.5	25.6	13.7	12.5	16.5	6.1	100	2.74
6. Objectives accepted by Students	12.6	27.4	21.4	21.1	717	9.8	100	2.85
7. Objectives easily achieved	16.9	24.0	17.1	20.3	10.7	11.0	100	2.93

dissatisfaction of curriculum objectives, were recorded for the following items; relevance to students needs ($\underline{M}$ = 1.87), relevance to the needs of society ($\underline{M}$ = 1.79), and the objectives are easily achieved ($\underline{M}$ = 2.38). Teachers, however rated one item as being very unsatisfactorily achieved. The item that consideration is given to the resources available in the schools for attaining the objectives was rated very low ($\underline{M}$ = 1.45).

Moderately high ratings were recorded in the student ratings for the following items; relevance to students' needs ($\underline{M}$ = 3.2); relevance to societal needs ($\underline{M}$ = 2.78); consideration of resources ($\underline{M}$ = 3.03); and objectives accepted by students ($\underline{M}$ = 2.85).

These findings indicated that teachers and students differed in their perceptions towards curriculum objectives. Generally, the teacher respondents perceived the curriculum as meeting the objectives to an unsatisfactory degree whereas the student respondents perceived the curriculum objectives as being achieved to a satisfactory degree. The difference in their perceptions could be due to their varied experiences and interests.

Curriculum Content. In evaluating the home science curriculum, one needs to look at the selection and organization of content. In the past, more emphasis has been placed on factual content achievement with complete disregard for processes of learning or for objectives. This has had a tendency to produce

TABLE 20

Respondents Mean Ratings on Curriculum Content

Curriculum Items	% Frequency Distributions							
	4	3	2	1	0	9	&	Mean
Teacher (N = 53)								
1. Motivates Further studies	9.4	41.5	32.1	11.3	5.7	0.0	100	2.38
2. Content related to students	11.3	24.5	32.1	17.0	13.2	1.9	100	2.17
3. Content & Transfer of Knowledge	24.5	32.1	28.1	9.4	0.0	5.7	100	3.11
4. Content & Fund. Principles	20.8	26.4	35.8	9.4	3.8	0.0	100	2.77
5. Content upto date	9.4	24.5	24.5	24.5	15.1	1.9	100	2.02
6. Content & Persistent Themes	5.7	28.3	37.7	13.2	11.3	3.8	100	2.30
7. Content & Local Needs	0.0	37.7	24.5	9.4	22.6	5.7	100	2.23
8. Content & Family Life	9.4	47.2	30.2	5.7	3.8	3.8	100	2.79
9. Content & National Goals	1.9	28.3	22.6	32.1	13.2	1.9	100	1.87
Students (N = 866)								
1. Motivates further studies	17.4	21.8	18.7	15.1	19.5	7.4	100	2.54
2. Content related to student	10.2	25.4	19.9	10.3	21.6	12.7	100	2.81
3. Content & Transfer of knowledge	21.5	26.3	17.3	22.1	9.6	3.2	100	2.51
4. Content & Fund. Principles	38.9	27.3	9.7	18.5	2.8	2.9	100	3.01
5. Content upto date	16.4	26.8	16.2	22.6	14.3	3.7	100	2.34
6. Content & Persistent Themes	27.3	26.8	14.4	4.7	21.8	5.0	100	2.68
7. Content & Local needs	27.4	30.3	13.5	5.7	18.5	4.7	100	2.75
8. Content & Family Life	29.7	27.3	12.6	6.0	19.4	5.1	100	2.77
9. Content & National Goals	22.5	26.9	15.4	8.4	24.0	2.8	100	2.35

rigid lesson plans and a sterile curriculum. It was, therefore, deemed necessary to find out the perception of both teachers and students towards the curriculum content. The summary of the ratings and mean scores on curriculum content is shown in Table 20.

The findings as indicated in Table 20 revealed that the teachers rated three items as being achieved to a satisfactory degree. These items were; content facilitates transfer of knowledge ($\underline{M}$ = 3.11); content emphasizes basic concepts and fundamental principles ($\underline{M}$ = 2.77) and content emphasizes basic skills in maintaining a successful family life ($\underline{M}$ = 2.79). The teacher respondents had moderately low ratings for the rest of the curriculum items. Some of these items were; motivates further studies ($\underline{M}$ = 2.38), content is related to the students ($\underline{M}$ = 2.17); content is upto date ($\underline{M}$ = 2.02); content is related to local needs ($\underline{M}$ = 2.23); and content is concerned with national values and goals ($\underline{M}$ = 1.87).

The students, on the other hand, rated most of the items as being achieved to a satisfactory degree. Their mean scores were as follows; motivates further studies ($\underline{M}$ = 2.54); content is related to the student ($\underline{M}$ = 2.81); content emphasizes basic concepts and fundamental principles ($\underline{M}$ = 3.01), content is related to local needs ($\underline{M}$ = 2.75); and content emphasizes basic skills in maintaining family life ($\underline{M}$ = 2.77). The students, however, rated two items as being unsatisfactorily achieved.

These included; content is upto date ($\underline{M}$ = 2.34) and content is concerned with national values and goals ($\underline{M}$ = 2.35).

These results indicated that both teachers and students statistically agreed on two major items related to the curriculum content. These were that the present curriculum content is not upto date and that the content does not place adequate emphasis on the national values and goals. Inspection of the other curriculum items related to content showed that both teachers and students, respectively, varied very slightly in their perceptions as recorded in their mean scores.

Learning Activities. The selection and organization of learning activities is another very important element in home science curriculum. This is due to the fact that the means of reaching the course objectives lies in the selection and organization of the learning activities not in the choice of content alone. Both teachers and students respondents were asked to rate different curriculum items related to the learning activities. Table 21 indicates the summary ratings on the learning activities, the last column showing the mean scores.

The results revealed that teachers rated only two items as being achieved to a satisfactory degree. These were; learning activities are appropriate to students ($\underline{M}$ = 2.76) and that learning activities are related to content and objectives ($\underline{M}$ = 2.53). Teachers, however, rated five curriculum items

TABLE 21

Respondents Mean Ratings on Learning Activities

Curriculum Items	% Frequency Distributions							
	4	3	2	1	0	9	%	Mean
1. Students Practice Objectives	1.9	48.1	37.7	9.4	1.9	0.0	100	2.40
2. Appropriate to students	20.8	35.8	30.2	7.5	3.8	1.9	100	2.76
3. Active student participation	17.0	37.7	26.4	13.2	5.7	0.0	100	2.47
4. Difference in Students	9.4	26.4	32.1	11.3	20.8	0.0	100	1.93
5. Reinforcement	15.1	22.6	39.6	20.8	1.9	0.0	100	2.28
6. Learning Activities & Content	13.2	45.3	26.4	11.3	3.8	0.0	100	2.53
7. Opportunities outside school	20.8	24.5	32.1	11.3	11.3	0.0	100	2.32
Students (N = 866)								
1. Students Practice Objectives	19.5	24.6	16.7	9.0	22.5	7.6	100	2.63
2. Appropriate to students	16.6	31.5	17.1	6.4	20.1	8.3	100	2.76
3. Active student participation	49.2	17.0	6.7	5.9	19.3	2.0	100	2.85
4. Difference in students	13.9	27.4	19.5	8.3	25.8	5.2	100	2.31
5. Reinforçement	24.2	24.4	14.9	9.1	20.3	7.1	100	2.73
6. Learning activities & content	21.0	23.4	17.6	10.3	21.7	6.0	100	2.54
7. Opportunities outside school	11.7	18.4	19.9	13.2	33.7	3.2	100	1.84

as being unsatisfactorily achieved. The mean scores of the items were as follows; students practice behavior stated in the objectives (M = 2.40); involves a high degree of active student participation (M = 2.47); considers the difference in student's needs and interests (M = 1.93); provides continuity in reinforcement of learning (M = 2.28) and opportunities for students to apply knowledge outside the school (M = 2.32).

The students perceived learning activities as satisfactory for most items. These included; students practice objectives (M = 2.63); learning activities are appropriate to the students (M = 2.76); provides continuity in reinforcement of learning (M = 2.73); and that learning activities are related to content (M = 2.54). The students, however, rated two items as being unsatisfactorily achieved. These were; considers the difference in students' needs and interests (M = 2.31) and that it provides opportunities for students to apply knowledge outside the school (M = 1.84).

It is revealed on Table 21 that the students and teachers alike perceived the present curriculum as not considering the difference in students' backgrounds. Both categories of respondents also agreed to the fact that learning activities do not necessarily provide opportunities for students to apply what they learn to life outside the school. In the other items, teachers and students portrayed some variations as shown in their mean scores.

The student respondents showed more interest (higher mean scores) in most of the curriculum items on learning activities. The teachers, on the other hand, had lower mean scores, thus indicating their disatisfaction on the learning activities.

Examinations. One other element in home science curriculum is the way of measuring the extent to which the learning has been acquired. In Kenya, this takes the form of national examinations that are set up by the Kenya National Examinations Council. Home science teachers and students were asked to rate different curriculum items inorder to find out their perceptions towards the national examinations. Table 22 indicated the summary ratings on examinations, the last column showing the mean scores.

Table 22 revealed that teachers identified two curriculum items as being achieved to a satisfactory degree as indicated by their mean scores. These were; examination, results are used in planning instruction for improvement ($\underline{M}$ = 2.57) and that results are communicated to the schools ($\underline{M}$ = 2.51). Further examination of Table 22 revealed that, for the most part, the teachers rated curriculum items as being unsatisfactorily achieved. The means for the six items as shown on Table 22 were 2.25, 2.23, 2.13, 1.70, 1.89 and 1.62, respectively.

Students rated six items as being achieved to a satisfactory degree as revealed by the mean scores on Table 22. These were as follows; curriculum is measured in terms of changes taking place

TABLE 22

Respondents Mean Ratings on Examinations

Curriculum Items	% Frequency Distributions							
	4	3	2	1	0	9	%	Mean
1. Changes in Students	3.8	22.6	37.7	15.1	15.1	5.7	100	2.25
2. Reference to all objectives	7.5	20.8	37.7	20.8	9.4	3.8	100	2.23
3. Validity & Reliability	9.4	18.9	35.8	13.2	18.9	3.8	100	2.13
4. Frexibility & Local situations	3.8	15.1	30.2	15.1	32.1	3.8	100	1.70
5. Teachers & Student Participation	1.9	17.0	28.3	22.6	24.5	5.7	100	1.89
6. Plan. Instruction for Improvement	7.5	15.1	34.0	28.3	5.7	9.4	100	2.57
7. Communication to schools	28.3	28.3	13.2	9.4	18.9	1.9	100	2.51
8. Results for Future Improvement	15.1	9.4	17.0	22.6	34.0	1.9	100	1.62
Students (N = 866)								
1. Changes in students	33.1	22.6	13.5	5.5	21.5	3.9	100	2.68
2. Reference to all objectives	37.9	22.7	9.5	4.7	19.5	5.7	100	2.94
3. Validity & Reliability	25.1	22.6	11.8	8.0	26.9	5.7	100	2.51
4. Flexibility & Local Situations	30.0	17.3	11.4	8.9	28.8	3.6	100	2.36
5. Teachers & Student Participation	13.4	20.7	19.5	8.2	29.9	8.3	100	2.38
6. Plan. Instruction for Improvement	12.4	24.0	21.2	11.1	20.4	10.9	100	2.73
7. Communication to schools	22.5	23.2	16.5	7.4	21.8	8.5	100	2.77
8. Results for future improvement	26.4	23.8	11.9	8.1	21.7	8.1	100	2.82

in students ($\underline{M}$ = 2.68); examinations are set with reference to all the objectives ($\underline{M}$ = 2.94); methods of examinations are valid and reliable ($\underline{M}$ = 2.51), examination results are used in planning instruction for improvement ($\underline{M}$ = 2.77); and that weaknesses in examinations are pointed out for future improvement ($\underline{M}$ = 2.82). Students, however, rated two items as being unsatisfactorily achieved. These were; examinations are flexible and considers local situations ($\underline{M}$ = 2.36) and that students and teachers participate in assessing examination results ($\underline{M}$ = 2.38).

On the average, both teachers and students perceived that the examinations are not flexible and does not consider local situations ($\underline{M}$ = 1.70 & 2.36, respectively). They also agreed on the fact that teachers and students do not participate in collecting evidence of curriculum effectiveness through examination results ($\underline{M}$ = 1.89 & 2.38, respectively). The students had higher mean scores than the teachers in the rest of the curriculum items related to the examinations. This may possibly mean that the students were more satisfied with the examinations than the teachers.

Curriculum Construction. In assessing the home science curriculum, attention should be given to curriculum construction. The question that may arise here is that, who should be responsible for curriculum construction? Table 23 shows the summary of mean ratings on curriculum construction.

TABLE 23

Respondents Mean Ratings on Curriculum Construction.

Curriculum Item	% Frequency Distributions							
	4	3	2	1	0	9	%	Mean
1. Needs & Develop. Tasks	5.7	18.9	28.3	18.9	22.6	5.7	100	2.06
2. Curriculum Effectiveness	1.9	9.4	47.2	18.9	15.1	7.5	100	2.17
3. Respect of Teachers, Students and admin.	0.0	15.1	26.4	26.4	20.8	11.3	100	2.26
4. Teachers work together	0.0	7.5	24.5	28.3	35.8	3.8	100	1.34
5. Help of students enlisted	1.9	5.7	11.3	15.1	64.2	1.9	100	0.79
6. Help of former students	1.9	3.8	13.2	17.0	60.4	3.8	100	0.96
Students (N = 866)								
1. Needs & Develop. Tasks	19.5	23.7	13.2	12.4	28.8	2.5	100	2.11
2. Curriculum Effectiveness	14.4	20.0	15.2	14.1	34.1	2.2	100	1.62
3. Respect of Teachers, Students & Admin.	25.2	27.4	20.1	8.9	8.4	10.0	100	3.22
4. Teachers Work Together	29.9	29.2	14.5	9.3	7.4	9.7	100	3.33
5. Help of Students Enlisted	22.5	27.6	16.3	14.5	15.2	3.8	100	2.54
6. Help of Former Students	16.6	23.1	19.0	15.7	22.2	3.4	100	2.20

The mean scores show that teachers rated three items as being unsatisfactorily met. These included, the needs and developmental tasks ($\underline{M}$ = 2.06); curriculum effectiveness and revisions ($\underline{M}$ = 2.17); and respect for teachers, administrators and students ($\underline{M}$ = 2.26). The teachers also rated three items as being very unsatisfactorily met. These included; home science teachers work together in curriculum construction ($\underline{M}$ = 1.34); help of students is enlisted in curriculum construction ($\underline{M}$ = 0.79); and help of former students is enlisted in curriculum construction ($\underline{M}$ = 0.96).

The students, on the other hand, rated three curriculum items as being achieved to a satisfactory degree. These included, home science teachers work together in curriculum construction ($\underline{M}$ = 3.33); respect for teachers, administrators and students ($\underline{M}$ = 3.22); and help of students enlisted in curriculum construction ($\underline{M}$ = 2.54). The students, however, rated three items as being achieved to an unsatisfactory degree. These included, the needs and developmental tasks ($\underline{M}$ = 2.11); curriculum effectiveness ($\underline{M}$ = 1.62) and help of former students is enlisted in curriculum construction ($\underline{M}$ = 2.20).

The difference in the teachers and students' ratings could be attributed to their varied experiences and interests. Nevertheless, the results indicated that for the most part, the perceptions of teachers and students toward curriculum construction were negative (low mean scores). For instance, both

categories of respondents indicated that the help of students, whether present or former students, was not enlisted in curriculum construction. Both groups agreed on the fact that curriculum committee seemed to be unaware of the needs and developmental tasks of individual learners.

Differences between the teachers and student means.

The t test was computed for all the curriculum items rated. The purpose of computing the t test was to find the difference between the mean ratings of teacher and student respondents by determining the significant differences in their mean scores. The null hypothesis tested was that there would be no significant difference in the mean scores of teachers and students in their ratings of curriculum items.

McCall (1975) gave for t test:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{(n_1 - 1)\ S_1^2 + (n_2 - 1) S_1^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Where $\bar{X}_1$ = teachers' mean score

$\bar{X}_2$ = students' mean score

n_1 = the number of ~~teachers~~

n_2 = the number of ~~students~~

TABLE 24

Comparison of Teachers' and Students' Means on Curriculum Items with Significant Values.

Curriculum Items	Teachers' Means (N = 53)		Students' Means (N = 866)		
	Mean	SD	Mean	SD	t-test
1. Development of aesthetic appreciation	2.95	0.83	2.06	1.60	4.16
2. Needs of Adolescents	2.48	1.83	3.14	1.95	-2.40
3. Courses open to all	1.17	1.40	2.77	1.72	-6.63
4. All Students encouraged	1.19	1.40	3.49	3.56	6.55
5. Preparation for professional work	1.62	1.58	2.34	2.06	-2.5
6. Service courses	1.34	1.09	2.67	2.50	-3.85
7. Relevance to student needs	1.87	1.21	3.20	3.56	3.75
8. Relevance to needs of society	1.79	1.15	2.78	2.43	-2.94
9. Consideration of resources	1.45	1.10	3.03	2.79	-4.10
10. Objectives and student behavior	2.47	1.83	3.07	2.13	-2.01
11. Content and transfer of knowledge	3.11	1.73	2.51	1.75	2.43
12. Reference to all objectives	2.23	1.72	2.36	2.06	-2.28
13. Flexibility and local situations	1.70	1.89	2.36	2.06	-3.65
14. Results for future improvement	1.62	1.77	2.82	2.35	-3.65
15. Curriculum effectiveness	2.17	2.17	1.62	1.82	2.11
16. Respect of teachers, students and Adm.	2.26	2.62	3.22	2.26	-2.97
17. Teachers work together	1.34	1.81	3.33	2.20	-6.45
18. Help of students enlisted	0.79	1.54	2.54	1.87	-6.67
19. Help of former students enlisted	0.96	1.88	2.20	1.89	-4.64

S_1 = standard Deviation of teacher's scores

S_2 = standard Deviations of student's scores.

The difference between teacher and student responses were examined by comparing the mean scores of the two groups on 49 curriculum items. Significant differences were found between student and teacher responses ($t = 1.96$, $p < .05$) in 19 out of a total of 49 curriculum items. This revealed that there was no significant difference between the perceptions of teachers and students on 30 curriculum items (see Tables 17 - 23 on pages 93 - 107). The items with significant values are presented in Table 24.

The study of the 19 curriculum items on Table 24 shows significant differences in that the teachers' mean scores were higher than the students' mean scores in three curriculum items. These were; development of aesthetic appreciation ($\bar{X}_1 = 2.95$, $\bar{X}_2 = 2.06$); content and transfer of knowledge ($\bar{X}_1 = 3.11$, $\bar{X}_2 = 2.51$) and curriculum effectiveness ($\bar{X}_1 = 2.17$, $\bar{X}_2 = 1.62$). The students' mean scores were higher than the teachers' mean scores in 16 curriculum items. The fact that 19 out of 49 curriculum items had significant differences showed that for the majority of the curriculum items the teachers and students did not statistically differ in their ratings. However, the second null hypothesis was partially rejected according to these findings. Hence the hypothesis HO (2), that there would be no significant difference in the

mean scores of teachers and students in their ratings of curriculum items was partially rejected.

A Profile of the teachers' and students' ratings on different curriculum components. Figure 5 gives the profile on how the different curriculum components were rated. From this profile and the above interpretations, it is noted that both teacher and student respondents agreed that most general aims of home science were being achieved to a satisfactory degree in the present curriculum. The two groups also agreed that the objectives related to curriculum construction were being unsatisfactorily achieved. When it comes to the other curriculum components, there were some marked differences between the students' and teachers' ratings. The teachers, on one hand, rated unsatisfactorily those items under; balance in curriculum, curriculum content, learning activities and examinations. The students, on the other hand, rated the curriculum components listed above as being achieved to a satisfactory degree. Further examination of Figure 5 revealed that the students gave higher ratings to most curriculum items whereas the teachers gave lower ratings to the majority of the items. Nevertheless, the ratings when all were considered together showed that the respondents perceived the present curriculum as achieving its general aims but when it came to specific objectives, these were perceived and rated as being achieved to an unsatisfactory degree. Hence, the attainment of specific curriculum objectives was questionable.

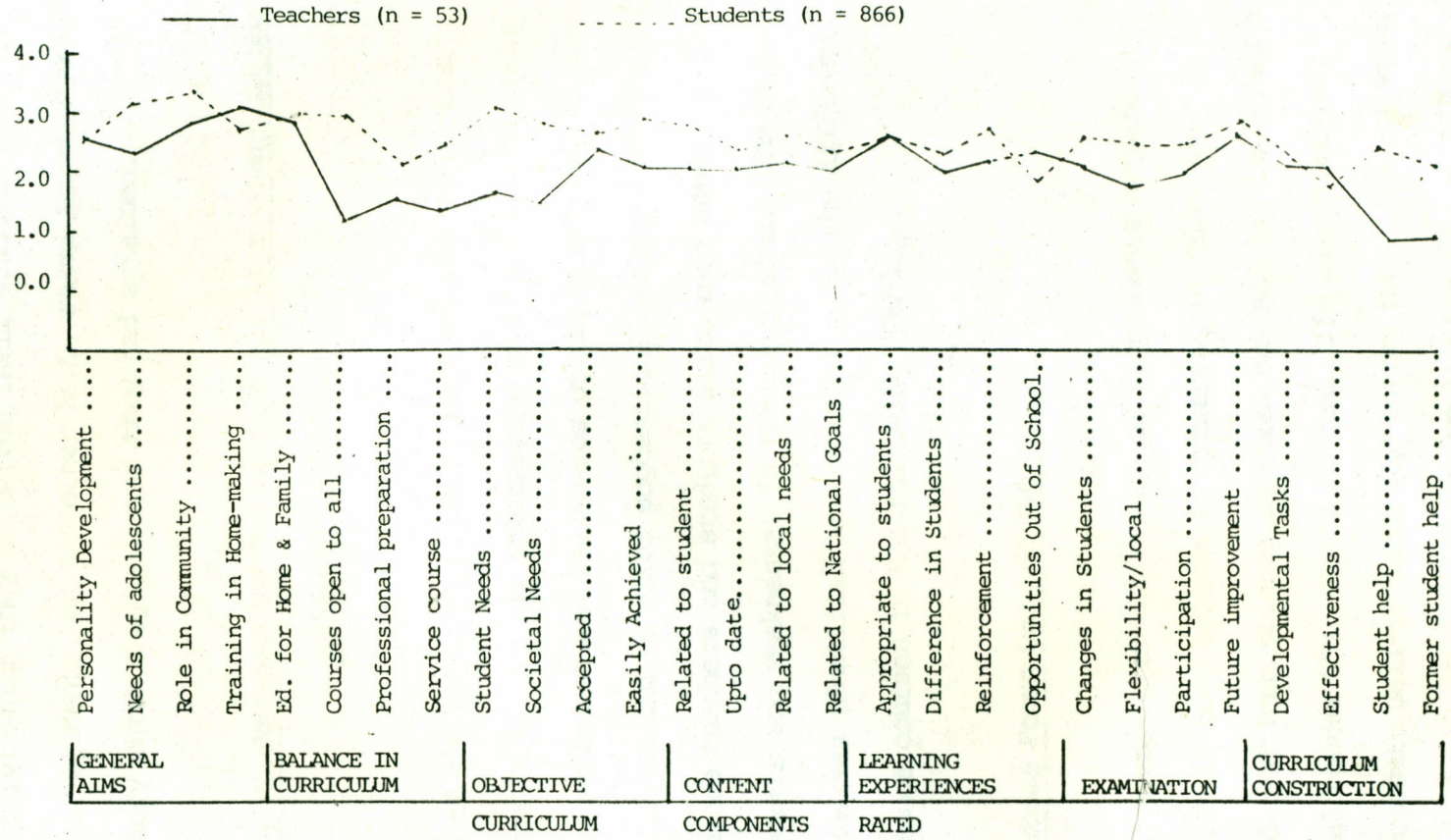


FIGURE 5
Profile of the Teachers and Students Rating
of Different Curriculum Compcnent

Moreover, teachers, on one hand, rated those objectives high (satisfactory) which they perceived their students were attaining. Students, on the other hand, rated those objectives satisfactory which they believed they had attained.

Strengths, Weaknesses and Suggestions for Improvement in Home Science Curriculum.

One of the major purposes of home science curriculum evaluation is to provide information to curriculum planners about the strengths and weaknesses of the curriculum in meeting it objectives, and to offer suggestions for its improvement. Home sceince teachers and students alike were asked to identify the strengths and weaknesses in the curriculum. The strengths and weaknesses identified are recorded under the different home science courses in the following Tables.

Home Science Forms One and Two

The number and percentage of respondents by strengths and weaknesses in home science is presented in Table 25. It is revealed that home science in forms one and two is valued as a general course that relate to real life situations and contributes to self-reliance and better home life. However, the respondents identified some weaknesses in the course. These include; insufficient practical work, crowded classes, and lack of relevant topics in gardening and consumer education.

TABLE 25

Number and Percentage of Respondents by Strengths and Weaknesses in Home Science Form 1 and 2

STATEMENTS	RESPONDENTS					
	Teachers (N=53)		Students (N= 866)		Total (N=919)	
	No.	(%)	No.	(%)	No.	(%)
Strengths:						
1. Broad coverage that makes it a useful general course	32	(60.4)	352	(40.6)	384	(41.8)
2. Fair assessment of course work	24	(45.3)	212	(24.5)	236	(25.7)
3. Relate to real life situations, contributes to self-reliance and better home life.	16	(30.2)	346	(40.0)	362	(39.4)
4. Students are receptive, keen and value the course.	11	(20.7)	271	(31.3)	282	(30.0)
Weaknesses:						
1. Student backgrounds differ yet syllabus favours urban schools.	38	(71.7)	519	(59.9)	557	(60.6)
2. Insufficient practical work due to lack of resources	22	(41.5)	231	(26.7)	253	(27.5)
3. Crowded classes, limited time and poor methods of teaching.	16	(30.2)	88	(10.2)	104	(11.3)
4. Relevant topics such as gardening and consumer educaiton are lacking in the syllabus.	5	(9.4)	75	(8.7)	80	(8.7)

Summary of Respondents' Suggestions for Improvement.

Respondents gave the following suggestions for improving home science in forms one and two:

- The syllabus should be made more specific and to include guidelines and adaptions or improvisations where necessary.
- Topics on home science careers should be included to assist students in making subject choices suitable to their future careers and expose them to their future prospects and occupational possibilities.
- Ecourage the students to have a positive attitude towards the subject and each student be considered as an individual who may have specific needs having come from varying backgrounds.
- Direct the approach in teaching to the community or local resources and needs.
- Teaching aids such as fabric samples, models or specimens should be sent to each school so that the students may get acquainted with different fabrics.
- Improvement of methods of teaching to enable one teacher to handle large classes efffectively especially in practicals.
- More emphasis be given to practical applications and students given opportunities to show their talents and originality in class projects and home assignments.

- Model houses, kitchens, and kitchen gardens could motivate more students in learning home science.
- More financial assistance for teaching home science. Adequately equipped laboratories, suitable textbooks and more resource material be provided for effective learning.

Home Management

The number and percentage of respondents by strenghts and weaknesses in home management is presented in Table 26. The strength of home management course lies in the fact that it combines all core areas in home science. It can also be easily adapted to the local conditions. Table 26 indicates that home management is also recognized for its contribution to improved standard of living and higher quality of life.

The respondents, however, identified some weaknesses in the home management course as indicated in Table 26. Among the weaknesses listed were; that the students' future needs especially for further studies in home management was not clearly stated; also the use of unfamiliar surfaces and examination questions that are not related to local resources was seen as a weakness in the course. Another major weakness noted was that home management is an elective course and a student taking the course could not take physical sciences.

TABLE 26

Number and Percentage of Respondents by Strengths and Weaknesses in Home Management

STATEMENTS	RESPONDENTS					
	Teachers (N=53)		Students (N=274)		TOTAL (N=327)	
	No.	(%)	No.	(%)	No.	(%)
Strengths:						
1. Good overall content that covers all core areas in home science.	21	(39.6)	140	(51.1)	161	(49.2)
2. Can be easily adapted to local situations	18	(34)	75	(27.4)	93	(28.4)
3. Useful subject in the development of self-reliance	14	(26.4)	119	(43.4)	133	(40.7)
4. Contributes to improved standard of living and a better quality of life.	6	(11.3)	46	(16.8)	52	(15.9)
Weaknesses:						
1. Inadequate facilities and limited resources	22	(41.5)	61	(22.3)	83	(25.4)
2. Students future needs especially for further studies in similar course not clearly stated	16	(30.2)	69	(25.2)	85	(26)
3. Use of unfamiliar materials, surface and foreign furniture fixtures	12	(22.6)	140	(51.1)	152	(46.5)
4. Limited opportunities for student enrollment	11	(20.8)	89	(32.5)	100	(30.6)
5. It is an elective course, students taking the courses could not study physical sciences.	9	(17.0)	93	(33.9)	102	(31.2)
6. Some examination items do not relate to local resources especially in practicals.	5	(9.4)	77	(28.1)	82	(25.1)

Summary of Respondents' Suggestions for Improvement.

Respondents gave the following suggestions for improving the home management course:

- Emphasis should be given to the use of local equipment materials and resources that are relevant to the students needs and their home situations.
- More facilities be made available so that many students, if not all, may be given opportunities to study the course and facilities for further studies be established.
- Strengthen practical work through field trips and educational tours. This will provide opportunities for students to gain first hand experiences in their local communities.
- Home-made kitchen and household equipment should be given more attention. Curriculum developers need to be more realistic and take a look at the kitchens in rural and urban homes and find out ways of improving them instead of transforming them to /alien and often /with /unaffordable equipment.
- The text books should be localized, appropriate, easy to read and understand. Many reference books are totally irrelevant to Kenyan way of life, particularly in the rural areas, these should be revised to include only appropriate references. Guidelines should also be given on suggested basic text books.
- Students should be allowed to study home management together with physical sciences.

- The syllabus should be updated and revised to include more of the present life experiences in urban and rural areas. There is too much stress on what most rural students may never come across in their life time.
- Topics in agriculutre, home nursing, household pests, consumer economics, family life education, gardening, home entertainment, use of leisure time and art in the home should form part of the home management syllabus.
- The type of questions asked in national examinations should not frustrate the students. Students should be given a better choice of practical questions in examinations instead of offering them very limited choices.

"O" Level Foods and Nutrition

The number and percentage of respondents by strengths and weaknesses in "O" level foods and nutrition is presented on Table 27. It is revealed that foods and nutrition has its strength on the fact that it has contributed to making communities better places to live in. Both teacher and student respondents also identified the following strengths; opportunities for useful skills in self-reliance and gainful employment (47.2% and 39.6% respectively); and provision for good nutritional knowledge '32.1% and 45.4% respectively). However, both categories of respondents identified some weaknesses in foods and nutrition course.

TABLE 27

Number and Percentage of Respondents by Strengths and Weaknesses in "O" Level Foods and Nutrition

STATEMENTS	RESPONDENTS					
	Teachers (N=53)		Students (N=187)		TOTAL (N0240)	
	No.	(%)	No.	(%)	No.	(%)
Strengths:						
1. Contributes to making communities better places to live in	26	(49.1)	49	(26.2)	75	(31.2)
2. Opportunities for useful skills in self-reliance and gainful employment	25	(47.2)	74	(39.6)	99	(41.2)
3. Provides for good nutritional knowledge and food presentations for different groups	17	(32.1)	85	(45.4)	102	(42.5)
Weaknesses:						
1. Emphasis on foreign dishes and not on local dishes and how to improve them.	23	(43.4)	112	(59.9)	135	(56.2)
2. Inadequate financial support and limited resources	19	(35.8)	61	(32.6)	80	(33.3)
3. The syllabus is inadequately covered and it is mainly examination oriented	10	(18.9)	81	(43.3)	91	(37.9)
4. Unnecessary details in chemistry of nutrients yet most students do not study chemistry.	8	(15.1)	48	(25.7)	56	(23.3)

Among the weaknesses identified were; emphasis on foreign dishes and not on local dishes and how to improve them (56.2%); inadequate financial support and limited resources (33.3%); the syllabus is not adequately covered and it is examination oriented (37.9%); and unnecessary details on chemistry of nutrients, yet most students do not study chemistry (23.3%). Thus, it can be noted that even though foods and nutrition is valued for its strengths as mentioned above, it still has some weaknesses that needs to be taken care of as indicated in Table 27.

Summary of Respondents Suggestions for Improvement

Respondents gave the following suggestions for improving "O" level foods and nutrition:

- The course should be adopted to the Kenyan society and further experimentation is required on the use of local foods and equipment, study of traditional practices in nutrition, child care and others.
- Relate classroom work to students' problems at home and concentrate more on human nutrition instead of chemical constituents.
- Students should be allowed to study foods and nutrition with physical sciences and other related disciplines.
- Teachers need to be more responsible and share their attention equally among students.
- Examinations should not emphasize western approach on very elaborate dishes but should instead give

priority to the use of local food stuff available in average Kenyan homes. Emphasis should be on the nutritive value of local foods and how they may be improved.

- Encourage publication of local books, that are more applicable in the country. Books that use local terms and considers the prevailing conditions or gives realistic examples that most students will identify with.
- Avoid emphasis on theory and allow more time for practical applications. More choices or options in examination questions should be allowed.
- Foods and nutrition classes should include agricultural aspects to allow time to develop a kitchen garden and use locally grown foods in the cookery lessons.
- More attention be given to development and use of foods and nutrition skills at home and in income generating projects.

"O" Level Clothing and Textiles

Table 28. indicates the number and percentage of respondents by strengths and weaknesses in "O" level clothing and textiles. Examination of the statements in Table 28. shows that the strengths of clothing and textiles course lie in the coursework as most students find it beneficial and more rewarding. The course is also noted for its potential in future career and self reliance.

The respondents, however, identified some weaknesses in the

TABLE 28

Number and Percentage of Respondents by Strengths and Weaknesses in "O" Level Clothing and Textiles

STATEMENTS	RESPONDENTS					
	Teachers (N=53)		Students (N=365)		TOTAL (N=418)	
	No.	(%)	NO.	(%)	No.	(%)
Strengths						
1. Coursework is beneficial to most students.	21	(39.6)	66	(18.1)	87	(20.8)
2. Basic sewing techniques and use of patterns in garment construction is well covered.	20	(37.7)	79	(21.6)	99	(23.7)
3. Has a great potential for self-reliance	16	(30.2)	146	(40.0)	162	(38.7)
4. A very rewading course especially when taught by dedicated teachers.	12	(22.6)	147	(40.3)	159	(38)
Weaknesses:						
1. Limited enrollment and early specialization	21	(39.6)	130	(35.6)	151	(36.1)
2. Emphasis on commercial patterns instead of pattern drafting	18	(34.0)	113	(30.9)	131	(34.7)
3. Textile section has alot of chemistry but most students don't study chemistry because of subject combinations.	11	(20.7)	134	(36.7)	145	(34.7)
4. Lack of variety in fabric construction especially in rural schools where students are wrongly penalized	10	(18.9)	37	(10.1)	47	(11.2)
5. Very few teachers are trained to teach pattern drafting and designing.	9	(17.0)	24	(6.6)	33	(7.9)
6. Some Examinations items are unrealistic and do not contribute much towards future development of the course	4	(7.5	15	(4.1)	19	(4.5)

"O" level clothing and textiles courses. Among the weaknesses listed were; emphasis on commercial patterns instead of pattern drafting; limited enrollment and early specialization; and unrealistic examination items.

Summary of Respondents' Suggestions for Improvement.

Respondents gave the following suggestions for improving the "O" level clothing and textiles course:

- Secondary school teachers should be briefed on how examinations are set and assessed. And, in setting examinations the questions should balance, for instance, 50 percent textiles and 50 percent clothing.
- Pattern drafting and adaptations should be emphasized as this will enable students to be self-reliant at the end of the course. Emphasis should also be placed on making article for income generating.
- Students should not specialize in clothing and textiles but, should also study nutrition, meal planning, housing, home improvement and other physical sciences.
- Publication of books that are more simplified in textile production and garment making processes will improve the course performance.
- National examination results should be sent to schools together with evaluation guidelines to show the school teachers why the performance was good or bad.
- Other kinds of needlework especially hand sewing

should be encouraged since there is shortage of machines. Embroidery techniques such as quilting and patchwork should be emphasized.

- Basic patterns and instructions for stylish adaptations should be made available in schools. Examples could be shirt/blouse, 4-gore skirt, A-line dress and basic straight skirted dress with bodice and skirt.
- Fabric samples should be distributed nationally or be made available for schools to buy. Emphasis should be placed on the properties of fabrics, use and care.
- Hand sewing of children's clothes and home furnishings be encouraged so that students may repeat similar processes at home.

"A" Level Foods and Nutrition

Table 29 indicates the number and percentage of respondents by strengths and weaknesses in "A" Level foods and nutrition. The findings on Table 29 suggested that the advanced foods and nutrition course was mostly valued because of useful skills and experiences gained that were of practical application in everyday life. Also, the strength of the course lies on the fact that it has contributed to better nutritional status and economical use of food resources. The respondents, however, identified some weaknesses.

The weaknesses listed included the emphasis on foreign,

TABLE 29

Number and Percentage of Respondents by Strengths and Weaknesses in "A" Level Foods and Nutrition

STATEMENTS	RESPONDENTS					
	Teachers (N=17)		Students (N=58)		TOTAL (N=75)	
	No.	(%)	No.	(%)	No.	(%)
Strenghts:						
1. Skills and experiences gained are useful in everyday life and of practical application.	12	(70.6)	18	(31.0)	30	(40)
2. Improved nutritional knowledge and status.	9	(52.9)	26	(44.8)	35	(46.7)
3. Better meal planning and management	6	(35.3)	16	(27.6)	22	(29.3)
4. Economical use of food and resources available	4	(23.5)	14	(24.1)	18	(24.0)
Weaknesses:						
1. Students are forced to set up elaborate, foreign and non-nutritional dishes for better marks.	7	(41.2)	21	(36.2)	28	(37.3)
2. A chemistry background is necessary but students taking foods and nutrition could not take chemistry.	6	(35.3)	14	(24.1)	20	(26.7)
3. Limitation in examinations, lack of variety and creativity in traditional or local dishes.	5	(29.4)	16	(27.6)	21	(28.0)
4. Lack of appropriate text books and teachers guides	4	(23.5)	25	(43.1)	29	(38.7)
5. Subject combinations limit the opportunities for further studies.	3	(17.6)	28	(48.3)	31	(41.3)
6. Preservation of food and catering of large groups not emphasized in the syllabus	3	(17.6)	6	(10.3)	9	(12.0)

elaborate dishes that are mostly non-nutritional. Another weaknesses observed was that a student taking foods and nutrition could not take chemistry yet a chemistry background is advantageous to the students. Other weaknesses included limitations in examinations and lack of appropriate textbooks and teachers guides.

Summary of Respondents' Suggestions for Improvement.

Respondents gave the following suggestions for improving the "A" level foods and nutrition course:

- Students should be given guidelines on subject combinations as they relate to future careers or further studies and professional development.
- Science in the home should not be treated as a separate unit on its own. Some aspects of it should be taught throughout the high school home science curriculum.
- Priority should be placed on problems facing Kenyan homes and how science and technology could be utilized to solve those specific problems. For instance, water, fuel and food availability.
- Topics such as catering or bakery, weaning foods, food preservation and appropriate household technology should be included in the syllabus.
- Teachers should be inserviced in science subjects so as to tackle advanced foods and nutrition course with more confidence.
- Offer more challenges to the students imagination so

that originality is not frowned at beacause it does not conform.

- More choice and variety of questions be given during practical examinations.
- Emphasize the use of local foods and how to improve traditional dishes and use of locally available fuels.

"A" Level Clothing and Textiles.

The number and percentage of respondents by strengths and weaknesses in "A" level clothing and textiles is presented on Table 30. It is revealed that more than half (53.6%) of the respondents stated that the strength of "A" level clothing and textiles was mainly in the course work. Other strengths stated include variety in skills and opportunities for students to work on their own (39.3%), skills useful in self-employment (32.1%) and student groups or classes are small and manageable (23.2%).

The respondents, however, indicated some weaknesses as recorded on Table 30. It is revealed that a major weakness in advanced clothing and textiles course is the course combinations (62.5%). This has resulted in qualified students being unable to pursue the course in higher institutions of learning. Other weaknesses recorded include insufficient equipment and finances (44.6%), lack of appropriate text-books (46.4%) and, complications in theory coverage especially in the textiles section (48.2%).

TABLE 30

Number and Percentage of Respondents by Strengths and Weaknesses in "A" Level Clothing and Textiles

STATEMENTS	RESPONDENTS					
	Teachers (N=6)		Students (N=50)		TOTAL (N=56)	
	No.	(%)	No.	(%)	No.	(%)
Strengths:						
1. Course work is useful to the student and her family	6	(100)	24	(48.0)	30	(53.6)
2. Varied skills and opportunies for students to work on their own.	4	(66.7)	18	(36.0)	22	(39.3)
3. Skills obtained are useful in self-employment.	4	(66.7)	14	(28.0)	18	(32.1)
4. The groups are usually small and manageable	3	(50.0)	10	(20.0)	13	(23.2)
Weaknesses:						
1. Insufficient equipment and finances	6	(100)	19	(38.0)	25	(44.6)
2. Course combination limits many qualified students especially since future prospects are not clear.	5	(83.3)	30	(60.0)	35	(62.5)
3. Lack of appropriate text books and fabric samples	6	(100.0)	20	(40.0)	26	(46.4)
4. Home practical applications not clearly stated	5	(83.3)	18	(36.0)	23	(41.1)
5. Theory is broad and textile is complicated especially to students without a chemistry background	4	(66.7)	23	(46.0)	27	(48.2)
6. The historical background of the traditional costumes is not clear.	3	(50.0)	11	(22.0)	14	(25.0)

Summary of Respondents' Suggestions for Improvement.

Respondents gave the following suggestions for improving the "A" level clothing and textiles course:

- Students should be adviced on the career potentials of the subject and be exposed to its benefits.
- Sewing/machines should be regularly serviced and schools need to be given financial assistance for maintaining the equipment.
- The theory part of the syllabus should be set in view of students who do not have a good chemistry background.
- The subject should be taught in a way that both short--term and long-term objectives are achieved.
- More room should be provided for working space and for completed articles and improvement on the practical speed tests.
- Teachers and students should work in close cooperation so that there can be an understanding of problems facing specific students.
- The test of fibres practically in class should be included.
- More "A" level teachers are needed and those already in the field need regular inservice training.

Some Comments on Home Science Curriculum From Former Home Science Students.

Former home science students were interviewed in order to obtain their perceptions on the present home science curriculum. The summary of their statements is shown on Table 31.

A majority of the former students(95%) saw the strength of home science in its practical and meaningful nature as a multi-disciplinary subject. They also observed that home science could be made more relevant to the needs of the student and society by using and imporving locally available resources.

Some of the students already experiencing problems in their subject combinations suggested that home science students should be given opportunities to study physical sciences along side home science. They emphasized that early specialization should be avoided as it allowed students to study only one course and thus became deficient in other courses that were equally important. They also suggested that the scope of home science in high school should be expanded to include family life education, child development, consumer education, gardening, and appropriate household technology.

According to the former home science students, the present home science education took a western approach with major emphasis on western foods and materials that were not familiar

TABLE 31

Summary Statements by Former High School Students on Home Science Curriculum

STATEMENTS	RESPONDENTS N=40	
	No.	(%)
1. The strength of home science lies in the fact that it is a practical subject that is applicable to home life and draws upon other subjects in high school curricula.	38	(95.0)
2. Instruction in high school would be made more relevant to the needs of today's student and society by using and improving locally available resources to meet their needs.	36	(90.0)
3. The high school curricula should stop paralleling home science with physical sciences and allow students to take both home science and physical science without bias in time allocation.	35	(87.5)
4. Early specialization makes students study only one course and thus become deficient in other courses that are equally important.	33	(82.5)
5. Home science enlightens the students on the use of sophisticated equipment, imported recipes on foreign dishes and commercial patterns that are costly and in short supply.		
6. The status of home science is very low because of poor image. Some teachers and administrators think that it is a subject for those who are incapable of doing other subjects and often poor students are pushed to do it. Others still consider home science as a subject for women only.	31	(77.5)
7. The only home economics degree programme available is for teacher education. The status could improve if more options in professional training were available.	30	(75.0)

Cont.

TABLE 31 (CONT.)

STATEMENTS	RESPONDENTS N=40	
	No.	(%)
8. Some parts of the curriculum is irrelevant to the present student & society. After school, a student is not able to practice at home what they learnt at school.	29	(75.0)
9. Some of the factors that affect implementation of home science curriculum include available facilities, availability of teachers, and time allocated for teaching the subject.	25	(62.5)
10. High school home science prepares students for a better living standard in their own homes but should also prepare them for life in their communities.	23	(57.5)
11. The weakness of home science is that the teaching and learning is not always done with the aim of educating the student for future but for passing examinations.	22	(55.0)
12. The present curriculum has met the aims and objectives of home science to a limited extent. Students are not usually exposed to their home environment and resources available to them in order to meet goals effectively.	21	(52.5)
13. The majority of students never have opportunities for further studies, and, a general course in home science would be more beneficial to those whose high school education is terminal	21	(52.5)
14. There is scarcity of teachers and some of those who teach it have limited skills and the teacher turn-over is high.	21	(52.5)
/course 15. Home management is the most useful /because of its multi-aspect content.	20	(50.0)

Cont.

TABLE 31 (CONT.)

STATEMENTS	RESPONDENTS N=40	
	No.	(%)
16. Home science students learn how to use limited resources to satisfy their basic needs and become self-sufficient.	19	(47.5)
17. Curriculum planners should include high school teachers, University lecturers, home science students, school administrators and men and women leaders in the country who knows and understands the student backgrounds'	17	(42.5)
18. The emphasis should be redirected on the relevant theory that can be understood through realistic practical activities related to life styles in different areas in the country or community in which the school is located or where the majority of the students come from.	16	(40.0)
19. Some school administrators are not supportive and at times diverge funds allocated for the subject to other channels.	15	(37.5)
20. More challenges should be offered to the students' imagination so that originality is not frowned at because it does not conform to the ideal.	13	(32.5)

to most students. They, however suggested that the curriculum should be reviewed to take a more local approach. For instance, the use of local equipment and fuels, use of foods locally available and improvement of traditional methods of cooking.

One major weakness the former home science students noted was that the teaching and learning was not always done with the aim of educating the student for future, but for passing examinations. Respondents expressed the general opinion that the practical application was not often well brought out. Hence, students worked hard on their short-term objective (to pass examinations) and not on their long-term objectives after leaving school. They, however. noted that some students were unable to appreciate the useful learning experiences if they did not pass their final examinations.

The most striking finding in regard to the teaching of home science was that it had prepared students for better living standards in their own homes or families but not necessarily in their communities. They recommended an extension approach to the teaching of home science as this would have a far reaching impact on the community and the society as a whole.

Some Comments on Home Science Curriculum from the Administrators.

Head teachers in the schools visited and other administrators concerned with home science education were interviewed in order to ascertain their feelings concerning the curriculum. The summary

of their perceptions is shown in Table 32.

Table 32 indicated that 86 percent of the administrators perceived home science as having a great potential for self-reliance and better quality of life. However, 73 percent indicated that the administrators, curriculum planners and developers work in isolation. They saw the need for high school administrators to be enlightened on the aims and objectives of home science education.

Another significant comment from administrators centered on the development and use of home science skills learned at school. The administrators called for an increase in opportunities for students to use the skills they learn in situations applicable in their homes and communities. They further suggested that curriculum experts should design home science courses that are based on the belief, values, attitudes, habits and practices of different communities in Kenya. They rejected the use of western ideas that elianates the students from real life situations.

Concerning the training of home science teachers, administrators observed that some high school teachers had problems teaching home science courses. This problem mainly emanated from the fact that teachers who had specialized in one area of home science during their high school education find it hard to take a general home science training course and be prepared to teach all courses in high school. The administrators suggested that a more general

TABLE 32

Summary Statements by Administrators on High School Home Science Curriculum

STATEMENTS	RESPONDENTS N = 15	
	No.	(%)
1. Home science has a great potential for self-reliance, improvement of living standards and higher quality of family life	13	(86.7)
2. Administrators, decision makers and curriculum developers work in isolation. Most administrations heed to be enlightened on the aims and objectives of home science education	11	(73.3)
3. Adequate attention is not given to development and use of the home science skills learned at school.	9	(60.0)
4. Curriculum experts should design relevant and pertinent home science courses that are based on the beliefs, values, attitudes, habits and practices of different communities in Kenya. They should not import western ideas that elianates the students from real life.	9	(60.0=
5. Teachers who specialize in one are of home science during their high school education find it had to take a general home science training course and be prepared to teach all courses in home science.	7	(46.6)
6. Students who study home science are not always the best and this affects their final examination performance.	7	(46.6)

Cont.

TABLE 32 (CONT.)

STATEMENTS	RESPONDENTS N=15	
	No.	(%)
7. The status of home science could be improved if it were organized in such a way that more students, boys and girls alike, study the subject	7	(46.6)
8. Home science should not be a complusory subject if it reduces the student's acces to other parts of the high school curricula.	7	(46.6)
9. School administrators are biased towards other science subjects and thus allocate more finances to science subjects and less to home science.	5	(33.3)
10. The knowledge and skills acquired in all areas of home science will facilitate improvement of the quality of life for the individual, family and the community at large.	5	(33.3)

home science course in high school would likely solve the problem.

Almost half of the administrators (47%) indicated that home science was still regarded as a female subject. They noted that the status of home science would be uplifted and would be of an advantage to the society if it were made available and acceptable to both boys and girls. This would cultivate an attitude in men that they too can assist in the home without being socially stigmatized.

Looking at the issue of subject combinations in high school curricula, administrators noted that the teaching of home science was adversely affected by the organization of the school curricula, notably the paralleling of home science with physical sciences. This had discouraged those students who saw the benefits of taking both subjects. The administrators, therefore, suggested that home science should not be made a compulsory subject if it reduces the students' access to other parts of the high school curricular. They further suggested that students should be given opportunities to study both home science and physical sciences.

CHAPTER 5

DISCUSSIONS, IMPLICATIONS AND SUGGESTIONS FOR IMPROVEMENT

The discussion of the findings and implications are presented in this chapter under three sections. The first section discusses the major findings from the study. The second section discusses the major research implications and the third section gives suggestions for curriculum improvement.

Findings

One of the primary purposes of this study was to attempt to answer the three research questions:

Question One: To what extent does the present curriculum meet the stated aims and objectives of home science education?

Question Two: Is the home science in high school relevant to the needs of the students and the Kenyan Society?

Question Three: To what extent is the home science curriculum integrated to cater for all round competencies or skills required by students?

The null hypotheses were as follows:

HO (1) There will be no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness.

HO (2) There will be no significant difference in the mean scores of teachers and students in their ratings of curriculum items.

Question One

Analysis of the data indicated that some curriculum items had high mean ratings whereas others had low ratings. Specifically, curriculum items with a mean score of 3.50 and above were considered as being very satisfactorily achieved but none of them received that score. Those with a mean score of 2.50 to 3.49 were considered as being achieved to a satisfactory degree and there were altogether 13 and 37 on the teacher and student ratings, respectively. Curriculum items with a mean score below 2.50 were considered as being unsatisfactorily achieved. The teachers' ratings indicated 36 curriculum items as being unsatisfactorily achieved whereas the students' ratings indicated 12 curriculum items. Thus, the students' ratings were slightly higher than those of the teachers.

Tables 17-23 on pages 93-107 gives the summary of mean scores on different curriculum items. Some of the items rated as being satisfactorily achieved (Ms = 2.50 - 3.49) included:

- development of personal qualities.
- acquisition of some basic skills useful for self reliance.
- meeting students future needs.
- provides education for home and family life.
- Knowledge in one core area of home science. Some of

curriculum items rated as being unsatisfactorily achieved (M = below 2.50) included:

- specific needs and problems of adolescents and their role in the community.
- basic skills in all core areas of home science.
- preparation for professional work.
- development of students' artistic values and encouragement of originality.
- adaptation to societal changes and challenges of daily living.

Based on these findings, the respondents perceived the present curriculum as meeting its aims and objectives to a limited extent. Examination of the subject content involved in the different curriculum items revealed that the curriculum has possibly met the objectives of those students who are likely to pursue further professional studies but not for those whose high school education is terminal.

Based on the data collected from the interviews, the respondents maintained that at times the objectives had not been realized because the curricula had been 'trimmed' to suite limited funds available. Morever, 52 percent of former home science students suggested that students should be made more aware of their environment and the resources available to them in order to realize the course objectives. A majority of the administrators (60%) suggested that curriculum experts should

design relevant and pertinent home science courses that are based on the beliefs, values, attitudes, habits and practices of communities in Kenya. They should not import western ideas that elianates the students from real life.

Support for these findings can be found in the work of Muthui (1981) who found evidence that some of the curriculum related problems originated from the lack of clearly defined objectives and the teaching of foreign subject matter.

The t test revealed that the student and teacher respondents had significant differences in the mean scores of 19 curriculum items out of 49. This indicated that the two groups did not statistically differ in their ratings of 30 curriculum items, the level of significance being $t = 1.96$, $p < .05$. Based on the 19 curriculum items that showed significant difference in the ratings, the null hypothesis HO (2) was partially rejected. Table 24 on page 116 shows the comparison of teachers' and students' means on curriculum items with significant values. The curriculum items with significant values included:

- Development of aesthetic appreciation ($\bar{X}_1 = 2.95$, $\bar{X}_2 = 2.06$)
- Relevance to student needs ($\bar{X}_1 = 1.87$, $\bar{X}_2 = 3.20$)
- Relevance to needs of society ($\bar{X}_1 = 1.79$, $\bar{X}_2 = 2.78$)
- Flexibility and local situations ($\bar{X}_1 = 1.70$, $\bar{X}_2 = 2.36$)
- Reference to all objectives ($\bar{X}_1 = 2.23$, $\bar{X}_2 = 2.36$)

Based on these findings, it can be concluded that home science students and teachers had some varied perceptions on the curriculum items with significant values. The researcher suggested that the difference would be due to their divergence of thought and varied experiences. In a few instances, the mean scores of the students were greater than those of the teachers. These findings suggested that the students might have rated those objectives satisfactory (high) which they believed they had attained. On the other hand, the teachers might have rated those objectives satisfactory (high) which they believed their students had attained.

Question Two

Is the home science in high school relevant to the needs of the students and the Kenyan society? This question is related to the first one, hence, the discussion above also applied to the second question.

Teachers and students rated different curriculum items concerned with relevance in home science curriculum. The following were some of the items rated with the mean scores of teacher and student respondents shown respectively.

- Cater for needs of adolescents (Ms = 2.48, 3.14)
- Meet students future needs (Ms = 2.89, 3.34)
- Students personal development (Ms = 2.30, 2.18)
- Relevance to student needs (Ms = 1.87, 3.20)

- Relevance to needs of society (Ms = 1.79, 2.78)
- Content related to students (Ms 2.17, 2.81)
- Content and local needs (Ms = 2.23, 2.75)
- Content and national goals (Ms = 1.87, 2.35)
- Flexibility and local situations (Ms = 1.70, 2.36)
- Difference in student backgrounds (Ms = 2.06, 2.06)
- Curriculum effectiveness (Ms = 2.17, 1.62)

Evidence from the low mean scores (unsatisfactory degree) of the 12 curriculum items listed above suggested that home science curriculum had not fully achieved its intended goals especially those that relate to the student and community needs or society. The findings suggested that home science had not adequately prepared students for life in their communities. The curriculum did not take into consideration differences in student backgrounds and their needs. The curriculum content did not emphasize the application of home science skills in communities and local situations especially as they relate to the national goals.

The majority (75%) of former home science students indicated that some parts of home science curriculum were not relevant to the student and society. After school, a student was not able to practice at home what they learnt at school. Kasuku (1984) and Mbae (1984) also reported that the majority of their subjects indicated that some parts of the syllabuses

were not relevant to the student and society. Support for these findings can also be found in the study done by Muthui (1981) who found evidence that some parts of the home science curriculum were irrelevant to the needs of the students.

A greater percentage (90%) of former home science students suggested that instruction in high school would be more relevant to the needs of today's student and society by using and improving locally available resources to meet their needs. They further suggested that emphasis should be redirected on the relevant theories that can be understood through realistic practical activities related to life styles in different areas in the country or community in which the school is located or where the majority of the students come from. The respondents further suggested that priority should be placed on problems facing Kenyan homes and how modern science and technology would be utilized to solve specific problems such as in fuel, water, and food availability.

Home science administrators, teachers and students called for a more relevant curriculum that can be of practical application in most homes with major emphasis on locally available materials and facilities instead of western or foreign materials and methods that are inappropriate. They called for programmes that are relevant in content to everyday life and which have a great transfer potential and can be applied

to a variety of situations. They further suggested that relevant and clearly defined objectives would improve the teaching of home science in high school.

Respondents saw a need for a curriculum that is planned with due consideration of the social and cultural differences unique to each community. They noted that home science should expose students to learning situations that are relevant to the needs of various communities, ethnic groups and/or socio-economic levels. For instance, in rural areas, home science curriculum can be adapted to the particular backgrounds of the students and their families. Teachers may be given guidelines on how to help students apply in their homes the knowledge or experiences acquired in class.

To make sure that the curriculum objectives are relevant to the lives of students and the society they live, cultural characteristics of families, their differences in life styles and in homemaking practices must be considered. Other factors to be considered include: levels of income; types of housing and equipment; the extent to which mothers and children work together inside and outside home; community services available to families; diet, nutrition, and use of foodstuffs, customs and habits; child rearing practices; patterns of consumer behaviour and ways in which family resources are managed.

Additional effort need to be made to provide opportunities

for students to find out about the wide range of occupational and career possibilities available in home science and to encourage those with appropriate interests and aptitudes to plan a career in the field. The majority (87%) of home science administrators and 95 percent of former home science students indicated that home science had a great contribution to make towards the improvement of living conditions of families and towards helping people become self-reliant in solving basic problems in everyday life. Hence, home science curriculum should always reflect this purpose.

Some teacher and student respondents (41%) saw that there was need for the curriculum to be improved in order to prepare high school youth for the role of homemaker and to contribute to their employability. The curriculum items related to employability received very low (unsatisfactory) mean scores. For instance the curriculum item ... Preparation for professional work ... This item received the mean scores of 1.62 and 2.34 respectively from the teacher and student ratings. Hence, the respondents suggested that students should be given guidelines on subject combinations as they relate to future careers or further studies, some income generating activities and professional development. Emphasis should also be placed on their ability to manage home and family responsibilities so that they can be employed outside home and perform efficiently and effectively as well as lead a successful and happy home life.

The majority of the respondents, 52 percent of former home science students and 33 percent of home science administrators suggested that, since the majority of students never have opportunities for further studies, a general course in home science would be more relevant and beneficial to those whose high school education is terminal. They noted that the knowledge and skills acquired in all core areas of home science would facilitate improvement of the quality of life for the individual, family, and the community at large.

Question Three

The third research question was related to the other two questions. It stated: to what extent is the home science curriculum integrated to cater for all round compentencies or skills required by students?

In the early chapters, it was recorded that home science in high school was offered as a general course in the first two years (forms 1 and 2). In forms three and four, home science as a subject is divided into three courses, namely; foods and nutrition, clothing and textiles, and home management. These courses were offered as options against other subjects on the school curricula and a student could opt to take one home science course. This arrangement brought about some early specialization in an area of home science at high school level.

Based on the findings of the study, it was noted that a student studying a course in foods and nutrition was not able to study clothing and textiles or home management. It was then necessary to find out the perceptions of administrators, home science teachers and students on the extent to which the required skills would be acquired in the curriculum.

The first hypothesis HO (1) was developed to answer part of the question. Teachers and students were asked to rank different home science courses in their order of usefulness to the student. Analysis of data indicated that teachers and students ranked home management first in usefulness. The other courses in descending order of their usefulness were; foods and nutrition, clothing and textiles and science in the home. The following courses not extensively taught were ranked in descending order of usefulness by both the teachers and students: family life education, child development, consumer education, home furnishings, and household equipment. The Spearmans Coefficient of Agreement indicated that both teachers and students agreed in their order of ranking home science courses for their usefulness.

The null hypothesis HO (1) ... there will be no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness ... was accepted at the $p < .05$ level. The majority (50%) of former home science students indicated that home management was the most useful course becuase of its multi-aspect content.

Based on these findings, home management was accepted as the most useful course in home science. Mbae (1984) reached a similar conclusion. Mbae found that home management was considered the most valuable course for "O" level school leavers who did not intend to go for further studies. One of the reasons given was that home management was more comprehensive in terms of content. None of the other home science courses touches on all the different core areas in home science.

Home management course was preferred by many students perhaps because of its greater utility in everyday life as an integrated subject. Hence, the respondents saw that students who specialized in high school especially those who study foods and nutrition and clothing and textiles obtained limited skills. For instance one student may excell in clothing construction but become a poor meal planner at home. A large majority (82%) of former home science students stated that early specialization made students study only one course and thus become dificient in other courses that are equally important. Some administrators (33%) on the other hand stated that the knowledge and skills acquired in all core areas of home science will facilitate improvement of the quality of life for the individual; family and the community at large.

A majority of former home science students (52%) saw an integrated home science curriculum as necessary for success in the attainment of lifelong skills, or competencies in home science education. Some of the former students (50%) already experiencing

problems in their course of specialization said that they wished to have studied a more integrated home science course as in home management.

An impression frequently expressed by both teachers and students was that home science would succeed as an integrated subject having all the main core areas combined. Noting that the majority of the students never had opportunities for further studies, an integrated subject would be more beneficial to those whose high school education is terminal. As integrated or general subject, the major emphasis would be placed only on the fundamental principles in all the different core areas which would allow for more schools and students to study the subject with minimum resources but maximum benefits. Considering the present need for a more general education especially at the high school level, a general home science curriculum would meet the needs of the student and Kenyan Society.

Furthermore, some high school administrators complained of home science subjects as being expensive and bothersome. Again, it is evident that the small home science classes in high school are a measure of overspecialization and they are inevitably expensive. The findings of the study suggested that an integrated home science programme would be an answer to meeting the needs of the student majority and to curb the high expenses currently being experienced in specialized classes.

Another aspect studied that was related to the integration of home science curriculum was that of paralleling home science with other science subjects. Teachers and students indicated that home science students should study other science subjects alongside home science. Some of the former students (87%) already experiencing problems in their subject combination suggested that, the high school curricula should stop paralleling home science with physical sciences and allow students to take both home science and physical science without bias in time allocation.

In order to fill the gap between what is and what is not being achieved, the next section on this chapter provides suggestions for curriculum improvement. But, before various suggestions are given, problem areas and major research implications will be discussed.

Some Problem Areas in the Home Science Curriculum

Among the most crucial problems indicated by the respondents were; inadequate facilities; instructional materials; shortage of teachers; early specialization; time allocation and poor image. All these factors have greatly affected the achievement of home science curriculum objectives.

Facilities. In terms of space, most participants reiterated that home science laboratories were not suitably equipped in many schools and this constituted a great hindrance to the effective teaching processes peculiar to home science. Although

it is known that an ideal type of accommodation can be very expensive, there should be possibilities for improvement of available facilities. It is important to make adequate provision for the essentials that would reflect the needs of the discipline both in theory and in practice. For example, in one school visited, it was observed that clothing and textiles were being taught in a room which was used as a classroom and a school library. The home science laboratory together with the equipment and materials were mobile and posed many problems especially to the home science teachers. This kind of situation is not suitable for a good standard of work from the view points of either the teacher or the learner. Lack of proper rooms and working areas restricted the depth in learning.

Most schools visited lacked the necessary equipment for carrying out home science practicals. Adequate equipment are essential to the development of appropriate skill and efficiency in practical work. In some schools, there was a general tendency to lay too much emphasis on theory at the expense of practicals. Perhaps that was the outcome of lack of facilities. Most respondents perceived the availability of appropriate equipment as a major factor in promoting standards towards the attainment of the curriculum objectives.

Instructional materials. Participating teachers, students and administrators emphasized that books and other instructional aids should be written and structured according to the students

backgrounds. This would mainly help in the execution of the curriculum. They also emphasized that recommended books should be of necessity related to the home and community environment. Such instructional materials should rather be prepared by indigenous authors and procedures who are already familiar with the kind of experiences to which students would be exposed. For example, home science books written in the Kenyan context could be more meaningful to Kenyan homes and communities and could go along way to foster home science education in Kenya; of course, this is not to suggest condemnation of foreign books. Such books can be good in idea exchange especially if they are adaptable.

Shortage of Teachers. The staff issue was found to be very important both in terms of quality and numbers available. Most schools particularly those in rural areas complained of lack of home science teachers. The turn-over was also noted to be very high and this had an adverse effect on the continuity of teaching home science. Furthermore, the scarcity of home science teachers had contributed to the closure of home science departments in some schools. The respondents called for the need to train more home science teachers especially for rural schools.

Specialization. It was observed that home science students specialized in foods and nutrition, clothing and textiles, and home management. This early specialization gave an undeniable strength to home science as a profession, but the lack of an over

bearing unifying concept to hold these specialities together introduces new vulnerabilities in the high school curricula. The respondents suggested a more generalized curriculum in home science.

As a general subject, home science would not only acquire a unifying basic concept, but also a means of gearing its programs to the conditions of the learners be they urban or rural. It would at least expose students to a variety of concepts and thus afford them a greater flexibility in their career choices. The resulting programme will be more realistic and effective. Furethermore, a generalized curriculum will create room for more, if not all, the students in the school to study home science. After all, most respondents among students indicated that they preferred to study all the different core areas in home science instead of specializing in one area.

Time Allocation. Home science being a practical subject is not given the time it deserves in the high school curricula. An impression frequently expressed by the respondents was that home science syllabus was very wide but time allocation was short. It was noted that some schools have minimized the time allowed for home science and allocated more time to other subjects. Yet, when all is considered home science should be given preference since it is one of the most practical and rewarding subject. The syllabus often, is not adequately covered due to shortage of time. Other times students have to

struggle to complete classroom assignments, outside class time when they should be participating in games or other extracurricular activities.

Poor Image. The majority (77%) of former home science students indicated that the status of home science in high school curricula was very low mainly because of poor image. Some teachers and administrators think that it is a subject for those who are incapable of doing other subjects and often poor students are pushed to study it. Others still consider home science as a subject for women only. Some people have the wrong impression that those who study home science are being prepared to be good future housewives. This impression has been reinforced by the fact that home science in the past has been mainly offered in girls' and mixed schools. Consequently, the subject has failed to attract some of the talented students in high schools because most of them are not aware of home science related job opportunities and careers.

The brighter students are encouraged to study physical sciences since the two subjects are usually offered parallel to each other on the time-table. And, as if that is not enough, some administrators go to the extent of fully furnishing laboratories for other sciences and thus leave home science laboratories with inadequate facilities. They seem to maintain the negative attitude that home science is bothersome, time

consuming and expensive.

Other factors identified in the study as having affected the implementation of home science curriculum and may have implications for further research included; curriculum planners; educational setting (mixed or single sex); students backgrounds; planning, administration, and management; methods used in teaching the subject; lack of proper understanding of the purpose or importance of the subject; and attitude of parents towards the subject.

Major Implications of the Findings.

Analyses of the questionnaires and interview responses lead to a variety of generalizations and insights with far-reaching implications for high school home science curriculum. In curriculum planning and revision; review of course objectives, content and community involvement are implicit; in learning activities, modification may be necessary for more student-centered activities based on problem-solving techniques; in teachers/training, more involvement in curriculum planning, seminars and in-service courses are implicit; research, more studies and multi-disciplinary investigations should be added to the present efforts; and a closer interaction between students, teachers, administrators, inspectors and curriculum developers is very vital.

Implications for Curriculum Review.

The high school home science curriculum is much more

than cooking and sewing, materials, teachers and students. The curriculum should entail processes for defining needs, generating and employing resources, analysing and solving problems, generating values, expectations and competencies and evaluating each of these processes. The present curriculum framework needs careful redesigning whether with new supports and fresh parts or totally new patterns. A curriculum design model is needed that reflects the intricacy of what is being taught and the values of the students it is intended to serve.

On the basis of average ratings and mean scores of the 49 curriculum items, it was noted that those objectives related to the students' needs and societal or communal needs were rated low by both teachers and students. From the open questionnaires and interview responses from various groups, similar findings were recorded. Thus, it may be concluded that the needs of students as they relate to the society are not being achieved in the present curriculum. This would imply that needs assessment has not been fully employed in order to identify those areas that should be emphasized in the curriculum.

Another curriculum objective that is not being achieved in the present curriculum is that of giving students basic knowledge and skills in foods and nutrition, home management and clothing and textiles. Students usually specialize in one area. Form one and two syllabus does not cover the basics sufficiently. This implies the need for a generalized curriculum that can be covered

in four years of high school. Hence, in order to meet varying student needs, the basics in each subject - matter area of home science have to be considered. This means that a general home science course is implicit as a possibility for improving home science curriculum. The issue that was constantly referred to by all the respondents in the study was that of overspecialization in one of the three core areas namely, foods and nutrition, home management and clothing and textiles. The consequences of this curriculum arrangement include the fact that these specialized courses are inevitably expensive and not only that, a student product of this curriculum is not balanced. She/he may end up being an excellent seamstress but a poor meal planner.

The present primary need in the curriculum is to assure the quality of the broad major field and a general home science curriculum would be the answer. A general home science programme will provide definite justification and integration for activities which are currently undertaken by home scientists in a more or less disjointed manner.

Furthermore, some insights into the process of revising the curriculum also were gleaned from the interviews and observations in the schools visited. It was observed that most teachers felt that the curriculum contributed satisfactorily to the development of students artistic values, appreciation of design, beauty and originality. The students however felt the contrary. Most students wanted the curriculum to be reviewed to include more

creativity and observations, the students views seemed to be genuine because the syllabus really has not given any room for originality at all. Hence a revised curriculum that will emphasize students' own creativity and originality is implicit.

Implications for Curriculum Objectives.

The comments from the open questions and interviews with various groups pointed to the need for adequate statement of objectives. That curriculum developers must take into account in some way the varied nature of the students in a school, the varied pressures currently operating to affect the school program, the presence or absence of opportunities for learning outside the school, the wide social and economic differences within and among communities, the limited amount of time available for secondary education, and the different conceptions of the ultimate purpose and goals of secondary education.

When one considers the range of possible curriculum objectives, it is possible that a major problem facing the curriculum developers is that of making wise and appropriate choices. The matter is further complicated by the fact that choices appropriate for one school community are not equally suitable in another. The rapidity of both social and technological change serves to bring new additions to the list of possible objectives. Therefore, curriculum developers that would be sensitive to the social realities of the time must examine these objectives, and if these

are deemed important, should find a place for them. In order to find such a place it is often necessary for the developers and teaching staff to decide whether or not emphasis should be given to objectives formerly thought to be essential.

The findings of the present study showed that there was need for the curriculum objectives to be further defined to meet the needs of the society. It is inconceivable that a sound educational home science curriculum would be developed without giving considerable attention to the essential characteristics of the society in which the school is so deeply imbedded, and which indeed is a source of support for the school. Furthermore, society now makes, and will continue to make certain demands upon young people. It expects them to be able to meet these demands effectively, for upon their ability to do so the future health and vigor of the families and society will largely rest.

It was noted that the present curriculum objectives have failed to encompass for many students both their personal needs and the social demands made upon them. Classroom experiences should be structured to help each student learn what she/he needs in order to function with social effectiveness and personal happiness.

Finally, it can be pointed out that involving the learners themselves in the process of determining possible objectives is a useful means of providing teachers with valuable insights as

to matters that are important to the students. The joint efforts of teachers and students can provide both with a clear understanding of what the objectives mean and why they are worth pursuing.

Implications for Community Involvement.

The importance of knowing the communities from which the students come from is implicit. Curriculum planners and home science teachers must know the different communities in which the students live, in order to draw realistic objectives of teaching home science and also to enable the teachers to effectively help their students to live effective family lives. The curriculum or syllabus should be constructed with some flexibility in order for the teachers to adapt the curriculum objectives more readily suitable to the specific community needs.

Learning activities need to be closely related to the students' home experiences in order to have impact. Knowing the resources available in the community and incorporating them to the school experiences will reinforce and enrich the students learning activities. The curriculum guide should give alternative ways of using the resources available in different communities such as social and extension workers, types of homes or housing.

The prevailing backgrounds, attitudes and practices or traditions of a particular community must be recognized in order

to understand the students' way of life. The pattern of life of a community cannot be ignored in the home science curriculum. Therefore, home science departments and communities where students live should complement each other through an appropriate curriculum.

The syllabus should be made flexible enough to allow home science teachers to adapt learning experiences to different ethnic groupings and geographic locations. What can be taught in specific matter areas may be altered to suit the needs of students in different communities. Since home science deals with experiences that are part of home living, the students in most cases can detect whether the things they are learning will make sense in their lives outside the school.

The existing knowledge, values and goals of the society need to be considered in order to redefine the aims, objectives and content of home science. Questions such as; will the curriculum meet local needs? Is it consistent with the community's expectation of the school and other questions may guide curriculum developers. Home science is a field of study which is essentially rooted in the culture in which it is based, since its central focus of concern is the individual, home, and family life. Home science curriculum must grow and develop from and within the culture.

Unless gains won in the home science classroom are mirrowed

and supported in the community at large, behaviour potentiality will give way to habitual practices. If the school is to succeed in home science education, it must carry its mission beyond the walls of the school into the homes and community organizations whose long-life influences on students are more enduring and powerful.

Implications for Curriculum Content.

Throughout the study, emphasis was laid on the need for basic content and better-learned concepts as well as insights that can easily become the intellectual possession of the students. There is need to avoid too much unimportant details and emphasize the basic fundamental principles in home science. For that matter, the foods laboratory must be viewed not as a place for cookbook or recipe card routines, but for observation of new relationships, development of new recipes, and improvement of local traditional dishes. In textiles and clothing, there is no need for students to spend many lessons learning about the processes used in the manufacture of textiles but should spend more time on the use and care of different fabrics.

The following questions, some of which the present study attempted to answer, illustrate current issues and problems of content selection: what can be included in the current courses? What can be eliminated from the current courses? What concepts

and generalizations are needed to develop insight into the structure of home science? What social problems are of primary concern? What should high school graduates know about home science? Answer to these questions may be presented in terms of a list of concepts and generalizations, main ideas, a general discussion of basic ideas in different fields of study or some combination of the foregoing. The single most common form of answer has been to indicate basic concepts, main ideas, or themes drawn from separate subject areas.

Besides the study of content drawn from the discipline, there is need for the study of problems and issues of concern to the students. The prevailing point of view is that background of concepts must be developed before students can attack problems with understanding. In other words, the development of meaning must be achieved prior to application.

Concurrently, with an increased emphasis on identification of concepts as a basis for curriculum development comes an increased recognition of the importance of a generalized home science curriculum. From the findings of the study, certain criteria have emerged to guide in the selection of content.

The course content should:

1. Provide a logical and integrated picture of home science to include equal weighting in foods and nutrition, home management and clothing and textiles. The scope and sequence of integrative ideas will give a continuity and

pattern to the study of home science.

2. Consider creativity, originality, thought and enquiry in the curriculum structure. The content should also be expanded to include topics in consumer education. gardening and appropriate household technology.

3. Consider new content emanating from the changing needs of students, their communities and the society as a whole.

4. Take a fresh look at what is believed should be taught in home science and how it should be taught from local point of view using the resources available.

5. Develop a teachers guide with specific learning experiences for teachers to use with their students especially having guidelines for improvisations and adaptation of content to students from varied backgrounds.

6. Efforts should be made to determine how much repetition and re-emphasis are necessary through subsequent years of teaching and learning.

7. Emphasis be given to the development of the ability to deal with everyday problems analytically and acquisition of basic skills needed for life long learning.

8. Primary attention should be given to the development of the understandings, skills, attitudes and behaviours needed for responsible citizenship. Hence, new content in family life education need to be incorporated into the curriculum.

Implications for Learning Activities.

The success of the curriculum depend on the selection of appropriate teaching strategies, instructional materials and learning activities. Curriculum developers need to be concerned with; the more widespread use of methods of inquiry or discovery the attitudes developed, the questions being asked, the ability to formulate own concepts, the forstering of initiative, and participation in decision-making based on problem-solving techniques. It is tempting as well as simpler to just see the outcomes in the quality of dishes being prepared rather than the quality of life.

Thus, there is an apparent need for less emphasis on teacher-centered teaching skills such as the traditional demonstrations and more emphasis on student-centered activities such as problem-solving, role playing, case studies and the use of media such as films, slides and filmstrips, also increased use of the facilities available in the community. Emphasis need to be placed on the skills of inquiry, on the methods of discovery, self-directed learning and on creativity and initiative.

Learning activities should involve the use of locally available materials effectively and the application of appropriate technology in the home environment. The creative element and initiative are necessary part of todays life. Therefore, the goal of developing the creative potential of home science students

shouldn't be overlooked.

Implications to Students.

The students and teachers ratings revealed that some home science students are not able to apply what they learn in school after leaving school. It was perceived that the failure of students to apply their verbal learnings from the classroom to their behaviour outside the classroom may be due to the fact that these "learnings" had never been successfully validated by use and remained merely something to talk about and may be reproduced during examinations time.

In a foods and nutrition class for instance the students should not just talk about nutritious meals and prepare colourful deserts and other foreign dishes to pass final examinations. But, they should prepare improved local traditional foods, using improved methods of cooking and locally available ingredients and fuels. The classroom experiences should reflect what the students are exposed to at home.

The error of determining objectives and planning experiences which are not meaningful to those whom they are intended should be eliminated. If the subject holds a little or no meaning for the student, the chances are very great that it will not be long retained. It will be easier to understand if the curriculum developers can ask "In what ways is this particular topic relevant

to the things that really matter to these particular students?".

The present curriculum seem to have aided students by giving them answers to the problems they do not have instead of helping them discover new and more fruitful objectives in their personal growth.

What is needed today is a flexible curriculum whereby the student can accept the curriculum goals as personal goals and the teacher provides a classroom setting in which the student is free to explore and express his/her own perception of the situation without fear of humiliation or reprisal. Classroom discussions should not be testing situations or where students learn to pass examinations but opportunities for exploration of different problems by the students. It is essential that the curriculum and the school situations give the student the opportunity to test his/her perceptions of reality by acting on them.

Implications to Teachers and Training.

The findings of this study have implications for home science teachers. It was evident from the teachers responses that, most teachers have had little to do with the curriculum development. As a result, they find themselves outside the vocal point of curriculum decision-making. They are not involved in the selection of the content/concepts that form the basic fabric

to the materials they are expected to teach.

Most teachers are simply handed a syllabus as a form of materials to teach, with little or no knowledge of the philosophical points of view upon which they are based. This generates a curriculum problem of paramount importance, that of placing curriculum materials in the hands of teachers who, dedicated though they may be do not perceive or understand the underlying philosophy, design, assumptions and purpose of the curriculum. And, not only that, teachers are not given any flexibility in the syllabus. They have to teach it regardless of varied student backgrounds, needs and interests.

It was also evident from the research findings that there was need for increased teacher training in home science for both preservice and inservice teachers. If home science is to do the most good, teachers, must be reached by upgrading the existing programmes and by developing new programs and opportunities for further education. These programmes must reach both the teachers in training, and teachers already in the field if the results are to be both positive and far reaching.

The revision of high school home science curriculum has implications for the content and methodology of teacher training. A generalized home science curriculum may result in increased content without increased length of time for teaching and this

poses a challenge for teaching more in less time and with greater effectiveness. Inservice educational programmes need to be stepped up inorder to bring teachers up-to-date on newer developments in home science. Teachers need to share ideas on how to offer stimulation and guidance to the students and on how to help in shaping the programme of learning best suited for each student (including disabled students).

Teachers need opportunities to develop and practice the skills needed to create learning environments in home science. No source book or curriculum guide can be expected to provide these opportunities by itself. Some of the books and reference materials used in high schools are outdated, and rarely used. The development of continuous innovative teacher behaviour requires that teachers gain experience and feedback as well as practice in the skills they apply in the classroom.

Seminars and inservice programs can be planned and implemented, if the educational planners are committed to the course of home science. During inservice, teachers can review the curriculum and identify areas in need of change; write new teaching materials and revise those in use. On-the-spot in-service training can also be carried out by the subject inspectors and assistants on their regular school visits once per term at each school Individual advice and encouragement may be given to teachers in their own classroom situations to help them combat problems which have been

identified.

Implications to the High School Curricula.

Based on the findings of the study, it was noted that most high schools parallel home science /subjects with other science subjects. Hence, a student taking home science /subjects could not opt to study physical science or chemistry alongside home science. Home science and physical sciences are usually offered at the same time on the time-table. All the respondents felt that home science students should be given opportunities to study science subjects as this will assist them in their career choices and also in their overall academic performance.

It was observed during the study that the so called pure sciences such as physical sciences were receiving more priority in the high school curricula especially in the girls' schools. But, the schools should not limit its efforts to science alone even in the interests of science itself. It is very essential to give full value and support to other applied sciences. The advancement of science in high school curricula must not be accomplished by the impoverishment of home science.

Most professionals in home science will agree with the researcher that the main objective in teaching home science is not to motivate students to pursue a career in home science. The major objective as stated in the definition of home science

is ... the study of the home, family and environment. Therefore, a potential pharmacist, doctor, engineer or chemist to name just a few, need some basic knowledge and skills in home science. That being the case, home science should form one of the focal points of the school curricula.

Experiences in home science should be continued from primary through high school. It is very interesting indeed to note that in the Kenya primary school curricula, home science is given equal status with other subjects. When it comes to the high school curriculum, home science has been generally minimized as part of general education and has been relegated to a small corner in the curricula termed as an optional subject. Educators especially in home science must question why. Is it the attitude of administrators? Is it the attitude of teachers? Is it the attitude of parents? or Is it the attitude of students? Is it the pressure of other high school subjects? Is it the program itself? or Is it social conditioning?

Implications for Curriculum Developers and Decision Makers.

There was evidence in the findings of the study that the poor attitude of some curriculum planners and decision makers towards the role of home science has retarded the development of the discipline. There is a tendency for some curriculum developers to believe that the only contribution made by home science is in the primary school. In the secondary school

curricula, home science is optional and limited to a few schools. If this trend continues, it is likely that home science will continue to serve only a small portion of the high school student population and for a very short period of their life span.

If curriculum developers believe that home science education is vital for National development and that both boys and girls need and want home science education, then they need to re-evaluate the ways that home science can be made to serve more students.

The respondents observed that the status of home science as an academic subject is very low in comparison with other high school subjects. It would appear that some decision makers and curriculum planners have assumed that some science or subjects are more important than others in accomplishing the mission of high school education. Yet, it is known that the strength and contribution of home science is in the synthesis of many sciences that are oriented toward a common field of application, the welfare of families and individuals. The value of this subject is unmistakable.

Home scientists do not question the necessity for languages, sciences and mathematics. But, because home science, for instance foods and nutrition and other home and family aspects are a familiar part of daily living ... ones with which everyone has continual experience ... the student, especially, may not realize that home science involves problems that can and must be

solved by studying it especially when they are given a choice between home science and another high school subject.

Home science curriculum experts must search for ways and means of creating more interest in home science especially among the policy makers. They should also find ways of reconciling conflicting interests in high school curricula and re-establish priorities that will give home science its proper place and status in high school curricula.

Supervisors, inspectors and curriculum officers must continue to update themselves in the teaching and learning processes on home science. This is because they should be dependable sources of information on all areas of the subject. This will also help them fulfil their multi-faceted role of helping teachers and students develop the necessary skills and competencies.

Effective co-ordination of home science programmes demand frequent visits to the various institutions offering home science at different levels. These visits provide opportunities for evaluating existing programmes, by identifying problems, and collecting information that could be used in seminars, workshops and inservice training for teachers.

Home science inspectors should ensure that achievement reports reflect the failures and successes of the means and

methods applied towards achieving the major objectives set out in the curriculum. Both the inspectors and the teachers should help in establishing a form of continuous assessment of students' course work performance for purpose of comparison with performance in the final examinations.

Suggestions for Curriculum Improvement

Thoughout most of the questionnaires and interview responses run a thread of recognition of the need for curriculum improvement in order to meet the needs of students and their communities. Difference in students need to be given priority in order to improve home science curriculum. Their varied backgrounds and different learning resources locally available must be given attention. The chief question, therefore, confronting curriculum developers as they consider curriculum proposals and projects is the utility in the local situations: will the program meet local needs? Is the curriculum consistent with the community's expectations of the school and others?

In the light of the research findings and their implications, some suggestions for curriculum improvement were as follows: The improved home science curriculum includes a core curriculum taken by all students. It should include units in the three core areas: home management, foods and nutrition and clothing and textiles. This would result in a general home science curriculum.

Home science curriculum must reflect the present and

foreseable future needs and conditions of learners. It must be problem-centered, enabling learners to engage in guided explorations so as to discover the role of home science in the lives of people, the comfortable and healthy home environment and the interplay between them. An improved curriculum must create in students the desire to learn more about home science and develop the skills to further learning out of school. Improved curriculum need to be made more practical to allow students to become familiar with the patterns of their own culture, use available foods in resourceful ways and to acquire the capacity to earn their own livelihood and enjoy life.

The success of a revised or re-organized curriculum is so dependent on appropriate course content. An overview of each of the items in the major areas of study indicate an orientation appropriate to the basic needs of students at this stage. In order to identify areas that should be emphasized in the curriculum, the desired learner outcomes should be first identified. After that, the learner's currrent status with respect to the outcome may be ascertained. Finally, the difference between the current status and the desired status will be considered as an educational need.

After identifying a number of educational needs, these needs should be ranked so that the most important needs are given priority and be satisfied first. To adequately determine the

students need, the educational outcomes rather than intellectual achievement (passing of exams) must be given attention.

In order to fully understand the educational outcomes, identification of needs with respect to the objectives in all the three domains of learner behaviour must be given attention. These will include; the intelligent types of learner outcomes, that's cognitive domain; the psychomotor needs that are associated with the student's physical and motor skills and; the affective needs that pertain to the emotional type of learner outcomes together with attitudes and values.

In order to provide adequate preparation for a general home science course, the curriculum orientation should be based on the philosophy of home science education whose three basic aims are to;

- strengthen home making and family life through improvement of personal, family and community living.
- prepare for employment related to home science and
- provide a basic foundation for professional education.

These aims provide bases for making decisions in developing and evaluating home science curriculum.

The following philosophical statements may serve as a guide to the curriculum developers in the development of improved curriculum materials:

1 Individual differences in students due to their varied backgrounds should be recognized and provided for in curriculum designing.

2. Both teachers and students should participate in curriculum development.

3. The syllabus should be structured in a more functional way and be taught in such a way that students learn to draw generalizations that are applicable to other situations out of school, in home, on the job, and/or community settings.

4. Home science curriculum should help students achieve satisfying human relationships, functional philosophies of life and socially responsible adjustments in life situations.

5. An improved curriculum should help individuals acquire the techniques and skills needed to meet the problems of personal, family and community living, and employment situations.

6. An improved curriculum should be flexible and adaptable to meet the needs of the school and community as well as the needs of individual students.

7. Home science curriculum should be co-ordinated with the science curriculum in the schools and should provide for marketable skills.

8. Home science curriculum should help the student make and carry out intelligent decisions regarding the use of personal, family and community resources.

9. Consideration in planning home science curriculum should be given to changes in society and family life, patterns of living, available equipment and other unique home situations.

10. In reviewing the existing curriculum, serious considerations should be given to national targets as related to the needs of families and communities within their various socio-economic status groups.

The research findings established that some home science curriculum objectives are being achieved while others are not being achieved. Some of the failures in meeting the curriculum objectives were associated with some problems that include; inadequate facilities, lack of appropriate instructional materials, shortage of teachers, early specialization, time allocation, and poor image.

Some of the implications explored in the study include; curriculum review, objectives, community involvement, curriculum content, learning activities, students, teacher traing, curriculum developers and decision makers. Of the many implications inherent in the study, the researcher chose to speculate on the need for home science curriculum improvement in Kenya.

The final chapter gives the summary, conclusions and some recommendations for curriculum improvement.

CHAPTER 6

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This concluding chapter has three main objectives. First, it gives a general summary of the study and reiterates its purpose and research procedures employed. Its second objective is to summarize the major findings and conclusions reached in the study. The third purpose is to give an outline of curriculum recommendations based upon the findings.

General Summary.

The importance and need for evaluation of home science curriculum has been evident over the last two decades. Home science historical perspective has shown that the curriculum has received some criticisms relating to its objectives and student needs. Teachers, students and professional home scientists alike, have expressed a need for improvement of the present home science curriculum. Recent studies done among home science teachers also recorded similar needs and thus affirmed the necessity for an evaluation of home science curriculum.

The hypothesis tested in a study done by Muthui (1981) was that there was need to revise the clothing and textiles curriculum. Muthui found out that the clothing and textiles curriculum was too wide, some parts of it were irrelevant to the needs of the students and that the curriculum lacked clearly

defined objectives. Muthui concluded that the secondary schools clothing and textiles curriculum needed to be revised. A recent study conducted by Mbae (1984) on the relevance of home management to individual and family needs found out that 25 percent of the urban teachers and 75 percent of the rural teachers felt that some topics in the syllabus were not relevant. The study recommended that home management should be encouraged and improved in the future. Another recent study done by Kasuku (1984) had its major purpose, the identification of the main factors leading to the low acceptability of home economics as a subject in Kenya secondary schools. The hypothesis examined was that, there was need to revise the entire home science syllabus. Kasuku's findings indicated that 93 percent of the teacher respondents commented that home science syllabus was very wide and outdated, and it very much needed to be improved.

The researcher concluded from various research reports and review of literature that there was need for an evaluation study of home science curriculum in high schools in Kenya. Only through such a study could the strengths and weaknesses of the programme be noted. What is good in the curriculum can then be identified and be strengthened. The weaknesses, on the other hand, can be identified and changes can be made. The areas that are less important and need to be deleted can be isolated. Above all, the curriculum should be conversant with the original and new aims and objectives of home science education. Hence,

curriculum or syllabus review aimed at what is relevant have to be made. The knowledge of students' needs should also be considered when developing home science curriculum.

For the purposes of this study, home science curriculum was conceived as all aspects taught under various courses in home science, namely; home management, foods and nutrition and clothing and textiles. This included the course outline as stated in the regulations and syllabuses by the Kenya National Examinations Council (1984); content, general aims, general methodology and syllabuses outlined in the curriculum guide for secondary schools set by the Ministry of Education (1973). These formed the criteria on which the curriculum evaluation study was based. Evaluation was a term used in the study to refer to the process of determining the degree to which the high school home science curriculum was achieving or not achieving the long-term objectives of the syllabus and curriculum guide. In other words, an appraisal of the present curriculum and recommendations for its improvement.

Purpose of the Study.

The purpose of this study was to evaluate the home science curriculum in Kenya's high schools. The following three questions formed the basis of the evaluation exercise:

1. To what extent does the present curriculum meet the stated aims and objectives of home science education?

2. Is the home science in high school relevant to the needs of the students and the Kenyan society?

3. To what extent is the home science curriculum integrated to cater for all round competencies or skills required by students?

More specifically, the purpose of this study was aimed at:

- assessing the extent to much long-term objectives and aims of home science curriculum in the secondary schools were being achieved.
- assessing the suitability of the curriculum against the needs of secondary school students in particular and/or society in general.
- identifying the strengths and weaknesses in the curriculum.
- investigating the perceptions of students and teachers towards the content of home science in high school.
- Making suggestions and recommendations towards improvement of high school home science curriculum.

The null hypotheses tested were:

HO (1) There will be no significant difference between the perceptions of teachers and students in the ranking of home science courses for their usefulness.

HO (2) There will be no significant difference in the mean scores of teachers and students in their ratings of curriculum items.

Research Procedure

The procedure consisted primarily of identification of the problem, design of instruments for data collection, pilot testing of the instruments, analysis and interpretation of data, discussions of the findings, implications of the findings and recommendations based on the findings.

Data was collected through questionnaires, interviews and library search. The population of the study comprised of 53 home science teachers, 866 home science students, 40 former home science students and 15 secondary school administrators. A total of 50 schools were visited in the study.

The construction of the instruments was guided by the aims, objectives and suggested content outlined in the secondary school curriculum guide as well as the home science syllabuses provided by the Kenya National Examinations Council. The questionnaire comprised of both closed and open ended questions and was divided into three parts. Part 1 consisted of 12 items that sought for background information about home science courses. Part 11 consisted of 49 curriculum items which were rated on a five-point degree of satisfaction scale. The purpose of part 11 was to find out the teachers' and students' ratings on different curriculum items in order to determine whether the home science curriculum was meeting its objectives. Part 111 of the questionnaire had open ended questions aimed at providing imformation on the strengths and

weaknesses of the present home science curriculum and the respondents' suggestions for improving the curriculum. There were altogether ten items in part 111 of the questionnaire. The interview guide had 10 items aimed at providing objective data on the strengths and weaknesses of the home science curriculum.

In order to get on overall appraisal of the questionnaire, to test out the soundness of the items and to estimate the length of time required to answer the questionnaire, the questionnaire was pretested in a pilot study. Questionnaires were administered in four schools. Forty students and five home science teachers respondent to the questionnaires. The questionnaires were also pretested for content validity and reliablity through review of literature and extensive interviews with home science students, teachers and University lecturers.

Data Analysis and Interpretation.

Information gained from the questionnaires and interviews helped in the interpretation of the students', teachers' and administrators' perceptions and interests concerning home science curriculum. Several statistical analyses were made to determine the extent to which home science curriculum was perceived by students and teachers as meeting the stated objectives. Primarily, three major statistical analyses of data were employed in the study. One involved descriptive statistics for frequency distributions. The second involved parametric test ... Spearman

Rank Order Correlation ... analyses for ranking of home science courses. Third involved t test to determine the significance of differences in the mean ratings of the students and teachers. The t test was judged to be statistically significant when $t = 1.96$, $p < .05$ level.

To implement the major objective of the study, 49 curriculum items in part 11 of the questionnaire were rated on a degree of satisfaction five-point scale. The highest point in the scale indicated a high satisfaction and was assigned figure 4 while the lowest point indicated lack of that specific curriculum item and was assigned zero (0). In interpreting data obtained in part 11, it was found necessary to convert the rating scale into a judging scale. Hence, curriculum items with mean scores of 3.50 and above were considered as being very satisfactorily achieved but none of them received that score. Those with mean scores of 2.50 to 3.49 were considered as being achieved to a satisfactory degree and there were altogether 13 and 37 on the teacher and student ratings, respectively. Curriculum items with a mean score below 2.50 were considered as being unsatisfactorily achieved. The teachers' ratings indicated 36 curriculum items as being unsatisfactorily achieved whereas the students' ratings indicated 12 curriculum items. Thus, the students' ratings were slightly higher than those of the teachers.

Some of the items rated as being satisfactorily achieved (Ms = 2.50 - 2.49) included: development of personal qualities;

acquisition of some basic skills useful for self reliance; meeting students future needs; provision of education for home and family life; and knowledge in one core area of home science. Some of the curriculum items rated as being unsatisfactorily achieved (Ms = below 2.50) included: specific needs and problems of adolescents and their role in the community; basic skills in all core areas of home science; preparation for professional work; development of students' artistic values and encouragement of originality; and adaptation to societal changes and challenges of daily living.

Based on these findings, the respondents perceived the present home science curriculum as meeting its objectives to a limited extent. The content in those curriculum items rated as being satisfactorily achieved revealed that the present curriculum had possibly met the objectives of those students who are likely to pursue further professional studies but not for those whose high school education is terminal. The respondents observed that at times the curriculum objectives had not been realized because of certain problems facing the subject, for instance, shortage of staff, limited finances and poor image.

The t test revealed that the teachers' and student respondents had significant differences in the mean scores of 19 out of 49 curriculum items. They, however, did not statistically differ in 30 curriculum items, the level of significance being $t = 1.96$, $p < .05$ level. Based on these findings,

the second hypothesis HO (2) was partially rejected. The researcher based the decision on the 19 curriculum items that were found to have significant statistical differences.

On the ratings of different curriculum items related to the relevance of home science curriculum. The respondents' mean scores were relatively low (unsatisfactory) which suggested that the home science curriculum in high school was not relevant to some of the students and/or societal needs. The findings suggested that home science in high school had not adequately prepared students especially for life in their own communities. The curriculum did not take into consideration differences in student backgrounds and their needs. The home science curriculum did not emphasize the application of home science skills in communities and local situations especially as they relate to the national goals. A majority of the respondents expressed that a good part of the curriculum was irrelevant to today's student as seen in high school graduates who were not able to use the knowledge acquired at school in their homes. Support for these findings can be found in the work of Muthui (1981), Mbae (1984) and Kasuku (1984), who found evidence that some parts of the home science syllabus were not relevant to the students' future needs.

Concerning the question on integration, an impression frequently expressed by the respondents was that of a need for integrating the various courses in home science. The respondents

observed that the present home science curriculum was too specialized as students had opportunities to study only one course in home science. Therefore, the students going through the home science curriculum obtained skills limited to one core area be it clothing and textiles, foods and nutrition or home management. The respondents indicated that home science would succeed as an integrated subject, having all the main core areas combined. Noting that the majority of the students never had opportunities for further studies, an integrated course of study would be more beneficial to those whose high school education is terminal.

The findings were further verified through the computation of the Spearman Rank Order Correlation (rho). The computed rho from the data was found to be similar to the table value of rho. This confirmed that home science teachers agreed in the ranking of home science courses. The course that ranked first in order of usefulness was home managment. Home management was considered more useful because it is an integrated course of study that combines all other core areas in home science. The first hypothesis HO (1) was accepted at $p < .05$ level and the findings suggested that a general home science curriculum would meet the needs of the high school students and Kenyan Society.

Some of the implications explored in the study include: curriculum review, community involvement, revision of

curriculum content and specific implications for the students, teachers and administrators. Of the many implications inherent in the study, the researcher chose to speculate on the need for home science curriculum improvement in Kenya.

Conclusions

This section is given under four sub-headings as follows: curriculum objectives; relevance in curriculum; integrated curriculum; and curriculum content. These sub-headings correspond with the research questions and purposes of the study.

Curriculum Objectives

1. The study revealed that there were some curriculum objectives being achieved and there were some not being achieved in the present home science curriculum. The curriculum has mostly met the general aims but not the specific long-term objectives of the curriculum. The findings revealed that home science students may pass examinations at the end of the course (short-term objective) but, most of them may not be able to apply or use the knowledge acquired at home. The curriculum item related to long-term objectives were mainly rated low (unsatisfactorily). It has been concluded, therefore, that the present home science curriculum has not met one of its major objectives ... to prepare students for

life in a community in which the application of home science is essential for establishing and maintaing personal and family living.

2. Another objective that has not been met is that of provinding the students with an integrated course of study to enable them to use aspects of all core areas of home science. Students usually specialize in one home science course. For instance, a student studying clothing and textiles is not normally given an opportunity to study foods and nutrition. This has resulted in home science students graduating with skills limited to one area of home science.

3. Based on the low (unsatisfactory) mean scores on different curriculum items, and the related literature reviewed, the researcher concluded that the following objectives have not been adequately met:

   a) Focus on youth, their needs, problems and the part they play in their society.

   b) Develop the students' artistic values, and appreciation of good design and beauty.

   c) Prepare students to adapt to changes of developing and modern societies.

   d) Equip students to play full part in the society by raising the standard of living in their community.

   e) Stimulate the students' interests so that they will want to carry on learning and experimenting after

leaving school.

Relevance in Curriculum

Evidence from low mean scores (unsatisfactory) of 12 curriculum items related to relevance in home science suggested that the curriculum had not fully achieved its intended goals. The respondents indicated that some parts of the home science curriculum were not relevant to the student and society. After school, a student was not able to practice at home what they learned at school. The respondents suggested that instruction in high school would be more relevant to the needs of today's student and society by using and improving locally available resources. They called for programmes that are relevant in content to everyday life and which have a great transfer potential and can be applied to a variety of situations.

It has been concluded, therefore, that the present curriculum need to be revised or improved inorder for it to be more relevant to high school youth. A general home science course would be more relevant and beneficial to those whose high school education is terminal. The knowledge in all core areas of home science would facilitate improvement of the quality of life for the individual, family, and the community at large.

Integrated Curriculum

The arrangement of the present home science curriculum brought about some early specialization in one area of home

science. Based on the findings of the study, it was observed that a student studying a course in foods and nutrition was not able to study clothing and textiles or home management. The respondents agreed in their ranking of courses that home management was the most useful course because of its multi-aspects nature of content.

It has been concluded, therefore, that early specialization made students study only one course and thus become dificient in other courses that are equally important. The knowledge and skills acquired in all core areas of home science will facilitate improvement of the quality of life for the individual, family and community at large. An integrated home science curriculum is necessary for success in the attainment of lifelong skills or competencies in home science education. Noting that the majority of high school students never have opportunities for further studies, an integrated home science course would be more beneficial to those whose high school education is terminal. An integrated or general home science curriculum would only emphasize fundamental principles in all the different core areas which would allow for more schools and students to study the subject with minimum resources. Considering the present need for a more general education at high school level, a general home science curriculum would meet the needs of the student and Kenyan society.

Another conclusion reached regarding an integrated home

science curriculum was that students who specialize in one area of home science face problems on subject combination. Furthermore, the majority of students studying home science courses do not study physical sciences. Hence, students especially those who have opportunities for further education face problems on their subject combination for professional training.

Curriculum Content

Currently the adequacy of the high school home science curriculum is open to question because of the continued overemphasis on clothing and textiles, foods and nutrition, and home management and the relative neglect of family relations, consumer education gardening, local equipment, and other areas of concern among the youth as well as intensification of these areas.

It has been concluded, therefore, that the curriculum content needs to be revised, taking an account of the changing nature of society's needs and values with respect to matters concerned with family studies, changing roles of the men and women, and current trends in education.

Subject-matter areas such as family relations, child development, housing and furnishings, equipment and comsumer education may meet additional needs of students as well as offer a selection for those with special interests. These subject-matter

areas were rated as important aspects of general education today, and may meet the needs of many students. Hence, they should form an integral part of home science education.

Suitable content from each subject-matter area must be selected to fulfil the objectives of the syllabus or curriculum. The curriculum and syllabus content should provide suitable and realistic learning experiences that will enable students to:

1. Practice effective methods of managing their homes and resources.
2. Have sufficient background education to pursue further education in higher institutions of learning and training.
3. Secure entry to a field of employment which requires some knowledge of methods of home management, acquisition of sewing skills, and methods of food preparation, service and preservation.
4. Take up a career in home scinece at the non-professional level.

Content as concepts, propositions, skills and attitudes should be well selected and organized for learning.

Recommendations

The following recommendations were not necessarily intended as a prescription for action per se, but as an invitation to

reconsider certain curriculum planning patterns, procedures, and problems with a potential for contributing to the improvement of the quality of home science education. The refusal to prescribe is not based on any lack of conviction as to desirable action but on the belief that high school curricula, whatever their nature, should reflect problems, issues and concerns specific to learner's environment. The major task is to explore and consider ways to strengthen and improve the high school, home science curriculum.

Based on the findings and literature review, the following recommendations were made.

Recommendation 1 - A General Home Science Curriculum

From the major findings of the evaluation study, it is recommended that a general home science curriculum be introduced in high school. Such a programme will be a systematic and interdisciplinary course rather than snippets of specialization. The instructional core will provide for the unity of concepts, skills and values in the three areas of foods and nutrition, home management and clothing and textiles. Such a broad course of study will offer a wider cultural perspective, that is more favoured in place of the home science specialities. The general curriculum will offer a great potential for a systematic and comprehensive understanding of the individual in family life and in the community.

Recommendation 2 - Diversification of Content:

The study showed some evidence for need to improve the content and scope of home science instruction in high schools. This would require a generalist curriculum that will continue throughout all the high school years. In a general home science course, the scope of concern should be broadened to include units in consumer education, family life, child development, gardening, local household equipment and fuel, household technology, careers in home science, income generating projects and others.

Education for homemaking per se is not a programme of study for a secondary school student who may never have an opportunity for further formal education. Most respondents in the study felt that students should be prepared for the dual role of homemaker-wage earner through some carefully selected units in a general home science curriculum. This is in accordance with the objectives of the home economics education at the international level. A general curriculum with diversified content will allow for the acquisition of personal meaning instead of just mastery of content.

Recommendation 3 - Teachers' Guide in Scope and Sequence.

The syllabus need to have a better clarification as to the scope and sequence of the subject matter. Hence, the syllabus should be accompanied by a teacher's guide. The teachers guide need to take the form of detailed syllabus content

to include:-

1. Scope and sequence of content areas to be covered under each topic.
2. The number of lessons suggested for each term, the extent of work to be covered in a given time, reference materials, visual aids, evaluation objectives for each teacher to develop in her own way.
3. Suggestions for student activities and learning experiences. Including suggestions for questions to be asked and answered in assessing the lessons.
4. Guidelines on how to adapt the syllabus content to suit students with special needs or disabled student or to fit a specific student background.
5. Guidelines on how to be involved in the community and suggestions for home projects.

Recommendation 4 - A Clear Definition of Objectives

One major purpose of this study was to examine the degree to which home science curriculum is accomplishing its objectives and what additional objectives it might take on. The study revealed that the aims and objectives of home science in the general curriculum need to be clearly defined. The study recommends the following outline:-

1. It should provide a proper firm foundation for those students who have the potential to undertake post-secondary home science

education.

2. It should take into account the needs of those students who may never have an opportunity for further formal education.
3. It should provide the student with basic theoretical and practical learning in all core areas of home science.

More specifically, the main objectives of teaching general home science in high school should be:

1. To provide students with an integrated course of study that will enable them to use aspects of all core areas within home science for self-reliance.
2. To expose students to learning experiences that are relevant to the needs of various socio-economic levels.
3. To develop physical skills in all areas of home science through the use of typical, locally available equipment, and materials that are found in an average home.
4. To encourage attitudes favourable to cultural, economic and national development in Kenya.
5. Prepare students for life in their community through inculcating a sense of resposibility in respect to the social and economic aspects of home and family life.

Additional objectives relating specifically to the three subject matter areas would be as follows:-

. . . . . .

Foods and Nutrition: The main objectives for teaching foods and nutrition in general home science will be to:

1. Develop an awareness and appreciation of the wide range of foods that are locally available.
2. Understand the basic principles of nutrition and apply them to the choice of food and to meal planning, preparation and storage of food.
3. Prepare improved traditional meals in efficient and economical ways using the utensils, tools, machinery, equipment and fuels that are available in most homes.

Home Management: The main objectives for teaching home management in general home science will be to:-

1. Help students plan and organize work efficiently and be able to decide on priorities in the use of available resources and adapt them to the changing conditions.
2. Understand the importance of home and family life and to manage and enjoy their own homes and be efficient on the job outside the home.
3. Think well of themselves and the community in which they live in.

Clothing and Textiles: The main objectives for teaching clothing and textiles will be to:

1. Introduce students to a variety of textiles and guide them in understanding the properties which affect their choice, use and care of fabrics for personal and for household use.
2. Prepare students to handle and use different fabrics

sensitively and creatively and to become efficient and skillful in the use of sewing machines and other equipment.

Recommendation 5 - Constant Curriculum Evaluation

Constant evaluation is essential to a successful follow-up of the methods directed towards achieving the objectives of home science curriculum. It is a practical test of the effectiveness of existing programmes in meeting the demands of family and community living, which change constantly with different stages of national development. There is no doubt that a flexible curriculum contributes more to educational excellence than a rigid one.

The study noted that assessment and evaluation is mainly done in terms of specific areas of content instead of the curriculum objectives. For that reason, most students tend to study home science for the purpose of passing examinations. The curriculum should provide for more than examination requirements in developing the basic skills, abilities and competencies for family and community living as students are actually being prepared for long life experiences.

Although final examinations would testify to knowledge and understanding of home science theories, they may not be true assessment of ability to cope with domestic problems in actual life situations, resourcefulness towards ambitions and aspirations and even intelligent judgement in decision-making.

In order to make sure that students are well-prepared for both examinations and future lives, home science inspectors and other officers need to restructure the curriculum and assist teachers in placing equal emphasis on theory and on practical performance.

Recommendation 6 - Encouragement of Home Projects.

Assignment of home projects should be encouraged in the teaching of home science. This is due to the fact that they create actual situations and special circumstances that enables students to put their knowledge into practice and discover the problems peculiar to specific circumstances. Students will be able to see their home and community settings as laboratories where they can test the theories learned in home science and opportunities for continuing classroom experiences and making further explorations in improving family living.

Recommendation 7 - Teacher Training.

The teacher training program for high school teachers have been going on for almost three decades but it was shocking to find that there was a great shortage of home science teachers. Following the considereation of the data obtained from the open questions and interviews, it was evident that the urban schools have an over supply of home science teachers. There are many home science trained teachers

in the city or urban areas teaching other subjects. The third observation was that many home science teachers graduate with a teaching degree but are not motivated to stay in the teaching field since they are marketable in other areas or disciplines.

Recommendation 8 - Expanded Home Economics Programs.

There were virtual unanimous agreement among those interviewed that the output of home scince teachers or specialists at degree level needs to be increased. Further, because of the present emphasis on district focus for rural development policy, home science training needs to be closely integrated with and related to rural extension or community development. There needs to be more diversified Home Economics training programs with a rural extension orientation and this should be considered in future development plans.

Recommendation 9 - A follow-up Study of Home Economics Graduants.

It was observed that the only B.Ed. - Home Economics - Training programme in the country has been producing teachers every year for almost three decades. But it is questionable whether these teachers end up teaching high school home science. From the research data it was apparent that home science - trained teachers teach other subjects outside home science especially in the urban areas where there is an over supply of home

science teachers. Some of the rural schools are already closing down home science departments due to lack of teachers.

Following the considerations of data, obtained, the study recommended the following:

a) A follow-up study on home science graduate teachers to find out what they teach, where they teach, those who don't teach and other necessary information.

b) There is need to increase the attractiveness of home science departments and to select and support home science teachers who could maintain helpful and understanding relationships with students in their classes. The study therefore recommended a scholarship for rural teachers for further training and also a teacher of the year awards.

Recommendation 10 - Workshops, Seminars and Inservice Courses.

Review of home science curriculum may be done during seminars, conferences, workshops or refresher courses. Participation of all home science personnel at such group meetings would offer them opportunities to analyze their different situations; identify common problems and suggest practical solutions. Teamwork is necessary in trying out new course content and workshops provide an effective forum for such endevours. In establishing desirable standards in curriculum, it is necessary to pool ideas and plan together whenever the occasion arises to introduce new content or improve old programmes.

Recommendation II - A close interaction between Inspectors, School Administrators, the Univeristy Lecturers, Kenya Institute of Education, the Examinations Council, Home Science Teachers and Students.

When these groups live and work in isolation, they end up receiving misinformed views that tend to create negative attitudes about home science. There is need to change these attitudes. Changes in people's attitudes is likely to occur when there is a closer collaboration between various departments; so that new information is made available relative to home science; positive experiences are associated with it; and home scientists behaviour is consistent with the traditional beliefs.

Recommendation 12 - More Research Studies in Home Science Education.

The present study provided some clues on the strengths and weaknesses of the high school home science curriculum. Further studies might substantiate and clarify these clues. The findings also, had other implications for research. There is an urgent need for increased knowledge and understanding of the needs of individual students and their families. Curriculum improvement should be based on research concerning student needs and national goals.

Research studies should be carried out to investigate the

practices that prevail in different communities. Various questions need answers: What is it that contributes to the improvement of homes and family life in a community? What are the significant values in home life of the people in a particular culture or ethnic group? What kind of kitchen, fireplace or housing do most families have? What kind of equipment and fuel do most families have? The content of home science curriculum will partially be determined by answers to these basic questions.

Supplementing these basic questions are additional ones: Do variations among students due to economic backgrounds, ethnic origin, geographical residence, have noticeable effect on the selection of curriculum materials? What promise do new developments in technology of computers, solar energy, biogas, and others hold for home science curriculum? Research on the changing characteristics of family life and the society as a whole will serve to identify trends towards which the school curricula cannot easily remain indifferent.

The summary and concluding chapter has reiterated the purpose of the study and the research procedures followed. It has also given summary, conclusions and recommendations based on the findings and literature review. It is hoped that the findings of this study will serve as impetus for further investigations by potential curriculum researchers. It is also hoped that the curriculum developers will translate the

implications and recommendations of this study into a vigorous upgrading and strengthening of the quality of home science curriculum.

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APPENDIX A

LETTER OF TRANSMITTAL

Headmistress/Headmaster
High School Offering
Home Sciences.

Dear Head Teacher,

RE: AN EVALUATION OF HIGH SCHOOL HOME SCIENCE CURRICULUM

As part of our study here at the University, we have chosen to review the Home Science Curriculum. The Questionnaire has been set so that Head teachers, home science teachers and home science students (form 3 - 6) can have a part to play in curriculum evaluation.

Your school has been selected to take part in this study. We are particularly interested in obtaining your responses because your experience and that of your Home Science staff and students will contribute significantly towards identifying problem areas. And by responding to the questionnaire, your school will be helping to plan, organize and improve the curriculum in Kenya.

The average time required for the complete exercise is 40 minutes. Please indicate below the date and time when I could come and visit you, your Home Science Teachers and Students. Tear off and return it in the enclosed stamped self-addressed envelope.

Thank you for your kind assistance.

Faithfully,

Asenath J. Sigot

An Evaluation of Home Science Curriculum Research Permit
No. 13/001/129. 223/4
Month _____ Date _____ Time _____
Name of the School _____
Signature of Headmistress/Headmaster _____ Date _____

APPENDIX B

HIGH SCHOOLS VISITED IN THE STUDY

The 1982 list of schools offering Home Science at "O" and "A" level, recorded by the Ministry of Education and the Kenya National Council of Examinations, was used as a basis for selecting schools to visit. From this list a stratified sample list consisting of schools offering the three different core areas in Home Science was prepared.

From the stratified listings, 50 schools were selected to give a nation-wide distribution according to the geographic distribution and Home Science subject being offered in the school. A list of these schools follows.

THE 50 HIGH SCHOOLS VISITED

Pangani Girls High School
H.H. Aga Khan Academy
H.H. Aga Khan High
Ngara Secondary School
State Hs. Rd. Girls
Kenya High School
Loreto Convent Msongari
Ofafa Jericho High School
Kianda High School
Nakuru Day Sec. School
U.G. Secondary School
Moi Girls High, Sc. Eldoret
Menengai High School
Ourlady of Mercy
Precious Blood, Riruta
St. Francis Girls
Maryhill Girls
Mary Leaky Girls
Machakos Girls
Mugoiri Girls
Kahuhia Girls
Kaaga Girls
Nyeri Technical Sec.
Tumutumu Girls*
Loreto High School
H.H. Aga Khan High, Mombasa

Kapsabet Girls High	Star of the Sea
Kapkenda Girls High	Sacred Heart High
Singore Girls High	Coast Girls High
Kabarak High School	Murray Girls High
Kaimosi Girls High	Kamagombo High School
Mukumu Girls	Asumbi Girls High
Cardinal Otunga Girls	Kereri Girls High
Bunyore Girls	St. Brigids Girls
Lwak Girls	Alliance Girls*
Kisumu Girls	Moi, Nairobi Girls*
Ng'iya Girls	Kapropita Girls
Lugulu Gilrs	Kipsigis Girls

* Written questionaires were not administered in these schools.

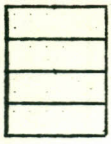
APPENDIX C

AN EVALUATION OF HIGH SCHOOL HOME SCIENCE CURRICULUM - QUESTIONNAIRE

PART 1: PERSONAL DATA DATE _____ STUDENTS

Directions: In the statements, below, check the blank to the left of the choice which best answers the questions.

A. Year in school

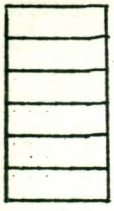


1. Form 3
2. Form 4
3. Form 5
4. Form 6

B. Home Science subject that I study

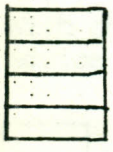
1. Home Management
2. Foods and Nutrition
3. Clothing and Textiles
4. Other, specify ...

C. I was influenced to study Home Science subjects by:



1. Home Science Teacher
2. Headmistress/Headmaster
3. Career Master/Mistress
4. My parents
5. My friends
6. Other, specify ...

D. The role my parents played in my subject decision:



1. Offered encouragement
2. Contributed finances only
3. Adviced me on the importance of the subject
4. My parents had no say but accepted my decision

E. My reasons for selecting to study Home Science:

1. Good examination results
2. Personal conviction on Home Science
3. I had a choice between Science Subjects and Home science
4. I was not good in Science subjects
5. I like the subject
6. Professional occupation or wage earning
7. Others, specify ...

F. Rank the following courses in order of usefulness to you as a student and relating to your community needs. Number 1 being the most useful.

1. Home Management
2. Foods and Nutrition
3. Clothing and Textiles
4. Science in the Home
5. All the useful

G. Rank the following courses that are not taught extensively in High Schools at the moment but you feel are useful. Number 1 being the most useful.

1. Consumer Education
2. Family Life Education
3. Child Development
4. Household Equipment
5. Housing and Home Furnishing
6. Other, specify ...

H. The present Home Science Course prepares you for:

1. College
2. Examination
3. Homemaking
4. Wage earning/job
5. Does not prepare me for anything special
6. Other, specify ...

I. Other science subjects that Home Science students should study include: (You may select more than one).

1. Physical Science
2. Maths
3. Biology
4. Chemistry
5. Physics
6. Other, specify ...

J. With the knowledge you have about Home Science, would you advice a fried to study the course?

1. Yes
2. No
3. Undecided

K. Do you share with your friends what you have learnt in Home Science?

1. Yes
2. No
3. Undecided

AN EVALUATION OF HIGH SCHOOL HOME SCIENCE CURRICULUM - QUESTIONNAIRE

PART 1: PERSONAL DATA DATE _____ TEACHERS

A. Years of Teaching

- ☐ 1. 0 - 1 Year
- ☐ 2. 2 - 5 Years
- ☐ 3. 6 - 10 years
- ☐ 4. 11 - 15 years
- ☐ 5. More than 15 Years

B. Professional Qualifications

- ☐ 1. S1
- ☐ 2. Diploma in Education
- ☐ 3. Bachelor of Education
- ☐ 4. Master of Education
- ☐ 5. Other, specify ...

C. During my teaching career, I have taught the following areas of Home Economics (Home Science).

- ☐ 1. Home Science Form 1 & 2
- ☐ 2. Home Management
- ☐ 3. 'O' level Foods and Nutrition
- ☐ 4. 'O' level Clothing & Textiles
- ☐ 5. 'A' level Foods and Nutrition
- ☐ 6. 'A' level Clothing & Textiles
- ☐ 7. Science in the Home
- ☐ 8. Other, specify ...

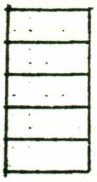
D. As a result of my teaching experience, I prefer to teach the following subjects:

- ☐ 1. Foods and Nutrition
- ☐ 2. Home Management
- ☐ 3. Clothing and Textiles
- ☐ 4. Other, specify ...

E. Currently, I teach the following subjects:

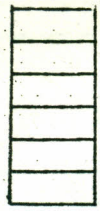
- ☐ 1. Foods and Nutrition
- ☐ 2. Home Management
- ☐ 3. Clothing & Textiles
- ☐ 4. Other, specify ...

F. Rank the following courses in order of their usefulness to High School students with special reference to the student and community needs. Number 1 being the most useful.



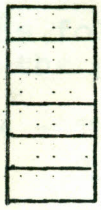
1. Home Management
2. Foods and Nutrition
3. Clothing and Textiles
4. Science in the Home
5. All are useful

G. Rank the following courses that are not taught extensively in High Schools at the moment but you feel are useful. Number 1 being the most useful.



1. Consumer Education
2. Family Life Education
3. Child Development
4. Household Equipment
5. Housing and Home Furnishing
6. Other, specify ...

H. The Present Home Science Curriculum prepares students for:

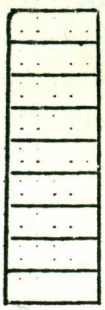


1. College
2. Examinations
3. Homemaking
4. Wage earning/Job
5. Do not prepare students for anything special
6. Other, specify ...

I. Other science subjects that Home Science students should take include: (You may select more than 1).

1. Physical Science
2. Maths
3. Biology
4. Chemistry
5. Physics
6. Other, specify ...

J. The factors that I think influence the High School Home Science Curriculum are: (You may select more than one choice).



1. Teachers
2. Administrators
3. Student's interests
4. College requirements
5. National Examinations
6. Job expectations
7. Text books
8. Finances
9. Other, specify ...

K. The following people should be involved in planning Home Science Curriculum: (You may select more than one choice).

	1. Teachers
	2. Administrators
	3. Students
	4. Parents
	5. All the above
	6. Other, specify

L. What problems do you encounter when teaching Home Science?

	1. Too little time
	2. Insufficient equipment
	3. No proper room
	4. Too large a group of pupils for easy handling

PART II (Teachers and Students)

Certain characteristics of Home Science Curriculum are desirable for its success in meeting its longterm objectives/aims. In assessing the present curriculum, a fair sample of desirable characteristics are listed below:

Use the following symblos to rate the degree with which the present curriculum meets its objectives.

4 - This characteristics is present to a very satisfactory degree.

3 - This characteristics is present to a satisfactory degree.

2 - This characteristic is present to an unsatisfactory degree.

1 - This characteristic is present to a very unsatisfactory degree.

0 - This characteristic is not present.

A. GENERAL AIMS OF HOME SCIENCE CURRICULUM

	4	3	2	1	0
1. Home Science assists students in the development of personal qualities.					
2. Home Science aims to assist in their intellectual development					

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Satisfactory
0 = Not Present	

	4	3	2	1	0
3. Home Science aims to assist the students to develop aesthetic appreciation.					
4. Home Science aims to cater for the needs of adolescents					
5. Home Science aims to meet students future needs					
6. Home Science aims to provide students with necessary skills and knowledge.					
B. <u>BALANCE IN THE CURRICULUM</u>					
1. Education for home and family life in the primary purpose for Home Science Curriculum					
a) Each Course contributes to the students education for home and family.					
b) All Courses in Home Science are open to all students in the school.					
c) All the students are encouraged to study Home Science.					
2. Personal development of the student is an important purpose of the Home Science Curriculum					
a) The core curriculum includes courses designed particularly to foster the student's personal development.					
b) Subjects are available to all who want preparation for professional work in Home Science.					
c) Subjects are available for students as service courses helpful in preparing them for work in other fields.					

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Unsatisfactory
0 = Not Present	

C. OBJECTIVES OF THE CURRICULUM

4	3	2	1	0

1. Adequate bases are used in determining curriculum objectives

   a) The objectives are relevant to the needs and interests of the students

   b) The objectives are relevant to the needs of the society

   c) In selecting objectives, consideration is given to the resources in the school available for attaining the objectives

2. The objectives are helpful in planning instructions

   a) The objectives are stated clearly in terms of desired changes in student's behaviour

   b) The objectives are understood and accepted by home science teachers

   c) The objectives are understood by the students

   d) The objectives can easily be achieved

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Unsatisfactory
0 = Not Present	

D. CURRICULUM CONTENT

4	3	2	1	0

1. The curriculum content is challenging and related to student's interests and needs.

   a) It motivates the learner to pursue further studies in Home Science

   b) The content is directly related to student's needs in today's society

   c) The content focuses on central ideas and principles that facilitates transfer of knowledge

   d) The content emphasizes the role of basic concepts, and fundamental principles

2. The Curriculum content is responsive to continuing changes in knowledge and society

   a) Content is up-to-date and sequently arranged to build upon previous learning

   b) Content concentrates on significant persistent themes and principles

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Unsatisfactory
0 = Not Present	

4	3	2	1	0

c) Content is related to local needs and use of locally available resources

d) The content emphasizes basic skills and abilities essential for training and maintaining a successful family life.

e) The content is concerned with attainment of appreciation of the Kenyan way of life in terms of national values and goals

E. LEARNING EXPERIENCES

1. The learning activities are effective in promoting growth toward the objectives.

a) The learning activities provide opportunities for students to practice the behaviour stated in the objectives

b) The learning activities are appropriate to the maturity of the students and meaningful to them

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Unsatisfactory
0 = Not Present	

	4	3	2	1	0
c) Learning activities involve a high degree of active student participation					
d) Learning activities are varied in type to provide for difference in interests, problems, needs and ability among students					
2. The Learning Activities are so organized to produce maximum cumulative effect on student's learning.					
a) The learning activities in one area are so related to those in other areas as to provide continuity in reinforcement of learning					
b) Learning activities are related to the content and objectives					
c) Learning activities provide opportunities for students to apply what they are learning to life outside the school					

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Unsatisfactory
0 = Not Present	

F. EXAMINATIONS

	4	3	2	1	0
1. An adequate programme of examining all the various parts of the Home Science curriculum is followed					
a) The effectiveness of the curriculum is measured in terms of changes taking place in students					
b) Examinations are set with reference to all the objectives of the curriculum					
c) Methods of Examinations are valid and reliable					
d) Examinations are flexible and considers local stituations					
2. The examination results are used in planning curriculum improvement.					
a) Teachers and students participate in collecting evidence of curriculum effectiveness through examination results					
b) The examination results are used in planning instruction for improvement					
c) Results are communicated to the schools					
d) Weaknesses in the examination results are pointed out for future improvement					

4 = Very Satisfactory	3 = Satisfactory
2 = Unsatisfactory	1 = Very Unsatisfactory
0 = Not Present	

G. CURRICULUM CONSTRUCTION

	4	3	2	1	0
1. Use is made by curriculum planners of trained and interested leadership in curriculum construction					
a) The curriculum committee knows the needs and developmetnal tasks of individual learners					
b) The curriculum committee initiates curriculum effectiveness and revisions					
c) The curriculum committee is able to win respect of administrators, Home Science teachers and students with whom they work					
2. Students and staff participate freely and effectively in the programme of continuous curriculum construction					
a) Home Science teachers work together in curriculum construction					
b) The help of students is enlisted in studying and planning curriculum construction					
c) The help of former students is enlisted in studying and planning those aspects of curriculum construction to which they contribute					

I would like you to give your opinion on what you feel are the areas of strength and weakness in the present Home Science Curriculum/Syllabus. Give areas that need revision and suggestions for improvement.

A. HOME SCIENCE - FORM 1 & 2

a) Areas of Strength:

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b) Areas of Weakness:

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c) Necessary revisions and suggestions for improvement:

B. HOME MANAGEMENT

a) Areas of Strength:

---

b) Weakness:

---

c) Necessary revisions and suggestions for improvement:

C. 'O' LEVEL CLOTHING AND TEXTILES

a) Areas of Strength:

---

b) Weakness:

---

c) Necessary revisions and suggestions for improvement:

E. 'A' LEVEL CLOTHING AND TEXTILES

a) Areas of Strength:

---

b) Weakness:

---

c) Necessary revisions and suggestions for improvement:

F. 'A' LEVEL FOODS AND NUTRITION

a) Areas of Strength:

---

b) Weakness:

---

c) Necessary revision and suggestions for improvement:

G. SCIENCE IN THE HOME

a) Areas of Strength:

---

b) Weakness:

---

c) Necessary revisions and suggestions for improvement:

H. List courses or topics you feel should be included in High School Home Science Programme:

I. List courses or topics you feel should be excluded or eliminated in High School Home Science programme:

J. What are your feelings concerning the general status of Home Science in Kenyan Education?

K. Other comments:

THANK YOU FOR ANSWERING THESE QUESTIONS

APPENDIX D

AN EVALUATION OF HIGH SCHOOL HOME SCIENCE CURRICULUM IN KENYA

AN INTERVIEW GUIDE. (Leading Questions)

1. What do you believe to be the major strengths and weaknessess of home science courses? _____

2. What do you think the high school home science courses prepares students for? _____

3. Who should be involved in the planning of home science curriculum? _____

4. What factors do you think affect the implementation of the high school home science curriculum? _____

5. Do you think the present curriculum meets the aims and objectives of teaching home science in high school?

6. Is instruction in high school level relevant to the needs of today's student and/or society?

7. If you had a choice between the three core areas of home science, which one would you select as the most useful subject to high school students? Why? _____

8. To what extent is the home science curriculum integrated to cater for all round competencies or skills required by students? _____

9. What changes would you like to see made in the present curriculum? Why? _____

10. What are your feelings concerning the general status of home science in Kenya's Educational structure? _____

APPENDIX E

Number of Schools and Candidates Offering Home Science in 1963-1984

	1963	1969	1973	1974	1975	1976	1978	1979	1980	1981	1982	1983	1984
"O" LEVEL													
Home Management													
No. of Schools	-	-	24	21	16	28	38	-	-	43	47	-	45
No. of Candidates	46	114	340	275	279	571	705	767	891	839	955	-	817
Foods and Nutrition													
No. of Schools	-	16	18	21	19	20	24	-	-	29	28	-	27
No. of Candidates	256	285	295	269	296	384	453	535	534	554	565	-	507
Clothing and Textiles													
No. of Schools	-	34	70	70	61	64	71	-	-	70	73	-	78
No. of Candidates	417	782	962	1015	812	1042	918	1106	1203	1076	1137	-	1206
TOTAL No. of Candidates	719	1181	1597	1659	1387	1997	2232	2408	2628	2469	2657		2530
"A" LEVEL													
Foods and Nutrition													
No of Schools			-	-	-	-	-	-	-	13	10	-	10
No. of Candidates	None	None	21	-	-	17	-	68	78	67	66	52	80

Clothing and Textiles													
No. of Schools	None	None	-	-	-	-	-	-	-	-	4	-	7
No. of Candidates			3	-	-	20	-	10	40	31	34	37	27
TOTAL No. of Candidates	0	0	24	-	-	37	-	78	118	98	100	89	107
GRAND TOTAL CANDIDATES	719	1181	1621	-	-	2034	-	2486	2746	2,567	2757	-	2637

NB. Some figures were not available as indicated by a dash.

Source Kenya National Examination Council. Practical Examination Time tables.