EVALUATION OF FACTORS AFFECTING THE EFFECTIVE ASSESSMENT OF THE 8-4-4 SECONDARY SCHOOL HOME SCIENCE PRACTICAL EXAMINATIONS IN NAIROBI AND KIAMBU DISTRICTS

BY

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DECLARATION

I would like to give a personal word of thanks to various institutions and a number of persons without whose support and encouragement this thesis would not have been possible. I am particularly thankful to my supervisors Prof. Julia Gitobu, Chair, Home Economics Department and Dr. Cirika Kithinji, Senior Lecturer, Department of Educational Communication and Technology. I also wish to acknowledge the help and patience of my parents and friends whose constant encouragements and financial assistance influenced me to embark on and complete this thesis. I am also grateful to my husband and children who were very understanding during the entire process of this study. Lastly, I wish to thank the library staff at the Kibabii University for granting me the opportunity to carry out my postgraduate research and all heads of schools, Home Science teachers and students who participated in this study.

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DEDICATION

Dedicated to my parents, Kamau and Njeri, whose parental care has enabled me to reach this far. To my dear husband Alphonse Kanga, constant source of strength, love and care, to the glory of God for his sufficient grace throughout my life.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TITLE OF THESIS</td>
<td>i</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>iv</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xiii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>xiv</td>
</tr>
<tr>
<td>CHAPTER ONE</td>
<td>1</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.0 Background Information</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Statement of the Problem</td>
<td>8</td>
</tr>
<tr>
<td>1.2 Purpose of the Study</td>
<td>8</td>
</tr>
<tr>
<td>1.3 Objectives of the Study</td>
<td>9</td>
</tr>
<tr>
<td>1.4 Research Questions</td>
<td>10</td>
</tr>
<tr>
<td>1.5 Significance of the Study</td>
<td>11</td>
</tr>
<tr>
<td>1.6 Assumptions of the Study</td>
<td>12</td>
</tr>
<tr>
<td>1.7 Limitation of the Study</td>
<td>12</td>
</tr>
<tr>
<td>1.8 Definition of Terms used in the Study</td>
<td>12</td>
</tr>
<tr>
<td>CHAPTER TWO</td>
<td>16</td>
</tr>
<tr>
<td>REVIEW OF RELATED LITERATURE</td>
<td>16</td>
</tr>
<tr>
<td>2.0 Introduction</td>
<td>16</td>
</tr>
<tr>
<td>2.1 Historical Background of Home Science Practical Examinations in Kenya from 1963 - 1984</td>
<td>17</td>
</tr>
</tbody>
</table>
4.1.3 Teachers’ Familiarity with 7-4-2-3 and the 8-4-4 of education......................... 48
4.1.4 Teachers’ ratings on units most and least enjoyed........ 50
4.1.5 Problems encountered in the teaching of Home Science practical paper two and three.............. 53
4.1.6 Inservicing of teachers in preparation for the assessment of Home Science Paper three.................. 55
4.1.7 Problems encountered by Home Science teachers when assessing Home Science paper three.............. 58
4.1.8 Assessment of desirable characteristics in the 7-4-2-3 and the 8-4-4 form four Home Science practical Examinations.......................... 59
4.1.9 Teachers desirable approaches in the assessment of Home Science Practical paper three.................. 66
4.2.0 Attitudes of teachers towards desirable approaches in the setting, administration and assessment of 8-4-4 Form Four Home Science Practical Examinations.......................... 67
4.2.1 Strengths and Weaknesses in the assessment of 8-4-4 Secondary school Home Science practical examinations...... 74
4.2.2 Respondents suggestions on ways of improving Home Science practical Examinations.......................... 77
4.2.3 Recommendations to the whole Assessment Programme...... 81
4.3.0 Information obtained from Home Science Students........ 82
4.3.1 Students’ Background.................................. 83
4.3.2 Gender.............................................. 83
4.3.3 Boarding or day student................................. 84
4.3.4 The Effect of boarding status on the Home Science practical sessions .................................................. 85
4.3.5 Reasons given by students in regard to the effect of a boarding school on performance in Home Science practical examinations ................................................................. 87
4.3.6 Students' ranking of units by enjoyment.......................... 87
4.3.7 Reasons given by Students regarding enjoyment in learning certain Units.................................................. 88
4.3.8 Problems encountered in the learning of Home Science practical sessions by units .................................................. 91
4.3.9 Students' desirable approaches in the assessment of Home Science practical paper three........................................... 92
4.4.0 Attitudes of students towards evaluation of the 8-4-4 Secondary School Home Science practical examinations ...... 94
4.4.1 Students' ratings on the education they have obtained in relation to its usefulness and self-employment.......... 99
4.4.2 Strengths and weaknesses perceived by the students in the 8-4-4 secondary school Home Science practical examination ................................................................. 100
4.4.3 Students' suggestions on ways of improving 8-4-4 Secondary school Home Science examinations............... 102
4.4.4 Students' recommendations to the whole assessment programme ................................................................. 105
CHAPTER FIVE .............................................................. 108
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .................. 108
5.0 Introduction .................................................................. 108
5.1 Summary of Preceding Chapters............................................. 108
5.2 Summary of Findings............................................................ 112
5.2.1 Context related findings..................................................... 112
5.2.2 Input related findings....................................................... 113
5.2.3 Process related findings..................................................... 114
5.2.4 Product related findings..................................................... 114
5.3 Conclusions............................................................................. 116
5.4 Recommendation................................................................. 120
5.5 Areas for Further Research..................................................... 122
REFERENCES.................................................................................. 123
APPENDICES: CORRESPONDENCE AND INSTRUMENTS......................... 130
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Selected schools in Kiambu District</td>
<td>36</td>
</tr>
<tr>
<td>Table 2</td>
<td>Selected schools in Nairobi</td>
<td>37</td>
</tr>
<tr>
<td>Table 3</td>
<td>Number of Home Science Teacher respondents in Kiambu</td>
<td>38</td>
</tr>
<tr>
<td>Table 4</td>
<td>Number of Home Science Teacher Respondents in Nairobi</td>
<td>39</td>
</tr>
<tr>
<td>Table 5</td>
<td>Teacher's Highest Academic Qualification</td>
<td>46</td>
</tr>
<tr>
<td>Table 6</td>
<td>Teachers' Teaching Experience</td>
<td>47</td>
</tr>
<tr>
<td>Table 7</td>
<td>Teachers' familiarity with the 7-4-2-3 and the 8-4-4 systems of education</td>
<td>49</td>
</tr>
<tr>
<td>Table 8</td>
<td>Number and percentages of teacher respondents by units most and least enjoyed</td>
<td>50</td>
</tr>
<tr>
<td>Table 9</td>
<td>A summary of teachers reasons by enjoyment of specific units</td>
<td>51</td>
</tr>
<tr>
<td>Table 10</td>
<td>Analysis of the problems encountered by teachers in the teaching of Home Science practical paper two and three</td>
<td>54</td>
</tr>
<tr>
<td>Table 11 (a)</td>
<td>Training of teachers for assessment of Home Science paper three and source of their training</td>
<td>56</td>
</tr>
<tr>
<td>Table 11 (b)</td>
<td>Duration teacher has assessed her students and duration of training those with no training would want to have</td>
<td>56</td>
</tr>
<tr>
<td>Table 12</td>
<td>Problems teachers encountered in assessment of Home Science paper three</td>
<td>58</td>
</tr>
<tr>
<td>Table 13</td>
<td>Teachers' ratings on desirable characteristics in the 8-4-4 form four Home science practical examinations</td>
<td>60</td>
</tr>
</tbody>
</table>
Table 14 Teachers' ratings on the desirable characteristics in the 7-4-2-3 final Home Science practical examinations...61
Table 15 Teachers' desirable approaches in the assessment of Home Science practical paper three........................67
Table 16 Attitudes of teachers towards evaluation of 8-4-4 secondary school Home Science practical examinations.....68
Table 17 Number and Percentages of teachers by strengths and weaknesses in the 8-4-4 Home science Practical Examinations.............................................75
Table 18 Teachers' suggestions for improvement of Home Science practical papers.................................78
Table 19 Teachers recommendations to the whole assessment programme................................................81
Table 20 Students' Gender.................................................................83
Table 21 Number and percentage of students by boarding status....84
Table 22 The effect of boarding status on the performance of Home Science practical sessions......................85
Table 23 Students' rating of units by enjoyment.........................87
Table 24 Reasons for enjoyment in learning the various units.....89
Table 25 Reasons for students non-enjoyment of certain units.....90
Table 26 Problems encountered by the students in the learning of Home Science practical sessions...............91
Table 27 Students' desirable approaches in the assessment of Home Science practical paper three..................93
Table 28 Attitude of students towards evaluation of the 8-4-4 secondary School Home Science practical examinations....94
Table 29 Students' ratings on the usefulness of Home Science Education as it relates to self-employment. .......................... 99

Table 30 Students' perceived strengths and weaknesses in the 8-4-4 secondary school Home science practical examinations. ................................................................. 100

Table 31 (a) Number and percentage of students by suggestions for improvement of Home Science paper three. ..................... 102

Table 31 (b) Number and percentage of students by suggestions for improvement of Home Science paper two. ...................... 103

Table 31 (c) Number and percentage of students by suggestions for improvement of Clothing and Textiles. ......................... 104

Table 32 Students' recommendations on the whole assessment programme. ................................................................. 106
LIST OF FIGURES

Fig. 1 A diagrammatic illustration of the C.I.P.P. evaluation model on how it was used in this study. ................. 7

Fig. 2 A Framework on how the study was carried out................. 43
ABSTRACT

As a practical oriented subject, Home Science underwent major changes with the introduction of the 8-4-4 system of education. With more emphasis given to technical subjects, more students enrolled to do the subject. This necessitated the use of the subject teacher in the final K.C.S.E. examination. Course-work which used to be included in the final assessment in the former 7-4-2-3 system of education ceased to be assessed. The combination of all the units into a unified syllabus without a corresponding increase in personnel and facilities posed the need for an evaluation study.

The study was a survey research whose main purpose was to evaluate the factors affecting the effective assessment of the 8-4-4 secondary school Home Science practical examinations. A study sample of 149 respondents comprising of 127 Home Science students and 22 Home Science teachers was used. The sample was drawn from 10 randomly selected secondary schools, 5 from Nairobi and 5 from Kiambu District. Data were analysed by use of frequencies and percentages.

In the light of the C.I.P.P. (Context, Input, process and product) evaluation model used in the study, various factors were found to influence the effective assessment of the 8-4-4 Secondary School Home Science practical examinations. The
various factors as indicated by the two groups of respondents were:

**Teachers:**

i) Lack of relevant training in the teaching and assessment of practical sessions;

ii) Lack of familiarity in the 8-4-4 system of education;

iii) Lack of facilities especially in rural schools;

iv) Lack of course-work assessment;

v) Setting only one question in Paper Three;

vi) Assessment of Home Science Paper Three both subjective and taxing to the subject teacher; and

vii) Lack of uniformity in the choice of materials for Clothing and Textiles examination.

**Students:**

i) Practical examinations having a bias for girls;

ii) Strong dislike of Child Care and Home Management by boys.

Other factors highlighted by both teachers and students included:

i) Dislike for Clothing and Textiles;

ii) Limited time and facilities;

iii) Too much laundry work in Paper Three;

iv) Paper Two very long and difficult; and

v) Examiner being in close proximity to the student during the assessment of Paper Three.

Results further showed that students were generally comfortable with the education they were getting. Most of them
preferred assessment to be carried out by their teachers, while the teachers preferred an external examiner. However, both teachers and students felt there was an urgent need to in-service Home Science teachers on setting, administration and assessment of Home Science practical examination.

On the basis of these findings, the author of the study offered recommendations geared towards the improvement of the teaching, administration and assessment of secondary school Home Science practical examinations.
CHAPTER ONE

INTRODUCTION

1.0 Background Information

The year 1986 is an important landmark in the history of Kenya's secondary school education. This is because it heralds the introduction of the 8-4-4 system of education. Preparation for the existing syllabus was initiated at the Kenya Institute of Education (K.I.E.) in May 1984. The syllabus states that, "The Secondary School Curriculum is broad-based and builds on the concepts, principles and skills established in the primary cycle. The main objective is preparing the learner for self-employment, training and further education" (K.I.E., 1985).

The varied experiences offered through the curriculum are expected to ensure appropriate balance in the development of cognitive, psychomotor and affective skills. The student, therefore, is expected to understand, practise and appreciate principles and skills learned. It is also designed to cater for the majority of the students for whom secondary education is terminal (Ministry of Education, 1985).

The secondary school Home Science Syllabus consists of five major areas or units namely:

1) Home Management
2) Foods and Nutrition
3) Clothing and Textiles
4) Child Care
5) Consumer Education

Prior to the introduction of the 8-4-4 system of education, the five areas offered as three separate subjects were:

1) Home Management which comprised of house care, child care, home budgeting, choice and maintenance of clothes.
2) Foods and Nutrition and
3) Clothing and Textiles.

Units 2 and 3 were offered up to the advanced level ('A' level) of the secondary school education between 1972 and 1987. The merging of the above major units became necessary due to:

1) Solving the problem posed to post-secondary institutions due to early specialisation at secondary school level,
2) Producing an all rounded person able to fit into the world of work and
3) Improving the quality of life for the individual, family and community at large.

The new syllabus required that practical and written assessments be given regularly to prepare students for the final examinations.

The 8-4-4 Home science curriculum aims at achieving the following general objectives: The learner should be able to:

1) acquire the necessary knowledge to enable him/her practise principles of hygiene with respect to self, food and the environment.
2) develop the artistic values and appreciation of good design and beauty in clothing, interior decoration, preparation and serving food.

3) develop the ability to understand and adapt to the environmental, social and economic change.

4) acquire an awareness of the sources of consumer information and be able to utilize this information intelligently.

5) develop the ability to improvise resources where necessary.

6) acquire the capability to manage the energy and finances in the home wisely.

7) develop the ability to apply the principles involved in the selection and care of household equipment and furniture.

8) acquire knowledge and skills for selection, use and care of fabrics for various uses.

9) acquire sufficient knowledge and skills in maternal and child care.

10) develop an appreciation of the nutritive value of various foods and the importance of a balanced diet.

11) develop creative ability in the selection, preparation and use of a wide variety of foods.

12) acquire basic knowledge and skills in the use, storage and preservation of foods.
13) acquire an appreciation of foods from different communities.

14) acquire relevant knowledge and skills in Home Science to make items for home and income generating activities.

15) acquire a foundation for further professional training in various fields of Home Science (Kenya National Examination Council, 1989 - 90).

One of the major emphasis of the 8-4-4 System of Education has been on technical or practical oriented subjects in both secondary and primary schools (K.I.E., 1985). But the critical question facing educators is how to evaluate the practical skills in public examinations like the Kenya Certificate of Secondary Education (K.C.S.E.) and Kenya Certificate of Primary Education (K.C.P.E.). This is due to lack of trained personnel and the prohibitive cost of assessing practical subjects.

Eshiwani (1987) said that from the time of its launching (1985), the 8-4-4 system in Kenya has been a major concern and challenge to many researchers in the country. Researchers interests have been whether the system is working as per its rationale.

Home Science being one of the subjects that underwent major changes would therefore need evaluation. The Form Four Home Science Examination comprises of three parts:

1) Paper One with a duration of two hours is a theory paper worth a total of 100 marks. It is divided into two sections, A and B. Section A consists of compulsory short answer questions covering the whole syllabus, and
it is worth 40 marks. Section B consists of three compulsory essay type questions each worth 20 marks.

2) Paper Two with a duration of two hours-thirty minutes is the Clothing and Textiles speed test and is worth 35 marks. A candidate is supposed to read, interpret a pattern, cut out the pattern pieces and make one half side of a garment. Most of the clothing construction processes learned in class are assessed. These include: cutting out and transferring pattern markings, seams, pockets, openings, fastenings, management of hems and fullness, collars, interfacings, setting in sleeves and trimmings. It is expected that prior to the examination, a detailed study of the above processes be done simultaneously with the practical work.

3) Paper Three comprises one hour-thirty minutes of planning session and two hours-thirty minutes practical session. It is worth 65 marks. It covers Home Management, Foods and Nutrition, Child Care and Consumer education which are part of Home Management. The overall mark for the three papers totals 200% which is divided by the total number of papers to obtain 100% (K.N.E.C., 1989/90).

The Kenyan approach in assessing Home Science practical examinations is not very different from other countries such as Tanzania, Ghana, India and Britain. However, due to implementation handicaps faced in the 8-4-4 system of education, administration of practical Home Science has changed drastically whereby the subject
teacher assesses his/her students in the Kenya Certificate of Secondary Education (K.C.S.E.) examination. Assessment of coursework in Clothing and Textiles is also not carried out as was previously done in the former system (K.N.E.C., 1989-90).

The above Introduction and Background Information to the study affirmed that there was necessity for an evaluation of the existing assessment procedures in secondary school Home Science practical examinations. This is also because the assessment procedures have changed with the introduction of 8-4-4 system of education.

The subject teacher is actively involved and coursework in Clothing and Textiles is not assessed due to the logistical problems. It is only through such a study that the strengths and weaknesses of the programme can be identified. What is good can be identified and strengthened and the weaknesses identified and recommendations given for improvement.

To find out the factors affecting the effective assessment of Secondary School Home Science practical examinations in the 8-4-4 system of education, the researcher adopted Stufflebeam's improvement oriented evaluation model (1985), generally referred to as the C.I.P.P. Evaluation model. A diagrammatic illustration on how the model is used in the study is provided on the next page (fig. 1).
Fig. 1 A diagrammatic illustration of the C.I.P.P. evaluation model on how it was used in this study.

C.I.P.P. Evaluation model


8-4-4 Home Science Practical Examination (Object of Evaluation)

Assess effectiveness of Human and Material resources

Assess process of implementation

Intended and unintended outcomes of the programme

Respondents Teachers and students

Time

Are students and teachers satisfied?

Home Science teachers, Home Science students

Recommendations on how to improve personnel and materials for teaching and assessing Home Science practical skills

Give guidance for implementation and where possible give record of the actual process

Give record of attainment and any recycling decisions

Proposed outcomes weaknesses and strengths

Recommendations for improvement

1.1 Statement of the Problem

Since the introduction of the 8-4-4 system of education, more students have enrolled to study Home Science at the secondary school level. In 1988, only 2,500 candidates took Home Science in both Advanced and Ordinary levels. By 1989, the number increased to 12,705 candidates. Due to the large numbers, subject teachers with no previous training are involved in assessing their own students in Home Science practical Paper Three in the K.C.S.E. Examination. This is different from the past practice where external examiners used to do the assessment. It has been observed that in 1989 when the first 8-4-4 candidates sat for the K.C.S.E. Examination, performance was generally very poor. The mean mark for the subject was below 50 percent (K.N.E.C., 1989).

Also course-work in Clothing and Textiles is not assessed due to the same problem of high enrolment without a corresponding increase in assessors. The above state of affairs raises a critical issue worth investigating.

1.2 Purpose of the Study

The purpose of this study was to evaluate the factors affecting the effective assessment of the 8-4-4 Secondary School Home Science Practical Examinations in Nairobi and Kiambu.

The researcher intended to find out whether factors such as training of examiners, assessment of course-work, number of candidates and subject teachers assessing their own students have an effect on the final assessment of Form Four Home Science Practical Examinations.
1.3 Objectives of the Study

1. To compare and contrast the approaches in the assessment of Home Science practical Examinations in the 7-4-2-3 and the 8-4-4 systems of education.

2. To find out the perception of Home Science teachers, and Home Science students on the existing practical examinations assessment procedures.

3. To find out the proportion of Home Science teachers who have had previous training/in-servicing for assessing practical Paper Three by the time they started assessing their own students.

4. To find out problems encountered by teachers and students in the teaching and learning of Home Science practical sessions.

5. To find out problems encountered by the teachers when assessing Home Science practical Paper Three.

6. To find out the units students most and least enjoy learning.

7. To find out the units teachers most and least enjoy teaching.

8. To find out the strengths and weaknesses in the existing Home Science practical examinations assessment procedures as perceived by the various groups of respondents.

9. To recommend strategies for the improvement of the existing Home Science practical examinations assessment procedures.
1.4 Research Questions

This study sought to answer the following questions on the factors affecting the effective assessment of 8-4-4 Secondary School Home Science Practical examinations.

1. What are the differences between the assessment of Home Science Practical examinations in the 7-4-2-3 and the 8-4-4 systems of education?

2. What proportion of Home Science teachers got previous training/in-servicing for assessing Practical Paper Three by the time they started assessing their students?

3. What type of in-service training did the Home Science teachers receive?

4. In what areas would those teachers with no training like to be trained/in-serviced in?

5. What problems do the Home Science teachers experience when assessing Home Science Practical Paper Three?

6. What problems do the teachers and the students experience when teaching and learning Home Science practical sessions?

7. Which are the units teachers most and least enjoy teaching?

8. Which are the units students most and least enjoy learning?

9. What are the reasons for enjoying and for not enjoying the units mentioned?
10. What are the approaches desirable for assessing Home Science practical examinations as viewed by Home Science teachers and Home Science students?

11. What are the strengths and weaknesses observed in the assessment of the various Home Science practical examinations as viewed by the various groups of respondents?

1.5 Significance of the Study

1. Since the inception of the 8-4-4 system of education in 1988, no research has been done on the new assessment procedures in the Home Science practical examinations, and hence the need to carry out an evaluation study.

2. The findings of the study would show the strengths and weaknesses of the existing Home Science practical examinations procedures, which will help to improve on the programme.

3. The study would come up with findings that can be used to improve on the existing assessment procedures and Home Science subject as a whole.

Assumptions of the Study

1. The sample chosen for the study represented the different types of schools and teachers of Home Science in Nairobi and Kiambu.

2. Home Science teachers and Home Science students would best provide recommendations to further improve on the assessment procedures as they are directly involved in its implementation.

Limitation of the Study

The sample of the study was limited to only ten secondary schools, five from Nairobi and five from Kiambu. This was due to the time and finances that were available to carry out the research, and the accessibility of the researcher to the selected areas.

Definition of Terms used in the Study

HOME SCIENCE

Is a family centred discipline and programme of instruction which aims at helping both males and females to understand and solve problems in personal, home and family living. The subject matter areas comprise of Child Development, Family Relationships, Food and Nutrition, Clothing and Textiles, Family Economics, Home Management, Housing, Home Furnishing and Household Equipment. In this study Home Economics will mean the same as Home Science. (Dale, E. 1966)
8-4-4 SYSTEM OF EDUCATION

This refers to the existing Kenyan system of Formal Education which was introduced in 1985-86. It comprises eight years of primary education, four years of secondary education and at least four years of university education. The main objective of this new system is to prepare students for self employment and/or further education (Mackay, 1981).

7-4-2-3 SYSTEM OF EDUCATION

This refers to the former Kenyan educational system with seven years of primary education, four years of ordinary level education, two years of advanced level education and at least three years of university education. This system of education was in operation in Kenya between 1963 - 1984. The main objective in this system was to prepare students for white-collar jobs (Ominde Report, 1964).

EVALUATION

Is a term used in this study to refer to the process of finding out to what extent the assessment of Home Science practical examinations has been effective in terms of administration and benefit to the students (Stufflebeam, 1985).

EXAMINER

The term examiner is used in this study to refer to professional men and women who are involved in the Kenya National Examinations Council’s (K.N.E.C.) summative evaluation
as setters, moderators and markers of examinations (K.N.E.C., 1989-90).

**SPEED TEST**

Is a term used in this study to refer to the Home Science Clothing and Textiles practical examination where a candidate is supposed to carry out specified psychomotor skills in garment construction within a given period of time (Grounlund, 1985).

**COURSE-WORK**

Is a term used in this study to refer to garment(s) and household articles which the student makes in class and submits as part of the K.C.S.E. Examination (Muthui, 1981). Articles made for course-work in the 8-4-4 system of education are: skirts, blouses, trousers, shorts, night-dresses, pyjamas and aprons. However, marks for course-work in the 8-4-4 system of education are not included in the external assessment marks.

**C.I.P.P. (CONTEXT, INPUT, PROCESS AND PRODUCT)**

This refers to Stufflebeam’s (1985) evaluation model comprising four types of evaluation namely: Context, Input, Process and Product Evaluation. All these serve unique functions but they have a symbiotic relationship as each step leads to another depending on the nature of the study as explained below, and outlined in figure 1 page 7.
CONTEXT EVALUATION

Reflects on objectives and identifies strengths and weaknesses in an object of evaluation.

INPUT EVALUATION

Assesses the effectiveness of both human and material resources.

PROCESS EVALUATION

It aims at checking the on-going process of implementation and provides feedback about the extent to which the programme activities are on schedule to provide guidance where need be.

PRODUCT EVALUATION

The main purpose is to ascertain the extent to which the programme has met the needs of the group it is intended to serve.

VALIDITY

The term is used in this study to define methods that are used to ensure evaluation instruments used in data collection are measuring the objectives of the study (Grounlund, 1985).

RELIABILITY

The term is used in this study to define methods that are used to ensure that evaluation instruments are consistent and accurate. They measure the same thing over and over again (ibid).
CHAPTER TWO

REVIEW OF RELATED LITERATURE

In this chapter, the following sub-headings will be discussed as they relate to the assessment of Home Science practical examinations in Kenya's secondary schools.

2.0) Introduction.


2.2) 8-4-4 Home Science in secondary schools.

2.3) Administration of Home Science practical examinations in other countries.

2.4) Administration of Home Science practical examinations in Kenya.

2.5) Rationale for an evaluation study in the 8-4-4 Home Science practical examinations using the C.I.P.P. Stufflebeam's evaluation model.

2.6) Summary of reviewed literature.

2.0 Introduction

Very scanty literature directly related to Home Science practical examinations is available in Kenya. This is mainly because hardly any research has been done with regard to Home Science practical examinations either in the former 7-4-2-3 system of education or the current 8-4-4 system of education. However, the researcher has identified related literature from various studies.
mass media and library search, that may directly or indirectly relate to the subject of this study.

Home Science is an interdisciplinary subject which is an important component of the primary and secondary school curriculum in Kenya. It includes courses related to the welfare of individuals in the home, community and the family life (K.I.E., 1984/85).

To achieve its intended purpose, the Home Science teaching needs constant evaluation to closely monitor its implementation and assessment of immediate and long-term outcomes. The evaluation will also come up with ways to make the processes and content efficient and effective.

Robert, (1975) states that the effectiveness of instruction depends on systematic evaluation of its achievement. He also continues to say that:

Examinations are useful as teachers use them to motivate effort to learn, to facilitate the process of learning, to measure achievement in learning, to evaluate instructional programmes and to certify who is and who is not competent to practise. The enterprise of educational evaluation and the whole process of education stands to gain from objective assessment of its limitations, contributions, and accomplishments. (p. 10)

Hence, the need to assess the factors affecting the effective assessment of 8-4-4 Secondary School Home Science Practical Examinations.


Since Independence in 1963, Home Science in all its various components has expanded rapidly. However, with the rush and eagerness to get white collar jobs, Home Science together with other
technical subjects lost the emphasis they had during the colonial times. It ceased to be examinable in the primary schools with the introduction of Certificate of Primary Education (C.P.E.) in 1967. However, the subject continued to be offered at secondary school level (Rombo, 1989).

In 1963, Kenya secondary schools started examining candidates at ordinary level ('O' level). Sigot, (1987) reported that in 1963, 46 candidates sat for ('O' level) housecraft examinations, 256 sat for cookery and 417 for needlework. The findings indicate that more students did needlework due to the fact that cookery and housecraft necessitated expensive equipment and supplies.

by 1970, unemployment was becoming a great problem in Kenya. There was a call by educationists to include industrial skills in the school curriculum so that learners could become self-reliant on leaving school. This resurrected Home Science subject particularly in secondary schools (Rombo, 1989). In 1971, there was a remarkable increase in the number of schools offering one or more of the Home Science subject course units at 'O' level. A directive was issued in 1972 to the effect that

For the first two years in secondary schools, all girls should take a general course in Home Science subjects. The subjects include Needlework, Cookery and Home Management. After the two years, those who wish to continue with the subject will specialise in one or two of the subjects up to the fourth year. (Ministry of Education, Annual Report, 1972).

At the same time 'A' level Home Science was introduced for girls in the East African Advanced Certificate of Education (E.A.A.C.E.) (Ministry of Education, Annual Report, 1972). Subjects
taught were Foods and Nutrition and Clothing and Textiles. At that
time, the assessment in the National examinations of both practical
and theory was done by an external examiner.

Muthui, (1981) reports that course-work which includes garments
and other household articles which the student makes in class and
submitted as part of the external examination was also assessed by an
external examiner.

In the Home Science curriculum guide of the Ministry of
Education (1973), the guidelines for the practical examinations were
clearly outlined as below:

In the assessment of Form Four and Form Six Clothing and
Textiles, both course-work and final speed test examinations were
assessed. Students were required to make a variety of articles for
course-work which included: a personal garment, a child’s dress and
selected household items such as place mats, table napkins and so on.
This was intended to demonstrate the mastery of construction skills
learned during the course. In Foods and Nutrition, a candidate was
to be assigned a question through secret ballot, plan for the
practical examination according to the requirements of the question
and after about a week, carry out the practical examination.
Assessment for the practical examination was carried out by an
external examiner. This was a similar approach as that of Cambridge
School Certificate, where assessment of Domestic Science practical
skills was done. (Rombo, 1989).
2.2 8-4-4 Secondary School Home Science in Kenya

Like other practical subjects Home Science has undergone a lot of remarkable changes in the 8-4-4 system of education. This is because, if any education system is to meet the changing needs of its people, then change is inevitable. D'Lima, (1985) states that:

Since Kenya attained independence in 1963, policy makers have continually reviewed the education system to ensure that it keeps abreast with the national development and serves to fulfil the aspirations of the Kenyan people. (p.1)


This was in answer to the problem of unemployment which resulted from the education system that followed soon after independence. The system of the time concentrated on academic education suited for filling up jobs that were vacated by Indians and Europeans (Ominde, 1964).

The National Committee on the Education Objectives and Policies (N.C.E.O.P.) under the chairmanship of P. Gachathi recommended greater emphasis on practical-oriented subjects in schools. This was aimed at changing the attitude of school leavers, their parents and public in general who had been largely directed by the belief that an academic certificate automatically leads to wage employment in the modern sector (Ministry of Education, 1976).
In 1981, a Presidential Working Party under the chairmanship of Mackay gave recommendations for a second university and the restructuring of the system of education from 7-4-2-3 to 8-4-4 system. One of the objectives reads in part:

The new educational system must prepare and equip the youth of this country with the knowledge, skills and expertise necessary to enable them collectively to play an effective role in the life of this nation whilst ensuring that opportunities are provided for the full development of individual talents and personality. (Mackay Report, 1981 p. 6).

With the introduction of the 8-4-4 system of education, the National Home Science Panel recommended that there should be a general coverage of all aspects of Home Science at secondary school level. It was also the policy of the Ministry of Education that all the areas of Home Science be merged so that all schools can use one syllabus (K.I.E., 1984/85).

The syllabus was prepared in line with the National Goals of Education. It was intended to meet the demand of men and women in Kenya who are keen in raising their quality of life, the family and the community.

The 8-4-4 Home Science syllabus comprises the following areas:

i) Home Management
ii) Foods and Nutrition
iii) Clothing and Textiles
iv) Consumer Education
v) Child Care

These five areas have been merged into a unified syllabus and are taught at various levels in secondary schools. Pattern drafting
has been included in Clothing and Textiles section while Consumer Education, is a completely new area. The introduction of the two in the Home Science course gave hope that the course would be attractive and fulfil the National aims of secondary school education.

The students are expected to decide for themselves what career they want to take and to feel competent enough to make a living for themselves. To achieve this, the handbook stated that, "It would require the teachers to comprehend the importance of the subject and teach it with all seriousness" (K.I.E., 1984-85).

Muthui (1981), carried out a study "The problem in teaching Clothing and Textiles as viewed by the teachers of the subject." One of her recommendations was teaching of pattern drafting in Clothing and Textiles to avoid too much dependence on commercial patterns. The study also recommended the in-servicing of teachers to meet the challenge of pattern drafting. This has already been incorporated in the 8-4-4 system of education.

In her study on evaluation of high school Home Science curriculum, Sigot (1987) concluded that Home Management was popular among the other units which were Foods and Nutrition and Clothing and Textiles. These three units were taken as separate subjects in either Form Four or Form Six. Therefore, the study recommended that since Home Management comprised a bit of all the other units, it was appropriate to have a unified syllabus to form a general secondary Home Science curriculum. The study continued to state that this will stop the problem faced by Home Economics students in post-secondary institutions such as the university where all the units in Home
Science are compulsory. These recommendations were in time for the introduction of 8-4-4 system of education which was started in 1986 in Kenya’s secondary schools.

Bogonko (1980), has written several articles on examinations in Kenya. He observed that examinations in Kenya were terminal after the four or six years of secondary education. They mark the end of the road for a great majority of the pupils in so far as formal education is concerned; they don’t prepare and test pupils for skills which they can use throughout their adult lives. This, he said contributes to the serious unemployment problems in the country. Although he centred on examinations in general, Home Science being a practical subject is aimed at preparing the students for self-reliance within the 8-4-4 system of education. This study is therefore, timely in providing information as to whether the new examination procedures in Home Science are keeping abreast with the intended goal for self-reliance.

Sei (1990), Rombo (1989) and Thinwa (1987) found out that many factors such as teacher qualification, class size and teaching learning resources interfere with the implementation of Home Science in the 8-4-4 system of education. Though the studies centred on curriculum implementation, similar or more handicaps are likely to be experienced in the implementation of the new assessment procedures in the 8-4-4 Form Four Home Science practical examinations.

The success on any reform such as overhauling of an education system should be of central concern to the whole nation. Home
Science has undergone a major reformation in the 8-4-4 system and therefore its implementation is an area of concern.

As Robert (1975), put it:

Good examinations are indispensable tools of the capable conscientious educator. They are a means of auditing the accounts of the educator. They indicate competence and incompetence among educators. They identify good and bad management. They assess the effectiveness of an educational programme or success of individual effort to learn. (p. 15)

There was, therefore, the need to do an evaluation study in Home Science practical examinations. This will help identify pros and cons so that emphasis can be shifted to the examination procedures that will lead to the full development of a student after school.

2.3 Administration of Home Science Practical Examinations in Other Countries.

A recent in-service training course carried out by Centre for African Family Studies (C.A.F.S.) in June 1991 for Home Economics teachers in Tanzania from all levels of education except primary school teachers, indicated that more emphasis should be given to practical work in the various aspects of Home Science. The following objectives in the administration of Home Science practical sessions were emphasized during the seminar:

i) Home Science teachers should understand the relationship between theory and practical work in the three major areas of Home economics (Home Management, Foods and Nutrition and Clothing and Textiles).
ii) Teachers should understand the importance of demonstrations during practical classes.

iii) Teachers should be thoroughly equipped on how to set, administer, write a marking scheme and mark practical examinations in the three major areas of Home Economics.

The teacher's role on project work was also highlighted whereby the subject teacher is expected to supervise and assess students' project work. This is to be done within the last year of secondary school education. The project work accounted for 5 percent of the total score in the National Examinations. This is supposed to prepare the students to appreciate the value of practical work and learn different skills in the major areas of Home Economics. A seminar carried out by National Examinations Council of Tanzania (N.E.C.T.) revealed that external practical examinations in Clothing and Textiles, Foods and Nutrition and Home Management are all assessed by selected and trained examiners. (N.E.C.T., 1991). An interview with a Home Economics professional from Ghana revealed that practical skills in the study of Home Science have been given a lot of emphasis since 1925 when Domestic Science was introduced by the British missionaries in Ghana. The main objectives for teaching Home Science in the early years in Ghana before independence were:

1) To prepare women to become better wives and

2) To prepare women to participate in income-generating activities so that households and women can be economically self-sufficient.
It has been a status symbol for every Ghanian woman to have a sewing machine both for her household sewing and at times for making items to generate income. After Independence in 1957, the teaching of Home Science was formalized through the Ghana Ministry of Education in collaboration with Britain and American, which trained Diploma and degree teachers until 1961.

Since Ghana's independence, (1957) Home Science practical examinations in all levels of education and especially the ordinary level have always been given more emphasis whereby in all the three major areas of Home Science, practicals account for 60 percent and theory 40 percent. Clothing and Textiles speed test which takes two hours thirty minutes can either be half of a garment or making up a selection of clothing construction skills separately. For the coursework, a candidate is expected to make a personal garment and model it as part of the assessment. If a person makes a child's dress, he/she should bring a child to do the modelling during the assessment. Other than a garment, as part of coursework, every candidate is expected to make different items for soft furnishing (Kwawu, 1991). In Britain, the University of London (1985-86), described the environment and assessment of practical skills in Home Science as follows: For a school to teach Foods and Nutrition up to "O" level in London, it should be approved for the purpose and should have suitable equipment of practical tests. The examination comprises of two papers:

Paper One is theoretical in nature and lasts two hours thirty minutes while paper two is a practical test of two hours thirty
minutes duration with an additional two hours written preparation time. Both papers carry equal weighting. In the case of needlework, the syllabus states that the examination may only be taken at schools or centres approved for the purpose and which have suitable equipment for practical tests. The examination comprises of two papers:

i) Paper One is a theory test of two hours thirty minutes duration

ii) Paper Two is a practical test of three hours duration.

Both papers carry equal weighting. It is also recommended that candidates may take a simple figure outline into the theory examination. In both cases the syllabus recommends that all the work should have a scientific basis with a preliminary course in Physics and Chemistry. In addition to the practical test, the examiner may require from the candidate the following pieces of work:

a) One of the garments made during the course showing both hand and machine work and also a variety of sewing processes.

b) An original piece of work of the candidates own choice showing a variety of skills.

These should be submitted for assessing with the following details: materials and processes used; cost and other suitable observations. The descriptive details together with the teacher's assessment of the two requirements are necessary whether the coursework is actually called for or not.
A case study by UNESCO, (1979) on Examination reforms in India stated that, "All reforms are difficult and examination reform is one of the most taxing." (p.49)

On the administration of practical science examinations, the study revealed the following:

i) lack of trained examiners
ii) large numbers of candidates per examiner
iii) lack of equipped laboratories

To improve on the administration of the science practical examinations, the researcher made the following recommendations:

i) training of the examiners
ii) improvement on inspection and guidance programmes
iii) schools to be given feedback after assessment
iv) equipping of the laboratories and
v) reviewing of the syllabus for practical work

While this study of examinations in India referred to science subjects, it would appear that this would similarly be reflected in the study of Home Science assessment and specifically in relation to practical skills.

2.4 Administration of 8-4-4 Home Science Practical Examinations in Kenya.

According to the Ministry of Education K.C.S.E. syllabus, (1989-90) the examination format for Home Science practical Paper Two should last two hours thirty minutes, and is worth 35 marks. A candidate is supposed to read, interpret a pattern, cut out the pattern pieces and make a half side of a garment. Most of the
needlework processes learned in class are assessed. These are cutting out and transferring pattern markings, making of seams, pockets, openings, fastenings, management of fullness and hems, interfacings, collars, setting in sleeves and trimmings.

It is expected that prior to the examination, a detailed study of the above processes be done simultaneously with the practical work, and hence the need for Clothing and Textiles coursework.

Practical Paper Three comprises one hour thirty minutes planning and two hours thirty minutes practical session. It is worth 65 marks in total. It covers the content in Home Management and Foods and Nutrition. Child Care is tested as part of Home Management. To obtain a pass in Home Science, the candidate must pass in the practical papers combined (K.I.E., 1984-85).

Paper One (Theory) and Paper Two (Clothing and Textiles speed test) are assessed by external examiners but Paper Three is assessed by the Home Science teacher and the external examiner. The teacher assesses all the students out of whom a selected sample of 10% is assessed by both the teacher and the external examiner. The external examiner moderates for all the candidates by getting the deviation between his/her marks and the subject teachers'. If the deviation is +2 all the candidates are added 2 marks and vise versa.

With regard to the 8-4-4 curriculum, Lusweti (1990), stated that more emphasis should be given to practical oriented skills. However, this has not always been the case. He also found out that a very small number of teachers are sufficiently prepared for the 8-4-4 system of Education, either through inservice or in the course of
their training. He also revealed that in all schools studied to know whether pupils were making simple articles in various vocational subjects such as Home Science, Art and Craft, only sisal ropes were popular followed by envelopes. Economically viable articles like shirts, bricks and stools were rare.


The model comprises four types of evaluation namely, Context, Input, Process and Product evaluation. All these serve unique functions, but a symbiotic relationship exists among them in that each step leads to another depending on the nature of the study as explained in figure 1 pg. 7.

For the purpose of this study, the following operational definitions of the C.I.P.P. model are used.

a) Context Evaluation

The main objective of context evaluation is to expose areas that need change in an object of evaluation. This is by identifying the strengths and weaknesses of assessing practical examinations. To achieve this, a usual starting point is to interview the subjects of the study in order to obtain their perceptions of the strengths, weaknesses and problems.

For the purpose of this study, the object was 8-4-4 Home Science practical examinations, whose strengths and weaknesses were identified in an attempt to improve on the programme. The respondents of the study were the Home Science students and Home Science teachers.
b) Input Evaluation

The main objective of input evaluation is to assess the effectiveness of both human and material resources. This study sought to find out the competence of personnel in relation to the number of students and lack of coursework assessment. This would help to come up with solutions and suggest strategies on how best Home Science practical skills can be assessed.

c) Process Evaluation

The main objective of a process evaluation is to check the process of implementation so as to provide feedback about the extent to which the programme activities are on schedule, being carried out as planned and using the available resources in an efficient manner. It seeks to answer questions like, is the content too much for the time allowed? Are the resources enough and efficient? This study will therefore provide feedback to stakeholders such as KNEC, Ministry of Education, KIE, schools offering Home Science and other interested parties.

d) Product Evaluation

The main objective of a product evaluation is to ascertain the extent to which the programme has met the needs of the group it is intended to serve. In addition, it should look broadly at the intended and unintended effects, both positive and negative outcomes. The basic use of a product evaluation is to determine whether a given programme is worth
is worth continuing, repeating and/or extending into other settings. Therefore the research findings are hoped to provide direction for modifying the practical examinations so that it better serves the needs of all members of the target audience and becomes more cost effective.

2.6 Summary of Reviewed Literature

A brief historical background of Home Science subject in Kenya has been given in this chapter. The development of the subject since Kenya’s independence until the introduction of 8-4-4 system of education in 1984 has been outlined. Studies in other countries related to Home Science practical examinations have also been reviewed.

On the administration of 8-4-4 Home Science practical examinations, the literature available emphasizes the importance of practical skills in Home Science for better preparation of the 8-4-4 graduate. This underscores the need to find out the factors that affect the effective assessment in an effort to improve on the assessment of practical examinations.

The literature concludes on the rationale for an evaluation study in the 8-4-4 Home Science practical examinations using Stufflebeam’s CIPP evaluation model.
CHAPTER THREE

METHODOLOGY

3.0 Introduction

The main purpose in this study was to evaluate the factors affecting the effective assessment of the 8-4-4 secondary school Home Science practical examinations. In this section, procedures and strategies used in the study are described under the following sub-sections.

3.1. Description of research design
3.2. Venue of the study
3.3. Sample selection
3.4. Instruments for data collection
3.5. Data collection procedures
3.6. Data analysis procedures
3.7. A framework on how the study was carried out

3.1 Description of Research Design

The researcher used a descriptive survey design to evaluate the factors affecting the effective assessment of 8-4-4 Secondary school Home Science practical examinations. This method was used as it is appropriate to gather data from a large sample of respondents within a short period of time. The investigation was done using a questionnaire to achieve the objectives and answer the research questions.
3.2 Venue of the Study

The study was carried out in Nairobi and Kiambu District. This was done so as to represent schools from both rural and urban settings. Using purposeful selection, Kiambu, one of the five districts in Central Province was selected to represent the rural environment. Nairobi was selected to represent the urban environment. This was done because facilities and services needed by the schools are within easy reach, as compared to schools in other urban areas.

3.3 Sample selection

The target population consisted of all form four Home Science students and teachers in all the secondary schools in Nairobi and Kiambu District.

3.3.1 School sample

At the time of the study, Kiambu District had forty one (41) secondary schools while Nairobi had thirty nine (39) secondary schools offering Home Science up to form four. Due to the large population size, the researcher sampled schools for the study using stratified and simple random sampling techniques. The schools were divided into categories according to: national, provincial, district, harambee assisted and private schools. Ten (10) schools were selected from the two areas and stratified according to their categories as follows: Papers bearing the names of the schools in each of the five categories were tossed and mixed well. The
researcher selected a paper with the name of school from each of the five sub-groups from each area and from which ten (10) secondary schools were picked.

Before embarking on the study, all the headteachers of the selected schools were approached to seek permission for the study. Of the ten (10) headteachers approached, three (3) from Nairobi and four (4) from Kiambu gave their consent. The other three (3) with two (2) from Nairobi and one (1) from Kiambu declined to give permission for various reasons. Some reasons given were that they were too busy to spare time for the study while others just did not want research activities to be carried out in their schools. It was therefore decided that three (3) other schools be sampled from the categories in which schools declined to participate in the study. This was done and therefore the ten (10) schools to be used in the study were retained. An equal number of schools from each of the two areas was used due to the following reasons: same number of schools from both rural and urban environment would facilitate comparison of the two different areas. Also, the number of schools offering Home Science up to form four in the two areas were about the same, with thirty nine (39) from Nairobi and forty one (41) from Kiambu.

Due to the different number of students per school, the researcher sampled 80% of the students from each school while the teacher sample was 100% from the selected schools. However, out of 25 teachers, only 22 teachers (88%) responded. See (Tables 3 and 4).

The list of secondary schools offering Home Science in Nairobi and Kiambu as recorded by the Ministry of Education and Kenya
National Examinations Council was used as a basis for selecting schools for the study.

Tables 1 and 2 list the schools used in the study areas:

**Table 1: Selected Schools in Kiambu District**

<table>
<thead>
<tr>
<th>Name of school</th>
<th>Type of school</th>
<th>Students composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary Hill School</td>
<td>National</td>
<td>Girls' Boarding</td>
</tr>
<tr>
<td>St. Francis Girls' School</td>
<td>Provincial</td>
<td>Girls' Boarding</td>
</tr>
<tr>
<td>Kanunga Boys High School</td>
<td>District</td>
<td>Day/Boarding Boys</td>
</tr>
<tr>
<td>Rungiri Secondary School</td>
<td>Harambee Assisted</td>
<td>Mixed Day</td>
</tr>
<tr>
<td>Ruiru High School</td>
<td>Private</td>
<td>Mixed Day/Boarding</td>
</tr>
</tbody>
</table>
Table 2: Selected Schools in Nairobi

<table>
<thead>
<tr>
<th>Name of school</th>
<th>Type of school</th>
<th>Students composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moi Forces Academy</td>
<td>National</td>
<td>Boys Boarding</td>
</tr>
<tr>
<td>Precious Blood Riruta</td>
<td>Provincial</td>
<td>Girls' Boarding</td>
</tr>
<tr>
<td>Ngaara Girls’</td>
<td>District</td>
<td>Girls' Boarding</td>
</tr>
<tr>
<td>Nile Road Secondary School</td>
<td>Harambee Assisted</td>
<td>Mixed Boarding/Day</td>
</tr>
<tr>
<td>Buru Buru High School</td>
<td>Private</td>
<td>Mixed Day</td>
</tr>
</tbody>
</table>

3.3.2 Teacher Respondents

From the ten (10) schools selected, twenty two (22) out of the twenty five (25) Home Science teachers were used for the study. In each school only those teachers who were willing to participate were included.

Tables 3 and 4 show the number of Home Science teachers in each school and those among them who successfully filled in the questionnaire.
Table 3  Number of Home Science Teacher respondents in Kiambu

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Number of Home Science Teachers</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary Hill School</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>St. Francis Girls' School</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Kanunga Boys High School</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Rungiri Secondary School</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ruiru High School</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>
Table 4 Number of Home Science Teacher Respondents in Nairobi

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Number of Home Science Teachers</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moi Forces Academy</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Precious Blood Riruta</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ngaara Girls'</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Nile Road Secondary School</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Buru Buru High School</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

3.3.3. Student respondents

The ten (10) schools had a total of 172 students. However, the number of students ranged from 7-28 per class. To give equal chance to every school and class used in the study, the researcher used proportional stratified random sampling. The researcher therefore used 80 percent of the students in each form four class. A total of 137 students were used and 137 questionnaires administered. Out of the 137 questionnaires ten (10) were not successfully filled and were therefore not used in the data analysis. Information from 127 questionnaires was finally used in data analysis.

3.4 Instruments for Data Collection

Research instruments were developed on the basis of literature reviewed for the study, problem statement and the objectives of the study. The validity and reliability of the instruments were verified using the following methods.
(i) To ensure content validity so that the instruments precisely measured factors intended, a thorough check for clarity in the questions and difficult words used during instrument development was carried out by an expert in measurements. Also, the researchers' supervisors who are subject specialists in the area under study, verified the instruments. This helped to alleviate systematic or built-in-error in the measure. To ensure reliability of the instrument, one school was used for pilot testing, before final data collection was done. This school was not included in the research sample. Questionnaires were administered to the Home Science students and the teachers. The data collected were analyzed and adjustments made where necessary. Some of the adjustments in the instruments were reframing of certain questions especially for the students, addition and deletion of others which were not useful to the study.

On the students' questionnaire 6 items were reframed in an effort to make the student understand the questions. Also an item to compare the former 7-4-2-3 and the 8-4-4 system of education was deleted as the researcher found out that the students were not in a position to compare the two. This is because they are only conversant with the system they are in.

The instrument designed for the Home Science teachers proved satisfactory from the pilot testing. However one item on emphasis on coursework was added on both instruments as the researcher found it useful to the study.
The research instruments used for data collection were:

1. Questionnaire for Home Science teachers
2. Questionnaire for Home Science students

3.5 Data Collection Procedures

Data from the respondents were gathered by use of questionnaires. At the beginning of the study, a research permit was obtained from the Office of the President to enable the researcher to visit the schools. (see appendix A)

Once the permit was granted, all research venues were visited for data collection. On arrival, the headteacher was approached and the researcher explained the purpose of the visit. Usually, the headteacher introduced the researcher to the head of Home Science Department. The Home science teacher(s) assisted the researcher to administer the questionnaires to the students and to fellow Home Science teachers. The teachers were to state when the filled questionnaires were to be collected. Most of them gave themselves a duration of one week. To complete the data collection exercise, each school was visited more than twice.

3.6 Data Analysis Procedures

The collected data were organised and open-ended questions coded appropriately. Analysis was carried out to find out factors affecting the effective assessment of 8-4-4 secondary school Home Science practical examinations. To assist in this, both manual and computer analysis were used. Computer analysis using the SPSS
(Statistical Package for Social Sciences) was used to analyze closed-ended questions while open-ended questions were analyzed manually. Result findings were presented in tables of frequency distributions and percentages.
3.7 Fig. 2 A Framework on how the study was carried out

Object of Evaluation
(Form Four Home Science Practical Examinations)

Respondents

Home Science Teachers

Form Four Home Science Students

Sampling
Stratified Random Sampling
and Simple Random Sampling

Data Collection
Questionnaires

Analysis
Quantitative
Qualitative

Interpretation of results

Conclusions and Recommendations
CHAPTER FOUR

FINDINGS AND DISCUSSION

4.0 Introduction

The purpose of this study was to evaluate the factors affecting the effective assessment of the 8-4-4 secondary school Home Science practical examinations in Nairobi and Kiambu District. To achieve this objective, data were collected from Home Science teachers and Form Four students. Questionnaires for each group of respondents were used for the purpose. The study aimed at achieving the following objectives:

1. To compare and contrast the approaches used in the assessment of Home Science practical examinations in the 7-4-2-3 and the 8-4-4 systems of education.

2. To find the perception of Home Science teachers and students on the existing form four Home Science practical examinations procedures.

3. To find out the proportion of Home Science teachers who have had previous training/inservice training for assessing practical paper three by the time they started assessing their own students.

4. To find out problems encountered by teachers and students in the teaching and learning of Home Science practical sessions.
5. To find out problems encountered by the teachers when assessing Home Science practical paper three.
6. To find out the units teachers most and least enjoy teaching.
7. To find out the units students most and least enjoy learning.
8. To find out the strengths and weaknesses in the existing Home Science practical examinations assessment procedures as perceived by the various groups of respondents.
9. To recommend strategies for the improvement of the existing Home Science practical examinations assessment procedures.

The analysis of data and report of the findings are presented in this chapter under the following sub-topics.

1. Information obtained from Home Science teachers.
2. Information obtained from form four Home Science students.

4.1 Information obtained from Home Science teachers

Teachers are the central figures in all aspects of education within the school situation. Since the introduction of the 8-4-4 System of Education, Home Science teachers took a very active role in the summative evaluation of Home Science practical examinations. Their opinion on its effectiveness was regarded as very useful data in such a study, as they are directly involved in the assessment programme.
Data gathered from Home Science teachers included variables such as professional qualifications; teaching experience; familiarity with the 7-4-2-3 and 8-4-4 systems of education; units most and least enjoyed in the teaching and assessing Home Science practical sessions; problems encountered when teaching and assessing Home Science practical sessions, teachers rating on desirable characteristics in the 7-4-2-3 and 8-4-4 Home Science practical examinations; desirable approaches in the setting, administration and assessment of Home Science practical examinations, teachers perceived strengths and weaknesses in the system and their suggestions for improving Home Science practical examinations.

4.1.1 Teachers' Academic Qualification.

Based on the assumption that the level of academic qualification affects the quality of teaching, such that a Bachelor of Education certificate holder is a better teacher than a Diploma of Education holder, it was found necessary to find out the teachers' highest academic qualification. The results are presented in Table 5.

Table 5 Teacher's Highest Academic Qualification

<table>
<thead>
<tr>
<th>Academic qualification</th>
<th>Number of Teachers N=22</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untrained Teachers</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Dip. Ed.</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>B.Ed.</td>
<td>13</td>
<td>59.1</td>
</tr>
<tr>
<td>M.Ed/B.Sc/B.A.</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 5 shows that more than half of the respondents, (68.2%) are well trained in Home Science with a Bachelor of Education degree or above. A small proportion (27.3%) had a Diploma of Education and only one teacher was untrained. Comparatively Tables 3 and 4 showed that Nairobi (urban) has more trained teachers than Kiambu (rural).

A study by Rombo in 1989 had similar findings. This state of affairs disadvantages the teaching of Home Science Practical sessions in rural Schools.

4.1.2 Teachers' Teaching Experience

The teaching experience of the teacher was considered an important variable assuming that teachers with more teaching experience are more likely to teach effectively. They are also likely to have a better evaluation of Home Science practical examinations in the former 7-4-2-3 and the 8-4-4 systems of education. Analysis on teachers' teaching experience is presented in Table 6.

Table 6

<table>
<thead>
<tr>
<th>Teaching Experience</th>
<th>Number of Teachers N=22</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 1 year</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>2 - 5 years</td>
<td>8</td>
<td>36.4</td>
</tr>
<tr>
<td>6 - 10 years</td>
<td>6</td>
<td>27.2</td>
</tr>
<tr>
<td>11 - 14 years</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>Over 15 years</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 6 shows that the majority of the teachers, (91%) had taught for more than two years, while only a small proportion, (9.1%) had taught for one year or less. This implies that most of the Home Science teachers had enough experience to teach and can therefore give meaningful information on how to improve on Home Science practical examinations.

4.1.3 Teachers' Familiarity with 7-4-2-3 and the 8-4-4 of education.

Home Science teachers were asked to state the extent to which they were familiar with the 7-4-2-3 and the 8-4-4 systems of education. This type of information was found necessary in this study as familiarity with the education systems is likely to affect the teaching and assessment of Home Science practical examinations. Also, a teacher who is familiar with the Education system can do a better evaluation of the programme, and therefore give more helpful suggestions for improvement. Respondents were to indicate familiarity using a four point scale of 1. Very familiar 2. Familiar 3. Somewhat familiar 4. Not familiar. In the analysis 1 and 2 were summarized as familiar while 3 and 4 not familiar. Results are shown in Table 7.
Table 7: Teachers' familiarity with the 7-4-2-3 and the 8-4-4 systems of Education.

| Education System | Degree of Familiarity | |
|------------------|-----------------------|
|                  | Familiar | No. N=22 | % |
| 7-4-2-3          |          |          |   |
|                   | 20       | 90.9     | 2 |
| 8-4-4            |          |          |   |
|                   | 17       | 77.3     | 5 |

Information presented in Table 7 revealed that most teachers (90.9%) were familiar with the 7-4-2-3 Education system as compared to (77.3%) respectively who were familiar with the 8-4-4 system of Education. Only a very small proportion of teachers (9%) and (22.7%) indicated that they were not familiar with 7-4-3-2 and the 8-4-4 systems of Education respectively.

Generally, teachers were familiar with the two systems of education. However, a higher proportion seemed to be more familiar with the 7-4-3-2 system of Education. This could be due to the fact that:

1) all the teachers used in the study are graduates of the 7-4-2-3 system
2) those who had taught for more than five years also taught in the former system
3) and the former system had also been in existence for sometime while the 8-4-4 system is still undergoing revisions. This would make it difficult for a teacher to state with certainty that he/she is very familiar with the current system.
4.1.4 Teachers' ratings on units most and least enjoyed.

Teachers were asked to name units most and least enjoyed in the teaching of Home Science Practical sessions. Table 8 presents their views.

Table 8: Number and percentage of teacher respondents by units most and least enjoyed.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Most Enjoyed</th>
<th>Enjoyed</th>
<th>Least Enjoyed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of teachers</td>
<td>N=22</td>
<td>%</td>
</tr>
<tr>
<td>Foods and Nutrition</td>
<td>12</td>
<td>54.5</td>
<td>8</td>
</tr>
<tr>
<td>Home Management</td>
<td>6</td>
<td>27.3</td>
<td>10</td>
</tr>
<tr>
<td>Clothing and Textiles</td>
<td>4</td>
<td>18.2</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100%</td>
<td>22</td>
</tr>
</tbody>
</table>

Results in Table 8 revealed that, of the twenty two teachers who responded, slightly more than a half (54%) enjoyed teaching Foods and Nutrition most, a small proportion (27.3%) enjoyed teaching Home Management most while only 18.2 percent enjoyed teaching Clothing and Textiles most. About a third (36.4%) enjoyed teaching Foods and Nutrition, slightly less than a half (45.4%) enjoyed teaching Home Management and only a small proportion (18.2%) enjoyed teaching Clothing and Textiles. On the other hand, more than half (63.6%) least enjoyed teaching Clothing and Textiles, 18.2 percent least
Enjoyed teaching Home Management and the same (18.2%) percent least enjoyed teaching Foods and Nutrition.

On the whole, it is evident that the teaching of Foods and Nutrition is enjoyed most by a greater proportion of teachers, while Home Management is not very much enjoyed. However, Clothing and Textiles is least enjoyed by most teachers. This state of affairs was observed by Muthui (1981) and Sigot (1987) where teachers indicated that teaching of Clothing and Textiles was difficult and not interesting. According to Table 8, it can be assumed that the more a teacher enjoys teaching a certain unit, the more he/she will likely teach it better and vise versa.

Teachers were also asked to give reasons as to why they enjoyed teaching certain units and did not enjoy teaching others. Table 9 shows a summary of reasons teachers gave for enjoying teaching the various units and reasons for not enjoying some other units.

Table 9: A summary of teachers reasons by enjoyment of specific units  N=22

<table>
<thead>
<tr>
<th>UNIT</th>
<th>REASONS FOR ENJOYING</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Nutrition</td>
<td>1. Students are interested</td>
<td>6</td>
<td>22.7</td>
</tr>
<tr>
<td></td>
<td>2. It is easier to teach compared to other units such as Clothing and Textiles</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>3. Students perform well in the subject</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>4. Teacher was well trained especially in high school</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>5. No response</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>UNIT</td>
<td>REASONS FOR ENJOYING</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>Home Management</td>
<td>1. Facilities needed are easily available</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td></td>
<td>2. Teacher has done the subject in high school</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>3. Students understand the content easily</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>Clothing and Textiles</td>
<td>1. Teacher has done the subject in high school</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>2. Personal interest in designing and making clothes</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>3. Very satisfying and very practical in life</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>4. Displays originality</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>5. Facilities easily available</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Foods and Nutrition</td>
<td>1. Little time given for practical sessions</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>2. Lack of needed facilities</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>3. Large group of students</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>4. Students not keen in quality but quantity in food preparation</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>5. Very expensive to maintain</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>6. Problems with the administration especially in getting finances</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Home Management</td>
<td>1. Unit not challenging to teach</td>
<td>2</td>
<td>9.1</td>
</tr>
</tbody>
</table>
Reasons given by most teachers as to why they enjoyed teaching Foods and Nutrition were that; students are interested, the unit is easier to teach, students performed well and also the fact that the teacher has done it in high school. Reasons given for not enjoying teaching Clothing and Textiles are: both teachers and students find it difficult to teach and to learn respectively, students are not interested and a wide syllabus whose content and objectives are not clear. Some teachers also indicated that lack of course work assessment is demotivating to both the teacher and the student.

4.1.5. Problems encountered in the teaching of Home Science practical paper two and three

Home Science teachers were asked to rank problems encountered in the Home Science Practical classes using a two point scale, acute
and not acute. Results of problems experienced in the teaching of Home Science practical session are presented in Table 10.

Table 10: Analysis of the problems encountered by teachers in the teaching of Home Science practical paper two and three.

<table>
<thead>
<tr>
<th>Problems</th>
<th>Acute</th>
<th>Not Acute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of teachers</td>
<td>%</td>
</tr>
<tr>
<td>Inadequate time</td>
<td>21</td>
<td>95.5</td>
</tr>
<tr>
<td>Insufficient equipment</td>
<td>18</td>
<td>81.8</td>
</tr>
<tr>
<td>Large group of students</td>
<td>15</td>
<td>68.2</td>
</tr>
<tr>
<td>No proper room</td>
<td>13</td>
<td>59.1</td>
</tr>
<tr>
<td>Inadequate training</td>
<td>2</td>
<td>9.1</td>
</tr>
</tbody>
</table>

Paper Three

<table>
<thead>
<tr>
<th>Problems</th>
<th>Acute</th>
<th>Not Acute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of teachers</td>
<td>%</td>
</tr>
<tr>
<td>Inadequate time</td>
<td>18</td>
<td>81.8</td>
</tr>
<tr>
<td>Insufficient equipment</td>
<td>14</td>
<td>63.6</td>
</tr>
<tr>
<td>Large group of students</td>
<td>14</td>
<td>63.6</td>
</tr>
<tr>
<td>Inadequate training</td>
<td>16</td>
<td>72.7</td>
</tr>
<tr>
<td>Inadequate training</td>
<td>4</td>
<td>18.2</td>
</tr>
</tbody>
</table>

According to responses on paper two, majority of the teachers (95.5%) considered inadequate time as an acute problem, while only a very small proportion (4.5%) felt it was not an acute problem. Insufficient equipment was cited as an acute problem by more than three quarters of the teachers (81.8%) while only 18.2 percent felt
it was not an acute problem. Lack of proper classroom was indicated as an acute problem by more than half of the teachers (59.1%) while 40.9 percent felt it was not an acute problem. The problem of large groups of students was said to be acute by about two thirds of the teachers (68.2%) while 31.8 percent felt it was not an acute problem. Inadequate training was said to be an acute problem by only 9.1 percent of the teachers while the majority (90.1%) felt it was not an acute problem.

In the teaching of Home Science paper three, inadequate time was the most acute problem as indicated by a majority of the teachers (81.8%), while 18.2 percent said it was not an acute problem. Large groups of students was second shown by 72.7 percent of the teachers while 27.3 percent felt it was not an acute problem. Insufficient equipment and no proper room were ranked third each by 63.6 percent of the teachers, while 36.4 percent felt it was an acute problem. The rest 81.8 percent felt it was not an acute problem. This indicates that, the existing Home Science curriculum poses the challenge of teaching more content with less time.

The same was observed by Muthui (1981) and Rombo (1989) where a majority of teachers felt that the time and number of lessons allocated to teach Home Science were inadequate.

4.1.6 Inservicing of teachers in preparation for the assessment of Home Science Paper three.

The Home Science teacher assesses 90 percent of the students in paper three during the final assessment, while the external examiner
assesses only 10 percent. Therefore, this would necessitate the training or inservicing of the teacher to handle the assessment for proper implementation of the programme. Data were collected to find out the percentage of teachers trained in assessing Home Science paper three and source of their training, duration teacher has assessed his/her students and duration of training those with no training would want to have. Results on this item are presented in Table 11a and 11b respectively.

Table 11 (a) Training of teachers for assessment of Home Science paper three and source of their training

<table>
<thead>
<tr>
<th>Previous training in assessment</th>
<th>Source of training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Had training</td>
<td>7</td>
</tr>
<tr>
<td>No training</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>

Table 11 (b) Duration teacher has assessed her students and duration of training those with no training would want to have

<table>
<thead>
<tr>
<th>Duration teacher has assessed her students</th>
<th>Duration of training desired by those with no training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>1 Yr</td>
<td>3</td>
</tr>
<tr>
<td>2 Yrs</td>
<td>7</td>
</tr>
<tr>
<td>3 Yrs</td>
<td>11</td>
</tr>
<tr>
<td>No response</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>
It is observable from Table 11(a) that out of the 22 teachers interviewed, only 31.8 percent had received some form of training in assessment of Home Science paper Three by the time they assessed their students for the first time. The rest (68.2%) had not received any form of relevant training. It also shows that out of the 7 teachers who had previous training, 57.1 percent received it through inservice programmes for Home Science teachers by Home Science inspectors, while the rest, (42.9%) were trained by the Kenya National Examinations Council (KNEC) as external assessors.

On duration of assessment of own students, Table 11(b) shows that, all the 22 (100%) of the teachers were involved in assessing their own students in Home Science paper three. However, one teacher did not indicate the duration of the time she had done the assessment. Data showed that 50 percent had assessed their students for three years, 31.8 percent for two years and 13.6 percent for one year only. One teacher (4.5%) did not indicate the duration she had done the assessment.

On duration of training teachers would want to have, out of the fifteen teachers with no previous training (40%) wanted the training to take more than three weeks, 33.3 percent two weeks and 20 percent one week. The rest 6.7 percent never responded.

There is much Kenya can borrow from other countries like Tanzania to improve on this area of study. The National Examinations Council of Tanzania (NECT) conducted a widespread inservice programme in 1991 for Home Science teachers. The areas handled were teaching, setting, administration and assessment of Home Science practical
sessions and project work. Home Science teachers in Kenya would also need a boost in the same especially in the new 8-4-4 system which involved major changes in the teaching and evaluation of the subject.

4.1.7 Problems encountered by Home Science teachers when assessing Home Science paper three

Home Science teachers without training in assessment were asked to indicate the kind of problems they encountered when assessing Home Science paper three. Data is presented in Table 12:

Table 12 Problems teachers encountered in assessment of Home Science paper three

<table>
<thead>
<tr>
<th>Problems</th>
<th>Number of Teachers</th>
<th>N=15 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of relevant training</td>
<td>7</td>
<td>46.7</td>
</tr>
<tr>
<td>Too many students per session</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>Lack of motivation to carry out the assessment</td>
<td>2</td>
<td>13.3</td>
</tr>
<tr>
<td>No problem</td>
<td>1</td>
<td>6.7</td>
</tr>
<tr>
<td>Total responses</td>
<td>15</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results in Table 12 revealed that 46.7 percent cited lack of relevant training as a major problem, about one third (33.3%) felt that too many students per session was a major problem, while only 13.3 percent identified lack of motivation to carry out the exercise as a major problem. Only a very small proportion (6.7%) recorded no problem encountered in the assessment of Home Science paper three.
Although teachers indicated many problems that affected them in the assessment of Home Science paper three, those most cited included; lack of relevant training in assessment; too many students per session and lack of motivation to carry out the assessment.

The problems indicated are therefore likely to adversely affect the effective assessment of the 8-4-4 Home Science practical paper three, where the subject teacher is highly involved. To rectify the situation, 40 percent of the teachers had earlier indicated that they needed inservice courses on assessment for more than three weeks. (Table 11b)

In stating their recommendatios for the improvement of teaching and assessing Home Science practical sessions, teachers felt that groups during the examinations should be reduced to between four and five students per session. The current practice is to have eight students per session. Also, they felt that more than one teacher should be involved in the assessment as currently only one teacher is supposed to carry out the whole assessment exercise. This would ease the load on the teacher and also ensure thorough observation and objective assessment as the students carry out the practical examination.

4.1.8 Assessment of desirable characteristics in the 7-4-2-3 and the 8-4-4 form four Home Science practical Examinations:

In an effort to evaluate the factors affecting the effective assessment in the 8-4-4 Home Science practical examinations, respondents were asked to rate the specific characteristics in a five
point degree of satisfaction scale from the 8-4-4 and the 7-4-2-3 systems of education. Results are presented in Tables 13 and 14 respectively.

Table 13: Teachers' rating on desirable characteristics in the 8-4-4 form four Home science practical examinations.

<table>
<thead>
<tr>
<th>Desirable</th>
<th>Very Satisfactory</th>
<th>Satisfactory</th>
<th>Neutral</th>
<th>Unsatisfactory</th>
<th>Very Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N = 22)</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
<td>No. %</td>
</tr>
<tr>
<td>a) Objectivity in assessing Home Science paper three</td>
<td>1 4.5 5 22.7 3 13.6 8 36.4 5 22.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Emphasis on Coursework</td>
<td>3 13.6 4 18.2 6 27.3 6 27.3 3 13.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Enthusiasm among the students</td>
<td>1 4.5 5 22.7 4 18.2 7 31.8 5 22.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Teachers' motivation to teach</td>
<td>3 13.6 5 22.7 4 18.2 8 36.4 2 9.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Time allowed to cover syllabus</td>
<td>2 9.1 1 4.5 6 27.3 12 54.5 1 4.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Change of attitude among the students towards improved standards of living</td>
<td>2 9.1 3 13.6 8 36.4 6 27.3 3 13.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) Facilities available</td>
<td>2 9.1 6 27.3 3 13.6 12 54.5 - -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) Teacher well trained for teaching the syllabus</td>
<td>2 9.1 5 22.7 4 18.2 7 31.8 4 18.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Preparation of the student for the world of work</td>
<td>2 9.1 3 13.6 3 13.6 8 36.4 6 27.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 14: Teachers' ratings on desirable characteristics in the 7-4-2-3 final Home Science practical examinations

<table>
<thead>
<tr>
<th>Desirable</th>
<th>Very Satisfactory</th>
<th>Satisfactory</th>
<th>Neutral</th>
<th>Unsatisfactory</th>
<th>Very Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>a) Objectivity in assessing Home Science paper three</td>
<td>7</td>
<td>31.8</td>
<td>10</td>
<td>45.5</td>
<td>2</td>
</tr>
<tr>
<td>b) Emphasis on Coursework</td>
<td>9</td>
<td>40.9</td>
<td>8</td>
<td>36.4</td>
<td>4</td>
</tr>
<tr>
<td>c) Enthusiasm among the students</td>
<td>7</td>
<td>31.8</td>
<td>9</td>
<td>40.9</td>
<td>3</td>
</tr>
<tr>
<td>d) Teachers' motivation to teach</td>
<td>3</td>
<td>13.6</td>
<td>5</td>
<td>22.7</td>
<td>4</td>
</tr>
<tr>
<td>e) Time allowed to cover syllabus</td>
<td>6</td>
<td>27.3</td>
<td>8</td>
<td>36.4</td>
<td>1</td>
</tr>
<tr>
<td>f) Change of attitude among the students towards improved standards of living</td>
<td>6</td>
<td>27.3</td>
<td>7</td>
<td>31.8</td>
<td>6</td>
</tr>
<tr>
<td>g) Facilities available</td>
<td>5</td>
<td>22.7</td>
<td>9</td>
<td>40.9</td>
<td>3</td>
</tr>
<tr>
<td>h) Teacher well trained for teaching the syllabus</td>
<td>6</td>
<td>27.3</td>
<td>13</td>
<td>59.1</td>
<td>2</td>
</tr>
<tr>
<td>i) Preparation of the student for the world of work</td>
<td>5</td>
<td>22.7</td>
<td>10</td>
<td>45.5</td>
<td>3</td>
</tr>
</tbody>
</table>

By rating a certain item as being present to a very satisfactory degree, a respondent indicated that, the item was being achieved or met in the form four Home Science practical examinations and vice versa.
In the discussion, very satisfactory and satisfactory have been summarized as satisfactory while unsatisfactory and very unsatisfactory are summarized as unsatisfactory. Tables 13 and 14 on the various desirable characteristics in the two systems of education revealed that, in the 8-4-4 system, objectivity in assessing Home Science paper three was rated as unsatisfactory by 59.1 percent of the teachers and satisfactory by only 31.8 percent, while 13.6 percent were neutral. In the 7-4-2-3 system, the same characteristic was rated satisfactory by most of the teachers (77.3%) as compared to only a small proportion (13.6%) who rated it unsatisfactory. A very small proportion (9.1%) were not decided.

In the 8-4-4 system, emphasis on coursework was rated unsatisfactory by 40.9 percent, satisfactory by 31.8 percent while 27.3 percent were not decided. In the 7-4-2-3 system, 77.3 percent of teachers rated it satisfactory as opposed to a very small proportion 4.5, percent who rated it unsatisfactory. The rest (18.2%), were not decided.

In the 8-4-4 system, enthusiasm to work hard among the students was rated satisfactory by only 27.2 percent, while slightly more than a half (54.5%) rated it unsatisfactory. The rest (18.2%) were not decided. In the 7-4-2-3 system a large proportion of teachers (72.7%) rated it satisfactory while only 13.6 percent rated it unsatisfactory and 13.6 percent were not decided

In the 8-4-4 system, teachers motivation to teach was rated satisfactory by only 36.3 percent of the teachers, (45.5%) rated it unsatisfactory and 18.2 percent were not decided. In the 7-4-2-3
system, the same item was rated satisfactory by more than three quarters of the teachers (77.3%) while 18.2 percent were not decided.

Time allowed to cover the syllabus in the 8-4-4 system was rated satisfactory by only 13.6 percent while 59 percent felt it was unsatisfactory and 27.3 percent were not decided. The same item in the 7-4-2-3 system was rated satisfactory by 63.7 percent of the teachers, 31.8 percent felt it was unsatisfactory and only one teacher 4.5 percent was undecided.

Change of attitude among students towards improved standards of living in the 8-4-4 system was rated satisfactory by a small proportion (22.7%), 40.9 percent felt it was unsatisfactory while more than one third (36.4%) were undecided. In the 7-4-2-3 system, the same item was rated satisfactory by 59.1 percent of the teachers, unsatisfactory by 13.6 percent while 27.3 percent were undecided.

Availability of facilities in the 8-4-4 system was rated satisfactory by 36.4 percent, unsatisfactory by 54.5 percent, while 13.6 percent were not decided. In the 7-4-2-3 system, a high proportion (63.6%) felt it was unsatisfactory while 13.6 percent were undecided.

The item as to whether teachers were well-trained to teach the syllabus in the 8-4-4 system was rated satisfactory by about a third (31.8%), 50 percent felt it was unsatisfactory and only 9.1 percent were undecided. The same item in the 7-4-2-3 system was rated satisfactory by 59.1 percent, unsatisfactory by only one teacher (4.5%) while 9.1 percent were undecided.
Preparation of the student for the world of work in the 8-4-4 system was rated satisfactory by only 22.7 percent, unsatisfactory by more than a half (63.7%) while 13.6 percent were not decided. In the 7-4-2-3 system, the same item was rated satisfactory by a high percentage (68.2%), unsatisfactory by 18.2 percent while 13.6 percent were undecided.

The analysis of the two systems of education shows that all the desirable characteristics listed were rated as more satisfactory in the former 7-4-2-3 system and less satisfactory in the current 8-4-4 system. A critical look at some of the characteristics would somehow give explanations of the findings. For example, objectivity in assessing Home Science paper three was rated satisfactory by a majority of the teachers (77.3%) while in the 8-4-4 system only 31.8 percent felt it was satisfactory. This is likely due to the fact that in the former system, assessment was done by an external examiner only while in the current system the subject teacher tends to assess almost all the students (90%). This is likely to bring in bias and at the same time a teacher is more likely to pass his/her own students as failing of the students would jeopardize his/her work.

Teaching of the coursework was more emphasized in the former system as articles made by the students were assessed by an external examiner, while in the current system coursework is not assessed at all. This is likely to affect the students' performance in the final speed test in clothing and textiles where most of the garment construction processes are assessed. It is also worth noting that
most of the teachers and students indicated a very high dislike of clothing and textiles. Unless serious attention is given to the unit, such as assessing coursework, the situation is likely to be worse.

Enthusiasm to work hard was also rated very highly in the former system and very unsatisfactory in the current system. This could be due to the fact that in the former system, students would make a choice. This would either be Foods and Nutrition, Home Management or Clothing and Textiles. This is not the case in the current system where Home Science is a unified curriculum with all the units studied together.

Teachers' motivation to teach is likely to be higher in the former system as the teachers would most likely teach the unit they had done in high school, or the one they enjoy teaching most. However, in the current system, with more students taking the subject coupled with a unified curriculum, teachers have to teach all the units whether they did it in high school or not. It is also interesting to note that one of the major reasons teachers gave as to why they enjoyed teaching a particular unit is because they had done it in high school and not in college.

Time allowed to cover syllabus was definitely more in the former system as the same number of lessons given to cover the five units in the current system were given to cover one unit in the former system. At the same time, there has been very little if any, in the change of content per unit. This state of affairs, therefore, calls for serious evaluation of the subject.
The issue on change of attitude towards improved standards of living by the students was not rated very highly in both systems, although it was rated higher in the former system. This could be due to the fact that no research has been done to compare the two groups of students and also only four groups have graduated from form four in the 8-4-4 system. Also the system is still undergoing restructuring. This is likely to bring uncertainty to the respondents and it is no wonder that 36.4 percent were undecided in the item in the 8-4-4 system and 27.3 percent in the 7-4-2-3 system.

Facilities are likely to have been adequate in the former system as a school would concentrate on one unit only. At the same time, the inspectorate would control the number of students taking the subject at either ordinary or advanced levels.

Preparation of the student for the world of work is likely to be greater in the former system as shown in the analysis due to the comprehensive teaching of the one unit taken. Also, the teachers have had a longer time to observe graduates from the former system, they being examples and hence give a better evaluation.

4.1.9 Teachers desirable approaches in the assessment of Home Science Practical paper three

Since teachers are actively involved in the assessment of the 8-4-4 Home Science practical examinations, they are likely to offer some helpful information on who should carry out the final assessment with a high degree of objectivity. Data on teachers suggestions were analysed and presented in Table 15:
Table 15: Teachers’ desirable approaches in the assessment of Home Science practical paper three.

<table>
<thead>
<tr>
<th>Desirable approach</th>
<th>No. of teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>By subject teacher only</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>By external examiner</td>
<td>8</td>
<td>36.4</td>
</tr>
<tr>
<td>90 percent subject teacher 10 percent external examiner</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>50 percent subject teacher 50 percent external examiner</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Data presented in Table 15 shows that 18.2 percent of the teachers preferred the subject teacher only, 36.4 percent preferred external examiner only, 13.6 percent preferred 90 percent by subject teacher and 10 percent by external examiner, 18.2 percent preferred half of the work examined by external examiner while the other half would be assessed by the subject teacher. However, 13.6 percent were not decided on the approach.

The difference on the approaches is not very significant. However, comparatively, more teachers preferred that an external examiner carry out the assessment.

4.2.0 Attitudes of teachers towards desirable approaches in the setting, administration and assessment of 8-4-4 Form Four Home Science Practical Examinations

In evaluating the factors affecting the assessment of the 8-4-4 secondary school Home Science practical examinations, teachers were
asked to rate specific items in a three point scale as shown in Table 16.

Table 16: Attitudes of teachers towards evaluation of 8-4-4 Secondary School Home Science practical examinations.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Emphasis on coursework can help improve the student performance in the final examination in Clothing and Textiles paper two (322/2)</td>
<td>20</td>
<td>91</td>
<td>2</td>
</tr>
<tr>
<td>b) There is need to assess Clothing and Textiles coursework</td>
<td>18</td>
<td>81.8</td>
<td>4.5</td>
</tr>
<tr>
<td>c) Home Science practical paper three should be assessed by subject teacher 90% and external examiner 10%</td>
<td>7</td>
<td>31.8</td>
<td>4.5</td>
</tr>
<tr>
<td>d) Home Science Practical paper three should be assessed by an external examiner only</td>
<td>9</td>
<td>40.9</td>
<td>9.1</td>
</tr>
<tr>
<td>e) Practical paper three should have different questions for student to choose by secret ballot</td>
<td>9</td>
<td>40.9</td>
<td>9.1</td>
</tr>
<tr>
<td>f) All students should do the same questions in Home Science practical paper three</td>
<td>8</td>
<td>36.3</td>
<td>9.1</td>
</tr>
</tbody>
</table>

N=22
<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>N=22</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of teachers %</td>
<td>No of teachers %</td>
<td>No of teachers %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) All papers in Home Science should have the same mark allocation in National Examinations</td>
<td>9</td>
<td>40.9</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>h) Practical paper/examination should have more than 50% of the total marks in the National Examinations</td>
<td>9</td>
<td>40.9</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>i) Theory paper/examinations should have more marks than the practical paper</td>
<td>5</td>
<td>22.7</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>j) Project work in Home Science should be encouraged and assessed by the subject teacher</td>
<td>17</td>
<td>77.3</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>k) Home Science teachers should be involved in the assessment of form four Home Science practical paper three to a lesser extent</td>
<td>13</td>
<td>59.1</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>l) There should be less emphasis on practical skills in the National Examinations</td>
<td>1</td>
<td>4.5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>m) The practical paper should be completely scrapped and only apply principles in the theory paper</td>
<td>1</td>
<td>4.5</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Statement</td>
<td>Agree</td>
<td>Undecided</td>
<td>Disagree</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
<td>-----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>n) There is an urgent need to inservice Home Science teachers on how to set practical examinations</td>
<td>19</td>
<td>1</td>
<td>4.5</td>
<td>9.1</td>
</tr>
<tr>
<td>o) There is an urgent need to inservice all Home Science teachers on how to administer practical examinations</td>
<td>18</td>
<td>1</td>
<td>4.5</td>
<td>3</td>
</tr>
<tr>
<td>p) There is an urgent need to inservice all Home Science teachers on how to assess practical examinations</td>
<td>18</td>
<td>1</td>
<td>4.5</td>
<td>3</td>
</tr>
<tr>
<td>q) 8-4-4 (K.C.S.E.) examinations are supposed to be of a higher level than the former &quot;O&quot; level examinations</td>
<td>10</td>
<td>3</td>
<td>13.6</td>
<td>9</td>
</tr>
<tr>
<td>r) 8-4-4 Home Science prepares a student for further professional training and the world of work</td>
<td>6</td>
<td>3</td>
<td>13.6</td>
<td>13</td>
</tr>
<tr>
<td>s) 8-4-4 Home Science is also aimed at testing the abilities and skills of a level above those tested in the former &quot;O&quot; level examinations</td>
<td>5</td>
<td>1</td>
<td>4.5</td>
<td>16</td>
</tr>
</tbody>
</table>
According to Table 16, majority of respondents (91%) agreed that coursework helps improve the students' performance while 81.8 percent of the teachers felt that there was need to assess coursework. Only a very small proportion (9%) and (13.6) disagreed respectively.

This information shows that teachers are in favour of the Clothing and Textiles coursework. Also being graduates of the former system, they are likely to tell the merits and demerits of the two approaches.

Muthui (1981), Sigot (1987) and Sei (1990) had also observed that both teachers and students were very much motivated by items made in Home Science practical sessions. On the desirable approaches in the setting and assessment of Home Science practical paper three, results indicated that 40.9 percent preferred assessment by an external examiner while 31.8 percent opted the existing approach where 90 percent of the assessment is carried out by the subject teacher and only 10 percent by an external examiner. This shows that teachers are in favour of an external examiner as compared to the subject teacher doing the assessment. Informal interviews with the teachers also revealed that some of them felt that external examiners can be very strict on the marking and for that reason teachers who have an understanding of facilities available should be left out to carry out the assessment. This explains why 50 percent of the teachers disagreed with the item as shown in table 16 item d. This is an issue that would require further research so that Home Science practical examination are assessed objectively.
On the number of questions to be set in practical paper three, 54.6 percent of the teachers felt that more than one question should be set while 36.3 percent preferred one question. With the large groups in Home Science, the assessment period may go on for a week in certain centres. Also with the students doing the same question, chances of cheating in the examination are likely to be high. This was given as a recommendation (table 19).

The item on mark allocation of the Home Science examinations revealed that more teachers (63.7%) preferred more marks for practical papers while 40.9 percent preferred all papers theory and practical papers having the same mark allocation. Currently, the theory paper carries 100 percent marks, paper two practical (Clothing and Textiles) carries 35 percent and paper three (Home Management and Foods and Nutrition ) carries 65 percent.

Generally, it appears as though the theory paper receives greater emphasis than the practical papers. Worse still Clothing and Textiles is given the lowest mark allocation and this can contribute to the dislike by both the teachers and the students. Students in Ghana, Tanzania and Britain revealed that Home Science practical examinations are given more emphasis than theory examinations. Sei (1990) also found out that emphasis and the consequent assessment of Home Science practical sessions gave seriousness to the subject. She continued to say that Home Science being a practical oriented subject would not meet its main objective if practical sessions are not emphasized.
The majority of teachers (77.3%) were of the opinion that project work should be encouraged with a very small minority (9.1%) who disagreed with the item. Project work gives room for creativity among the students as a student has the freedom to choose an article and make it mainly out of class. The National Examinations Council of Tanzania (NECT) in 1991 in a widespread seminar for the Home Science teachers concluded that the teachers' role on project work was very vital as the subject teacher is expected to supervise and assess students' project work. It was recommended that the project work should account for 5 percent of the total score in the national examinations. This is supposed to make the students appreciate practical work and learn different skills in the major areas of Home Economics. In Ghana, Home Science practical examinations have been given a lot of emphasis. An interview with a Home Economics professional from Ghana revealed that practical examinations account for 60 percent and the theory examinations 40 percent in the final examination. Also as noted earlier in chapter two, in Britain both practical and theory examinations carry equal weighting.

On the inservice training of Home Science teachers on the setting, administration and assessment of Home Science practical examinations, data revealed that the majority of teachers agreed with the item as indicated by 86.4 percent, 81.8 percent and 81.8 percent respectively.

With the major changes in the 8-4-4 Home Science practical examination assessment, teachers would need to be exposed to the new methods and approaches of teaching the subject and assessment of the
same. Sei (1990) and Rombo (1989) also highlighted on the importance of inservicing Home Science teachers to ably teach the new Home Science curriculum. As revealed in this study, training all Home Science teachers in the setting, administration and assessment of practical examinations is an urgent issue.

The question as to whether 8-4-4 Home Science prepares a student for further professional training and the world of work had a very small percentage of teachers (27.3%) agreeing and 59.1% disagreeing. Almost three quarters of the teachers (72.7%) felt that 8-4-4 Home Science is not of a higher level than the former 7-4-2-3 secondary school Home Science practical examinations.

Such findings could be due to the fact that the merging of all the units in Home Science is likely to inhibit comprehensive teaching. However, as Sigot (1987) noted, the merging of all the units would curb the problem that was posed in the former system when students joined institutions of higher learning, having majored in one unit at the secondary school level and yet were required to study all at the college level. Therefore, a thorough restructuring of the current system and increase of time is likely to benefit the subject and the Home Science graduates right from high school to the college training.

4.2.1 **Strengths and Weaknesses in the assessment of 8-4-4 Secondary school Home Science practical examinations.**

One of the major purposes of any programme of evaluation is to provide information to planners about the strengths and weaknesses of
the programme, and to offer suggestions for improvement. Home Science teachers were asked to identify the strengths and weaknesses in the assessment of the 8-4-4 secondary school Home Science practical examinations. Their responses are given in Table 17.

Table 17: Number and Percentages of teachers by strengths and weaknesses in the 8-4-4 Home Science Practical Examinations

<table>
<thead>
<tr>
<th>Strengths</th>
<th>N=22</th>
<th>No. of Teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students are introduced in all units in the Home Science and this prepares them for further professional training and the world of work.</td>
<td>12</td>
<td>59.1</td>
<td></td>
</tr>
<tr>
<td>2. It gives the teacher an opportunity to participate in the marking of external examinations.</td>
<td>6</td>
<td>27.3</td>
<td></td>
</tr>
<tr>
<td>3. Students are more industrious in doing practicals and eager to finish skills than in former system</td>
<td>3</td>
<td>13.6</td>
<td></td>
</tr>
<tr>
<td>4. The system is very practical oriented</td>
<td>3</td>
<td>13.6</td>
<td></td>
</tr>
<tr>
<td>5. It gives equal opportunities to both boys and girls</td>
<td>2</td>
<td>9.1</td>
<td></td>
</tr>
</tbody>
</table>

**Weaknesses**

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>No. of Teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Very little time is allowed to cover syllabus and carry out practical classes</td>
<td>15</td>
<td>68.2</td>
</tr>
<tr>
<td>2. Assessment of paper three is likely to be highly subjective due to the use of the subject teacher.</td>
<td>9</td>
<td>40.9</td>
</tr>
<tr>
<td>3. Teachers are not serious and are also not trained to do the assessment</td>
<td>6</td>
<td>27.3</td>
</tr>
<tr>
<td>4. Combining all units prevents comprehensive teaching and hence lowers standards</td>
<td>6</td>
<td>27.3</td>
</tr>
<tr>
<td>5. The assessment of paper three is very taxing because it is only one teacher who is supposed to do it</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>6. Lack of enough facilities</td>
<td>3</td>
<td>13.6</td>
</tr>
</tbody>
</table>
Results in Table 17 reveal that more than half of the teachers (59.1%) felt that students being introduced to all units in Home Science had an advantage as this helped to prepare them for further professional training and the world of work. Ranked second as a strength was that teachers were given an opportunity to participate in the assessment of external examinations as cited by 27.3 percent of the teachers. Three teachers (13.6%) indicated that students are more industrious and eager to finish skills than in the former 7-4-2-3 system. Another 13.6 percent said that the system is very practical oriented and only 9.1 percent said that both boys and girls have been given equal opportunities to do the subject. This is because the KIE syllabus has considered garments for both boys and girls unlike in the former system, where emphasis was on girls articles only.

Weaknesses ranged from very little time allowed to cover the syllabus and do the practical sessions. This was cited by about two thirds of the teachers (68.2%) while subjectivity in assessment of paper three was cited by 40.9 percent. Combining all the units in Home Science and hence prohibiting comprehensive teaching, teachers lack of seriousness and lack of training in assessment were both cited by 27.3 percent. Lack of facilities and assessment of paper three being taxing as only one teacher is expected to do the assessment were each cited by 13.6 percent of the teachers.

This shows that the 8-4-4 secondary school Home Science curriculum has very good aspects. These are the introduction of students to all units in Home Science, involving the subject teacher
in the external assessment and giving equal opportunities to both boys and girls. However an examination of the weaknesses given indicates that the curriculum needs a lot of improvement. That is to deduce from the results that merging of Home Science units into a unified curriculum in the 8-4-4 system has had its positive and negative implications.

Sigot (1987) recommended the merging of the units so that the Home Science students get basic knowledge and skills in all the Home Science units. However, she noted that a generalised curriculum would result in increased content without increasing length of time and personnel for teaching. This, she felt would pose a challenge for teaching more in less time. She therefore recommended inservicing of teachers to meet the new challenges. Rombo (1989) noted that inservicing of Home Science teachers has not been extensively and intensively done.

4.2.2 Respondents suggestions on ways of improving Home Science practical Examinations

If the teachers are actively involved in the assessment of Form Four Home Science practical examinations, they are likely to offer some practical solutions to the problems. It is these feasible solutions that were sought for as it was necessary in this study. Table 18 presents teachers' views on how to improve on the practical examinations and the whole assessment programme respectively.
Table 18: Teachers' suggestions for improvement of Home Science practical papers.

**Paper Three**

<table>
<thead>
<tr>
<th>Suggestions for improvement</th>
<th>No. of teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. External examiner should carry out the whole assessment of paper three</td>
<td>10</td>
<td>45.5</td>
</tr>
<tr>
<td>2. Questions should be set in consideration of both day and boarding students</td>
<td>8</td>
<td>36.4</td>
</tr>
<tr>
<td>3. External assessment should be carried out by both teacher and external assessor throughout</td>
<td>7</td>
<td>31.8</td>
</tr>
<tr>
<td>4. Separate paper three to constitute Foods and Nutrition and Home Management and assess them separately</td>
<td>5</td>
<td>22.7</td>
</tr>
<tr>
<td>5. The Examination should have more than one question and the students choose by secret ballot</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>6. Practical session especially in the final examinations should have fewer students</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>7. Reduce the syllabus by deleting irrelevant topics</td>
<td>1</td>
<td>4.5</td>
</tr>
</tbody>
</table>

**Paper Two**

<table>
<thead>
<tr>
<th>Suggestions for improvement</th>
<th>No. of teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More time to be allowed to do the speed test</td>
<td>11</td>
<td>50</td>
</tr>
<tr>
<td>2. To consider both sexes in the setting of practical examination</td>
<td>8</td>
<td>36.4</td>
</tr>
<tr>
<td>3. Inservice Home Science teachers on the teaching and assessment of Clothing and Textiles practical examination</td>
<td>4</td>
<td>18.2</td>
</tr>
<tr>
<td>4. It should be scrapped or made optional</td>
<td>3</td>
<td>13.6</td>
</tr>
</tbody>
</table>
### Suggestions for improvement

<table>
<thead>
<tr>
<th></th>
<th>No. of teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Kenya National Examination Council should provide materials for the examination to ensure uniformity</td>
<td>3</td>
<td>13.6</td>
</tr>
<tr>
<td>6. The examination should be simplified and made more clear</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>7. Hand stitching should be allowed in the Examination</td>
<td>1</td>
<td>4.5</td>
</tr>
</tbody>
</table>

### Coursework

1. It should be assessed by the external examiner for the teacher and student to take it seriously | 16             | 72.7 |
2. It should not be assessed in the current system where all units are being combined | 8              | 36.4 |
3. Assessment should be done at various stages in garment construction by the subject teacher | 5              | 22.7 |

Results in Table 18 reveal that assessment of Clothing and Textiles coursework was preferred by 72.7 percent of the teachers, addition of more time indicated by 54.6 percent, external assessment to be carried out by an external examiner indicated by 45.5 percent, students to specialise in one unit as before indicated by 40.9 percent, to consider both sexes in the setting of Home Science practical examinations indicated by 36.4 percent, inservice all Home Science teachers indicated by 31.8 percent, Ministry of education to ensure that schools offering Home Science up to Form Four have the required facilities indicated by 22.7 percent and reducing number of candidates per practical session indicated by 27.7 percent of the teachers.
Other helpful measures suggested by a small proportion of the respondents included that practical Paper three should have more than one question. Also students should choose by secret ballot and KNEC to provide materials for the Home Science Practical Paper two each indicated by 13.6 percent of the teachers. This would ensure uniformity in all the centres. Clothing and Textiles practical examination need to be simplified and made clear was indicated by 9.1 percent, deleting irrelevant topics and handstitching to be allowed in the final Clothing and Textiles speed test each indicated by 4.5 percent of the teachers.

It is worth noting that most of the suggested measures used to be present in the former system, but were omitted in the current system. With greater emphasis of practical subjects, there was higher enrolment of the students. Also, with the cost-sharing aspects introduced into the educational system, there is bound to be problems in the teaching, learning and assessment of practical sessions. Otherwise in the former system KNEC would supply materials for Practical Paper Two. There was also more time in the teaching and assessment was carried out by an external examiner. The number of students was controlled according to the facilities available in a certain centre. Questions in Foods and Nutrition or Home Management were more and chosen by secret ballot and a bit of hand stitching in the final Clothing and Textiles speed test was allowed. This was with the understanding that a machine can break down during the examination making the student finish his or her work by hand.
4.2.3 Recommendations to the whole Assessment Programme

Teachers were asked to further give recommendations to the whole assessment programme. The following recommendations were given as presented in Table 19 in percentages and frequencies.

Table 19: Teachers’ recommendations to the whole assessment programme.

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>No. of Teachers</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Add more time in the teaching of Home Science</td>
<td>12</td>
<td>54.6</td>
</tr>
<tr>
<td>2. Students to specialise in one area as before</td>
<td>9</td>
<td>40.9</td>
</tr>
<tr>
<td>3. External examiners to be involved in the whole assessment programme</td>
<td>8</td>
<td>36.4</td>
</tr>
<tr>
<td>4. Inservicing all Home Science teachers in assessment of Home Science practical examinations</td>
<td>7</td>
<td>31.8</td>
</tr>
<tr>
<td>5. Ministry of Education to ensure that Schools offering Home Science up to Form Four have required facilities</td>
<td>5</td>
<td>22.7</td>
</tr>
<tr>
<td>6. Reduce number of candidates per session in practical examinations</td>
<td>5</td>
<td>22.7</td>
</tr>
</tbody>
</table>

Results in Table 19 show that slightly more than half of the teachers (54.6%) felt that there was an urgent need to increase on the teaching time, while 40.9 percent were of the option that students should specialise in one unit as in the former system. About one third (36.4%) felt that assessment should be carried out by external examiners only. Other suggestions given were: inservicing all Home Science teachers in assessment cited by 31.8 percent of the teachers, Ministry of Education to ensure that schools offering Home
Science have the required facilities cited by 22.7 percent and finally to reduce the number of candidates per practical session cited by 22.7 percent of the teachers.

Muthui (1981), Sigot (1987) and Rombo (1989) observed that the teaching of Home Science in Secondary schools needed more time if practical sessions were to be taught effectively. As noted earlier in this study, involving the subject teacher in the assessment has its own merits. However, where the teacher is not trained to assess, objectivity is likely to be very low. Also the issue of having more facilities and reducing the number of candidates per session cannot be underestimated, especially so in the 8-4-4 system of Education where teaching practical subjects is a major emphasis.

4.3.0 Information obtained from Home Science Students.

The success or failure of any educational programme is manifested in the change observed on the learners. As active participants, they are capable of giving very useful information on the factors affecting the effective assessment of the Home Science practical examinations.

Data gathered from the students included variables such as students' background, problems encountered by students in the learning of Home Science Practical sessions, attitude of students towards desirable approaches in the setting, administration and assessment of the 8-4-4 Secondary School Home Science practical examinations. Others were students' ratings on the education they have obtained in relation to its usefulness and self employment,
strengths and weaknesses perceived by the students in the 8-4-4 Secondary School Home Science practical examinations and suggestions for improvement. The students' responses were also presented in descriptive form alongside frequency tables.

4.3.1 Students' Background

This item sought to know students' gender, whether the student is a boarder or a day scholar, units most and least enjoyed, problems encountered when learning Home Science practical lessons and the students' rating of the knowledge they have obtained in Home Science as it relates to self-employment. These were considered to be factors that can affect the students' performance in Home Science practical lessons and also assist in finding out factors that are affecting the effective assessment of the Home Science practical examinations.

4.3.2 Gender

Students' gender was considered as an important variable because since the introduction of 8-4-4 system of education, boys started enrolling in greater numbers than before. Result on this item are presented in Table 20.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>106</td>
<td>83.5</td>
</tr>
<tr>
<td>Male</td>
<td>21</td>
<td>16.5</td>
</tr>
<tr>
<td>Total respondents</td>
<td>127</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Results in Table 20 revealed that out of the 127 student respondents, the majority of the Home Science students were girls (83.5%) while only a small percentage (16.5%) were boys. These findings clearly indicate that the subject is still dominated by females. They comply with those of Rombo (1989) and Sei (1990). Being a practical subject and with many avenues for job opportunities, much needs to be done in terms of improving the content and changing of attitude among the people. This is likely to make more males enrol to do the subject.

4.3.3 Boarding or day student

Students were asked to indicate whether they were in a boarding or day school. This information was necessary in order to find out which of the two situations is likely to be more favourable in the learning of Home Science practical sessions. Results are presented in Table 21.

Table 21: Number and percentage of students by boarding status

<table>
<thead>
<tr>
<th></th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boarding</td>
<td>74</td>
<td>58.3</td>
</tr>
<tr>
<td>Day</td>
<td>53</td>
<td>41.7</td>
</tr>
<tr>
<td>Total</td>
<td>127</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results presented in Table 21 indicate that, more of the Home Science students were in boarding schools or were boarders (58.3%)
and 41.7 percent were day scholars. This implies that there are more boarding schools offering Home Science than days schools. It is also important to note that out of the 74 boarding students, 70.3 percent are from Kiambu (rural) and only 29.7 percent are from Nairobi (urban).

### 4.3.4 The Effect of boarding status on the Home Science practical sessions.

Being in a day or boarding school is likely to have both positive and negative effects on the students' learning of Home Science practical sessions. This is more so in the 8-4-4 system where Home Science units have been combined to form a unified syllabus. This would therefore call for more time and facilities.

Students were asked to state whether being in a day or boarding school had any negative effect on the learning of Home Science practical sessions. This information is presented in Table 22.

<table>
<thead>
<tr>
<th>Table 22: The effect of boarding status on the performance of Home Science practical sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boarding School</strong></td>
</tr>
<tr>
<td><strong>No. of students</strong></td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Helps to improve performance</td>
</tr>
<tr>
<td>Has no positive effect on performance</td>
</tr>
<tr>
<td>No response</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
Results from this item indicate that a majority (89.9%) said that being in a boarding school helped to improve their performance in Home Science practical examinations, while only a small proportion (10.2%) felt that it had no effect on their performance. On the other hand, 67.9 percent of the day scholars said that being in a day school helped improve their performance in Home Science practical examinations while (28.3%) percent felt that it did not help them improve. A small proportion (3.8%) percent did not respond. Irauka (1987) also found out that boarding schools performed better in the examination than day schools.

Sei (1990) stated that:

Parents and siblings have been known to help with homework in other disciplines (subjects). She continued to say that as for Home Science, assistance at home should be encouraged, and particularly with stitching if parents or siblings have the know-how but they should not stitch for the pupil. (pg 102)

However the most worst usually happens as an interview with a Home Science inspector revealed that parents have really complained about the poor demonstration done by the teacher. More often than not, articles end up being taken to the tailors and dressmakers for making. This state of affairs defeats the purpose as the students end up not knowing how to use a sewing machine, let alone the sewing process itself.
4.3.5 Reasons given by students in regard to the effect of a boarding school on performance in Home Science practical examinations.

Students were asked to state reasons as to why being in a boarding school would help them perform better in Home Science practical examinations. The reasons given included 1) More time to read, practice and discuss with other students, 2) teacher easily available for consultation, 3) facilities readily available and 4) being responsible because of doing things for oneself.

4.3.6 Students' ranking of units by enjoyment

Based on the assumption that those who enjoy a subject learn it better and vice versa, it was found necessary to find out the students' level of enjoyment in learning the different units in Home Science. Also such information would reveal students preference among the different units in the 8-4-4 unified curriculum unlike the former 7-4-2-3 system where a student would do a unit of his/her choice. The rating on the levels of enjoyment is shown in Table 23.

Table 23: Students' rating of units by enjoyment

<table>
<thead>
<tr>
<th>Level of enjoyment</th>
<th>Foods and Nutrition Students No.</th>
<th>Home Management Students No.</th>
<th>Clothing and Textiles Students No.</th>
<th>Total no. of students</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most enjoyable</td>
<td>86 67.7 25 19.7 16 12.6</td>
<td>127</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enjoyable</td>
<td>30 23.6 70 55.1 27 21.3</td>
<td>127</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Least enjoyable</td>
<td>11 8.7 31 24.4 85 66.9</td>
<td>127</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results as tabulated in table 23 clearly show that, Foods and Nutrition is most enjoyed indicated by 67.7 percent of the students, followed by Home Management (19.7%) and the least enjoyed is Clothing and Textiles indicated by a very small proportion (12.6%).

These findings differ with Sigot's (1987) where Home Management was ranked first in terms of preference. This difference could be due to the fact that in the former system the three units were done separately unlike in the current system, where all units are merged. Also in the former curriculum, Home Management comprised a bit of all the units such as Cookery, Child Care, Clothing and Textiles and Home budgeting. This made the unit more favourable as a student taking it was more advantaged in terms of basic knowledge in all the units. This also formed the base for having a unified curriculum.

4.3.7 Reasons given by Students regarding enjoyment in learning certain Units.

Students were also asked to give reasons as to why they most or least enjoyed learning certain units. Tables 24 and 25 give a summary of the reasons given respectively.
<table>
<thead>
<tr>
<th>Unit</th>
<th>Reasons for enjoyment</th>
<th>No of students</th>
<th>% N = 127</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Nutrition</td>
<td>1. it is prestigious to know advanced cookery</td>
<td>35</td>
<td>27.5</td>
</tr>
<tr>
<td></td>
<td>2. very practical in life</td>
<td>30</td>
<td>23.6</td>
</tr>
<tr>
<td></td>
<td>3. it is interesting and enjoyable</td>
<td>26</td>
<td>20.5</td>
</tr>
<tr>
<td>Home Management</td>
<td>4. it is easy to understand</td>
<td>25</td>
<td>19.7</td>
</tr>
<tr>
<td></td>
<td>5. prepares one for self employment</td>
<td>24</td>
<td>18.9</td>
</tr>
<tr>
<td></td>
<td>6. cookery is a hobby</td>
<td>12</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td>7. teacher is competent</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>8. it is appropriate for both sexes</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Clothing and Textiles</td>
<td>1. prepares on for self-employment</td>
<td>13</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td>2. satisfaction in making own clothes</td>
<td>12</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td>3. easy to understand</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>4. appropriate for both sexes</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>5. it is a challenging unit</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>
Table 25: Reasons for students non-enjoyment of certain units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Reasons for not enjoying</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Nutrition</td>
<td>1. practical lessons are demanding and tiring</td>
<td>8</td>
<td>6.3</td>
</tr>
<tr>
<td></td>
<td>2. facilities not available</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Home Management</td>
<td>1. boring because of irrelevant and shallow topics</td>
<td>20</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td>2. tiring and time consuming</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>3. syllabus too wide and not clear</td>
<td>11</td>
<td>8.7</td>
</tr>
<tr>
<td></td>
<td>4. not career oriented</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>5. topics favour girls</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Clothing and Textiles</td>
<td>1. very demanding in terms of time and energy</td>
<td>55</td>
<td>43.3</td>
</tr>
<tr>
<td></td>
<td>2. very difficult to understand</td>
<td>43</td>
<td>33.9</td>
</tr>
<tr>
<td></td>
<td>3. it is boring</td>
<td>24</td>
<td>18.9</td>
</tr>
<tr>
<td></td>
<td>4. inadequate facilities</td>
<td>17</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>5. limited time to cover syllabus</td>
<td>10</td>
<td>7.9</td>
</tr>
<tr>
<td></td>
<td>6. lack of interest</td>
<td>9</td>
<td>7.1</td>
</tr>
<tr>
<td></td>
<td>7. limited in career choice</td>
<td>5</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>8. teacher not competent</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>9. examination discriminates boys</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>10. cheating during the examination</td>
<td>11</td>
<td>0.8</td>
</tr>
</tbody>
</table>
Results in both Tables comply with those of Muthui (1981), Sigot (1987) and Rombo (1989) who found out that Foods and Nutrition was ranked first in terms of enjoyment by both teachers and students.

4.3.8 Problems encountered in the learning of Home Science practical sessions by units.

Home Science students were asked to rank problems encountered in the learning of Home Science practical sessions using a two point scale. Results for the problems experienced in the learning of paper three and paper two are as presented in Table 26.

Table 26: Problems encountered by the students in the learning of Home science practical sessions

<table>
<thead>
<tr>
<th>Rank order ratings of problems</th>
<th>ACUTE</th>
<th>NOT ACUTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem</td>
<td>Number of students</td>
<td>%</td>
</tr>
<tr>
<td>Paper three</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate time</td>
<td>93</td>
<td>73.2</td>
</tr>
<tr>
<td>Insufficient equipment</td>
<td>91</td>
<td>71.7</td>
</tr>
<tr>
<td>No proper room</td>
<td>80</td>
<td>63</td>
</tr>
<tr>
<td>Large group of students</td>
<td>75</td>
<td>59.1</td>
</tr>
<tr>
<td>Paper two</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate time</td>
<td>97</td>
<td>76.4</td>
</tr>
<tr>
<td>Insufficient equipment</td>
<td>80</td>
<td>63</td>
</tr>
<tr>
<td>No proper room</td>
<td>72</td>
<td>56.7</td>
</tr>
<tr>
<td>Large group of students</td>
<td>66</td>
<td>52</td>
</tr>
</tbody>
</table>
Results in Table 26 reveal that in paper three, almost three quarters of the students (73.2%) rated inadequate time as an acute problem while only 26.8 percent rated it as not acute. About three quarters (71.7%) rated insufficient equipment as an acute problem and only 28.3 percent rated it as not acute. More than a half (63%) rated no proper room as an acute problem while 27 percent rated it as not acute. Slightly more than half (59.1%) rated large group of students as an acute problem while 40.9 percent rated it as not acute.

Results further show that in paper two about three quarters (76.4%) rated inadequate time as an acute problem while only 23.6 percent rated it as not acute. Nearly two thirds (63%) rated insufficient equipment as an acute problem while 7 percent rated it as not acute. Just over half of the students (56.7%) cited lack of a proper room as an acute problem while 43.3 percent rated it as not acute. About a half (52%) rated large group of students as an acute problem while 48 percent rated it as not acute.

4.3.9 Students’ desirable approaches in the assessment of Home Science practical paper three.

To find out the approach students would desire to be adopted in the assessment of Form Four Home Science practical paper three, different approaches were given with the existing one included. This is where the subject teacher assesses 90 percent of the students and the external examiner assesses 10 percent. They were expected to
give their suggestions on the desirable approach by selecting from a list of approaches. Table 27 shows the findings.

Table 27: Students' desirable approaches in the assessment of Home science practical paper three

<table>
<thead>
<tr>
<th>Approach</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) 90 percent subject teacher and 10 percent external examiner</td>
<td>63</td>
<td>50.0</td>
</tr>
<tr>
<td>2) External examiner only</td>
<td>26</td>
<td>20.1</td>
</tr>
<tr>
<td>3) Subject teacher only</td>
<td>14</td>
<td>11.0</td>
</tr>
<tr>
<td>4) 50 percent subject teacher only 50 percent external examiner</td>
<td>13</td>
<td>10.2</td>
</tr>
<tr>
<td>5) Undecided</td>
<td>11</td>
<td>8.7</td>
</tr>
<tr>
<td>Total number of students</td>
<td>127</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Results from this item as presented in Table 27 shows that the most desired approach for assessment by the students was 90 percent for subject teacher and 10 percent external examiner. This was listed by half of the students (50%), while 20.1 percent preferred an external examiner only, 11 percent desired assessment by Subject teacher only, 10.2 percent preferred 50 percent by Subject teacher and 50 percent by external examiner while 8.7 percent were undecided.

It is evident from data presented in Table 27 that more students preferred the existing assessment approach where 90 percent is carried out by the subject teacher and only 10 percent of the assessment is carried out by the external examiner. More students may have preferred this approach as it is the only one they are acquainted with and as some would indicate, their teachers were
likely to be more lenient in the marking as they understood the students and were also aware of some of the problems students faced such as inadequate facilities. The question therefore, arises as to whether the approach is objective enough, notwithstanding the fact that most of the teachers have no training in assessment. Such a question will be answered as part of the recommendations later in the study.

4.4.0 Attitudes of students towards evaluation of the 8-4-4 Secondary School Home Science practical examinations.

Students were asked to rate specific items indicating their attitudes towards desirable approaches in setting, administration and assessment of 8-4-4 secondary school Home Science practical examinations using a three point scale. Their responses were analyzed and presented in Table 28.

Table 28: Attitude of students towards evaluation of the 8-4-4 Secondary School Home Science practical examinations

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agreed</th>
<th>Undecided</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of %</td>
<td>No. of %</td>
<td>No. of %</td>
</tr>
<tr>
<td></td>
<td>students</td>
<td>students</td>
<td>students</td>
</tr>
</tbody>
</table>

a) Emphasis on course work can help improve the students' performance in the final examination in Clothing and Textiles speed test (paper two) 108 85 11 8.7 8 6.3
<table>
<thead>
<tr>
<th>Statement</th>
<th>Agreed</th>
<th>Undecided</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of</td>
<td>No. of</td>
<td>No. of</td>
</tr>
<tr>
<td></td>
<td>Students</td>
<td>%</td>
<td>Students</td>
</tr>
<tr>
<td>b) There is need to assess Clothing and Textiles course-work</td>
<td>88</td>
<td>69.3</td>
<td>5</td>
</tr>
<tr>
<td>c) Home Science practical paper three should be assessed by subject teacher 90% and 10% external examiner only</td>
<td>75</td>
<td>59.1</td>
<td>7</td>
</tr>
<tr>
<td>d) Home Science paper three should be assessed by an external examiner only</td>
<td>43</td>
<td>33.8</td>
<td>11</td>
</tr>
<tr>
<td>e) Practical paper three should have different questions for students to choose by secret ballot</td>
<td>42</td>
<td>33.1</td>
<td>14</td>
</tr>
<tr>
<td>f) All students should do the same question in Home Science paper three</td>
<td>74</td>
<td>58.2</td>
<td>11</td>
</tr>
<tr>
<td>g) All papers in Home Science should have the same mark allocation in the National examinations</td>
<td>66</td>
<td>51.9</td>
<td>11</td>
</tr>
<tr>
<td>h) Practical examination should have more than 50% of the total marks in the National examinations</td>
<td>60</td>
<td>47.3</td>
<td>22</td>
</tr>
<tr>
<td>i) Theory examination should have more marks than practical papers</td>
<td>87</td>
<td>68.5</td>
<td>10</td>
</tr>
<tr>
<td>Statement</td>
<td>Agreed</td>
<td>Undecided</td>
<td>Disagree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>--------</td>
<td>-----------</td>
<td>----------</td>
</tr>
<tr>
<td>j) Projet work in Home Science should be encouraged and assessed by the subject teacher</td>
<td>94</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>k) Home Science teacher should be involved in the assessment of form four Home Science practical paper three to a lesser extent</td>
<td>80</td>
<td>8</td>
<td>39</td>
</tr>
<tr>
<td>l) There should be less emphasis on practical skills in the National examinations</td>
<td>25</td>
<td>11</td>
<td>91</td>
</tr>
<tr>
<td>m) The practical examinations should be completely scrapped and only apply principles in the theory examination</td>
<td>25</td>
<td>11</td>
<td>91</td>
</tr>
<tr>
<td>n) There is an urgent need to in-service all Home Science teachers on how to set practical examinations</td>
<td>88</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>o) There is an urgent need to in-service all Home Science teachers on how to administer practical examinations</td>
<td>94</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>p) There is an urgent need to in-service all Home Science teachers on how to assess practical examinations</td>
<td>101</td>
<td>13</td>
<td>13</td>
</tr>
</tbody>
</table>
Results in Table 28 revealed that, emphasis on coursework and assessment of the same had majority of the students agreeing as indicated by 85 percent and 69.3 percent respectively. Students usually get demotivated if they know that a certain assignment will not be assessed, and worse still if it happens to be a major project like coursework. Therefore emphasis on coursework and assessment of the same in the National Examinations would motivate both the teacher and the student. The students are also likely to perform better in the final speed test having completed construction skills done in coursework. Muthui (1981) and Sigot (1987) observed that students feel greatly rewarded after a practical lesson, hence the need to encourage this in the 8-4-4 secondary school Home Science practical examinations.

On the desirable approaches on the setting and administration of Home Science practical paper three, more students (58.2%) preferred same question as compared to only 33.1 percent who felt that different questions should be set and students choose those questions by secret ballot. Also, more than half of the students (59.1%) indicated that assessment should mainly be carried out by the subject teacher while 33.8 percent preferred an external examiner.
The item on mark allocation for the Home Science examinations revealed that more students 68.5 percent felt that theory examinations have more marks compared to 47.3 percent who indicated that practical examinations should have more marks allocated in the National examinations.

A fairly high percentage of students (74 percent) preferred assessment of the project work as compared to only 18.8 percent who disagreed with the statement. Also, 71.6 percent felt that practical skills should be emphasized in the National Examinations.

Regarding the inserviceing of Home Science teachers in the areas of setting, administration and assessment of Home Science practical examinations, a majority of the students felt that this was an urgent need. This was indicated by 69.2 percent, 74 percent and 79.5 percent of the students respectively.

On the whole, it is evident from the analysis presented in Table 28 that the 8-4-4 Home Science students were comfortable with the existing assessment approach, number of questions set and mark allocation in the Home Science examinations. A majority also felt that the system prepares them for further professional training and the world of work. This is indicated by 77.1 percent of the students as compared to only 7.9 percent who disagreed with the statement. This is also indicated by data presented in Table 29 where half of the students (53.5%) felt that the education they have obtained is both helpful and adequate. However, like the teachers, more students felt that coursework assessment and project work should be encouraged. Also, they felt that the teachers needed in-service
courses in setting, administration and assessment of the Home Science practical examinations.

As noted earlier in the study, 8-4-4 students are likely to conform with the status quo due to the fact that they have not been exposed to another system like their teachers. Also, some of them may be aware that their teachers would not fail them in the National examinations.

4.4.1 Students' ratings on the education they have obtained in relation to its usefulness and self-employment

Students were asked to rate the usefulness of the education they have obtained in Home Science as it relates to self-employment. Table 29 presents the results.

Table 29: Students' ratings on the usefulness of Home Science Education as it relates to self-employment.

<table>
<thead>
<tr>
<th>Usefulness of Education</th>
<th>Number of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very helpful and adequate</td>
<td>68</td>
<td>53.5</td>
</tr>
<tr>
<td>Helpful but not adequate</td>
<td>52</td>
<td>41.1</td>
</tr>
<tr>
<td>Neither helpful nor adequate</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>Undecided</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Total response</strong></td>
<td><strong>127</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Data analysis on this item reveals that about half of the respondents (53.5%) felt that the education they had obtained was very helpful and adequate, 41 percent felt that the education they had obtained was very helpful but not adequate, a very small proportion (3.1%) felt it was neither helpful nor adequate and only a
very small proportion (2.4%) were undecided. This implies that generally the students are satisfied with the education they are getting.

4.4.2 Strengths and weaknesses perceived by the students in the 8-4-4 secondary school Home Science practical examination.

One of the major purposes of the programme of evaluation is to provide information to planners about the strengths and weaknesses of the programme and to offer suggestions for improvement. Home Science students were asked to identify the strengths and weaknesses in the assessment of the 8-4-4 secondary school Home Science practical examinations. Results on this item are presented in Table 30.

Table 30: Students' perceived strengths and weaknesses in the 8-4-4 secondary school Home Science practical examinations.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makes one handle household duties responsibly</td>
<td>62</td>
<td>48.8</td>
</tr>
<tr>
<td>Prepares one for self-employment</td>
<td>44</td>
<td>34.6</td>
</tr>
<tr>
<td>Combination of all units in Home Science is an advantage</td>
<td>18</td>
<td>14.2</td>
</tr>
<tr>
<td>The syllabus encourages handwork</td>
<td>13</td>
<td>10.2</td>
</tr>
<tr>
<td>The syllabus gives more room for creativity</td>
<td>2</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Weaknesses

<table>
<thead>
<tr>
<th>Weaknesses</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too much work</td>
<td>44</td>
<td>34.6</td>
</tr>
<tr>
<td>Very little time to cover syllabus</td>
<td>37</td>
<td>29.1</td>
</tr>
<tr>
<td>Lack of specialization in the Home Science units</td>
<td>18</td>
<td>14.2</td>
</tr>
</tbody>
</table>
### Weaknesses

<table>
<thead>
<tr>
<th>Weakness</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of equipment and materials to carry out practical sessions</td>
<td>17</td>
<td>13.4</td>
</tr>
<tr>
<td>Irrelevant topics especially in Home Management</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>Clothing and Textile practicals favour girls</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>Panic due to examiners coming too close during assessment of Home Science practical paper three</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Too much laundry work in practical examinations</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>No weaknesses</td>
<td>25</td>
<td>19.7</td>
</tr>
</tbody>
</table>

About a half of the students (48.8%) indicated that the practical examinations make one to handle household duties responsibly, 39.6 percent indicated that the system prepares one for self-employment, 14.2 percent felt combination of all units was an advantage, 10.2 percent indicated that the syllabus encouraged hard work while 1.6 percent indicated that the syllabus gives room for creativity. Weaknesses cited included, too much work by 34.6 percent, very little time allowed to cover syllabus (29.1%), lack of specialization in the Home Science units (14.2%), lack of equipment and materials to carry out practical sessions (13.4%), irrelevant topics especially in Home Management (3.1%), panic due to examiners coming too close during assessment of Home Science practical paper three (1.6%), Clothing and Textile practical examination favouring girls, (0.8%), too much laundry work in practical paper three (0.8%), and lastly bias in the marking of paper three as the subject teacher is likely to favour some students. However, about one fifth of the
students (19.7%), indicated that the 8-4-4 secondary school practical examinations had no weaknesses.

As noted earlier in this study, more students seem to be content with the current Home Science practical examinations procedures. This is shown by low response rate on the weaknesses given as compared to the higher response rate on the strengths in the programme:

4.4.3 Students' suggestions on ways of improving 8-4-4 Secondary school Home Science examinations

Students being the recipients of the programme are likely to offer some practical solutions to curb the weaknesses. These feasible solutions were sought as they were found to be helpful in the improvement of the various Home Science practical examinations. Tables 31 a, b and c present the feasible solutions.

Table 31(a): Number and percentage of students by suggestions for improvement of Home Science paper three.

<table>
<thead>
<tr>
<th>Suggestions for improvement</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More time to do practical sessions</td>
<td>90</td>
<td>77.9</td>
</tr>
<tr>
<td>2. Provision of more equipment and materials by the school</td>
<td>28</td>
<td>22.0</td>
</tr>
<tr>
<td>3. Assessors to avoid being too close to the candidate during practical Examinations.</td>
<td>10</td>
<td>7.9</td>
</tr>
<tr>
<td>4. Reduce laundry work</td>
<td>9</td>
<td>7.1</td>
</tr>
<tr>
<td>5. Have more than one question in the examination</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>6. To be assessed by an external examiner</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>Suggestions for improvement</td>
<td>No. of students</td>
<td>%</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>----</td>
</tr>
<tr>
<td>7. Reduce number of candidates per session</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>8. To separate Foods and Nutrition and Home Management and have them assessed separately</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>9. To be left as it is</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>10. Subject teacher and external assessor to assess all the students</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>11. In-service Home Science teachers on assessment</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

Table 31(b): Number and percentage of students by suggestions for improvement of Home Science paper two.

<table>
<thead>
<tr>
<th>Suggestions for improvement</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More time to do practical sessions</td>
<td>90</td>
<td>70.9</td>
</tr>
<tr>
<td>2. Clothing and Textiles materials for the examination to be provided by the Kenya National Examination Council</td>
<td>22</td>
<td>17.3</td>
</tr>
<tr>
<td>3. Schools to provide more equipment and materials for practical sessions</td>
<td>20</td>
<td>15.7</td>
</tr>
<tr>
<td>4. Simplify and reduce the examination</td>
<td>20</td>
<td>15.7</td>
</tr>
<tr>
<td>5. Clothing and Textiles should not be made compulsory</td>
<td>8</td>
<td>6.3</td>
</tr>
<tr>
<td>6. The examination should have a planning session like paper three</td>
<td>6</td>
<td>4.7</td>
</tr>
<tr>
<td>7. Teacher should be well trained and in-serviced to get the interest to teach</td>
<td>5</td>
<td>3.9</td>
</tr>
<tr>
<td>8. Students should have liberty to choose what articles to make for course-work</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>9. Both sexes to be considered in the setting of the examination</td>
<td>1</td>
<td>0.8</td>
</tr>
</tbody>
</table>
### Table 31 (c): Number and percentage of students by suggestions for improvement of Clothing and Textiles Coursework.

<table>
<thead>
<tr>
<th>Suggestions for improvement</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Should be encouraged and assessed</td>
<td>40</td>
<td>31.5</td>
</tr>
<tr>
<td>2. Should be left as it is</td>
<td>10</td>
<td>7.9</td>
</tr>
<tr>
<td>3. Teachers to assess step by step in the garment construction and marks to be included in the examination</td>
<td>7</td>
<td>5.5</td>
</tr>
<tr>
<td>4. Schools to provide materials for coursework</td>
<td>7</td>
<td>5.5</td>
</tr>
<tr>
<td>5. Students to choose what articles to make</td>
<td>5</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Tables 31 (a), b and (c) show that there should be more time to do practical examinations as shown by 70.9 percent of the students, coursework to be assessed indicated by 31.5 percent, provision of more equipment by the school indicated by 22 percent, Kenya National Examinations Council to provide materials for Clothing and Textiles paper two indicated by 17.3 percent, to simplify and reduce practical paper two indicated by 12.6 percent, assessors to avoid being in close proximity with the candidates during practical examinations as indicated by 7.9 percent and to reduce laundry work indicated by 7.1 percent of the students.

Other suggestions for improvement given by small proportions of respondents are: Clothing and Textiles to be made optional, separate the units and have students make choices, Clothing and Textiles practical to have a planning session like paper three, both sexes to be considered in the setting of Home Science practical paper two,
be considered in the setting of Home Science practical paper two, students to choose what articles to make, project work to be encouraged and assessed, reduce the number of students per practical session and finally to include a course on entrepreneurship in the secondary school Home Science syllabus to create awareness of self employment opportunities.

As said earlier in this study, some of the suggestions given used to be there in the former educational system but implementation handicaps and large number of students probably made them to be omitted. If the 8-4-4 Home Science is going to meet the objective for further professional training and self-employment, most of these suggestions would need to be implemented or else the system sacrifices quality for quantity.

4.4.4 Students' recommendations to the whole assessment programme

Students were asked to give recommendations on the whole assessment programme. Table 32 presents their recommendations as follows:
Table 32: Students' recommendations on the whole assessment programme

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>No. of students</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More time to do practical examinations</td>
<td>63</td>
<td>49.6</td>
</tr>
<tr>
<td>2. Subject teachers to assess all practical examinations as they understand the</td>
<td>14</td>
<td>11.0</td>
</tr>
<tr>
<td>students and facilities available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. In-service teachers or get more qualified teachers to teach Home Science</td>
<td>13</td>
<td>10.2</td>
</tr>
<tr>
<td>practical sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Schools to provide enough equipment and materials for the examination</td>
<td>12</td>
<td>9.4</td>
</tr>
<tr>
<td>5. All practical examinations to be assessed by external examiners for fairness</td>
<td>9</td>
<td>7.1</td>
</tr>
<tr>
<td>6. Reduce and simplify practical examinations especially paper two</td>
<td>9</td>
<td>7.1</td>
</tr>
<tr>
<td>7. Separate the units and have students make choices</td>
<td>8</td>
<td>6.3</td>
</tr>
<tr>
<td>8. They should be left as they are/no change needed</td>
<td>7</td>
<td>5.5</td>
</tr>
<tr>
<td>9. Both sexes should be considered in the setting of Home Science practical paper two</td>
<td>5</td>
<td>3.9</td>
</tr>
<tr>
<td>10. Project work should be encouraged and assessed</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>11. Practical examinations to be assessed by 50% subject teacher and 50% external</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td>Examiner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Reduce number of candidates per session</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>13. To include a course on entrepreneurship in the secondary school Home Science</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>syllabus to create awareness on self employment opportunities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

More suggestions have been given to further improve on the whole assessment programme as shown in Table 32. If most of these
suggestions are implemented, the image of the subject can be boosted to prepare the students for further professional training and the world of work. Such important suggestions are: assessment of coursework, KNEC to provide materials for Home Science practical paper two, simplify and reduce practical paper two, external examinations to be assessed by external examiners, Clothing and Textiles to have planning session like paper three, encouraging and assessing project work, having smaller groups in practical sessions and last but not least to have a course on entrepreneurship in the secondary school Home Science syllabus. This would create awareness on self-employment to the 8-4-4 Home Science graduates.

Summary, conclusions and recommendations in the light of the evaluation model used in this study are presented in Chapter five.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purposes of the study was to evaluate the factors affecting the effective assessment of the 8-4-4 secondary school Home Science Practical Examinations. The study was carried out in Nairobi and Kiambu districts.

Since the introduction of the 8-4-4 system of Education, more students have enrolled to do Home Science in Secondary Schools. Due to the large numbers, subject teachers with no previous training are involved in assessing their own students. This is different from the past practice where external examiners used to carry out the assessment.

Coursework in Clothing and Textiles is also not assessed due to the same problem of high enrolment without a corresponding increase in assessors. This state of affairs promoted the need for an evaluation study. The findings would benefit curriculum planners, Ministry of Education, Inspectorate, Kenya National examinations Council, Home Science teachers and the students.

5.1 Summary of Preceding Chapters

In chapter one, various aspects of this study were covered. The section on the background information focused on the fact that Home Science practical examinations have been administered in the
former and the current system of education. The major differences between the two systems have been highlighted. Some of these are merging the five units (Foods and Nutrition, Clothing and Textiles, Home Management, Child Care and Consumer Education) into a unified curriculum. Also use of an external examiner in the former system as compared to the current system where the subject teacher assesses 90% of the students and the external examiner assess 10%. Coursework which was assessed in the former system is no longer assessed. This could be attributed to the high enrolment by the students without a corresponding increase on trained personnel to carry out the teaching and assessment.

The section also points out one of the major objectives in the 8-4-4 system of education which is preparing the learner for self employment. Home Science being one of the subjects that underwent major changes would therefore need evaluation. The findings would benefit the Curriculum planners, Ministry of Education, Inspectorate, Kenya National Examination Council, teachers and finally students who are the recipients of the programme. The study would also provide literature in the area of Home Science practical examinations in Kenya where very little research has been done.

To find out the factors affecting the effective assessment of secondary school Home Science Practical examinations in the 8-4-4 system of education, the researcher adopted Stufflebeams' improvement oriented evaluation model (1985) generally referred to as the C.I.P.P. evaluation model. A diagramatic illustration on how the model is used in the study is also provided in chapter one.
In the same chapter, explanations were also given on significance of the study, objectives, research questions and important terms used in the study.

Chapter two contained literature review which besides providing data which was used as a basis to prepare research instruments, justified the need to conduct the study. It also provided answers to some of the objectives of the study.

Review of related literature revealed that Home Science practical examinations have been given emphasis in Kenya. However since the introduction of the 8-4-4 system of education, Home Science teachers with no previous training in assessment have been carrying out the assessment of their own students. Also coursework in Clothing and Textiles which used to be assessed is no longer carried out.

Studies from other countries such as Tanzania, Ghana, India and Britain revealed that Home Science practical sessions are very much emphasized and are always assessed by an external examiner. Also, in most cases practical papers tend to be awarded more marks than the theory papers.

Studies done in Kenya by Muthui (1981), Sigot (1987), Rombo (1989), and Sei (1990) further revealed that both students and teachers are in favour of Home Science practical sessions. This is because they ensure learning has taken place and are also very rewarding. Foods and Nutrition has been the most enjoyed unit of all with Clothing and Textiles least enjoyed.
This chapter concludes with the rationale for an evaluation study in the 8-4-4 Home Science Practical examination using Stufflebeams' C.I.P.P. evaluation model.

Chapter three dealt on the methods for data collection. This included drawing samples, developing instruments and analyzing data. The researcher adopted a descriptive survey design and data were collected using questionnaires administered by the researcher. The study was carried out in Nairobi and Kiambu district. Using purposeful selection, Kiambu, one of the five districts in Central Province was selected to represent the rural environment. Nairobi was selected to represent the urban environment because facilities and services needed by the schools are within easy reach, as compared to schools in other urban areas. The sample of study comprised of 127 form four Home Science students and 22 Home Science teachers. Two main instruments were used for data collection which were teachers' questionnaire and students' questionnaire.

In Chapter Four data analysis and discussion of results was done. Frequencies and percentages were used. Areas that were analyzed from the teachers included teachers' professional qualifications, teaching experience, familiarity with the former and the current system of education, units most and least enjoyed, problems encountered in the teaching and assessment, desirable characteristics and approaches in the management of Home Science practical examinations, perceived strengths and weaknesses and suggestions for improving Home Science practical examinations.
Areas analyzed from the students included students' background, problems encountered in the learning of Home Science practical sessions, desirable characteristics and approaches in the management of Home Science practical examinations, rating of the education they have obtained in relation to its usefulness, perceived strengths and weaknesses in the programme and finally suggestions for improvement. This last chapter (five) deals with summary of findings, conclusions, recommendations and suggestions for further research.

5.2 Summary of Findings

In the light of the CIPP (context, input, process and product) evaluation model outlined in chapter one and two of this study, various factors that affected the effective assessment of the 8-4-4 Secondary School Home Science practical examinations were revealed.

5.2.1 Context related findings

The object of evaluation (8-4-4) secondary school Home Science practical examinations) was found to have the following weaknesses:

1) lack of emphasis on Clothing and Textiles coursework,
2) Clothing and Textiles practical examination being too long and difficult, 3) examination not considering boys especially in paper two, 4) lack of uniformity in materials used in practical paper two, 5) setting only one question in paper three, 6) examiner being in close proximity to the student during assessment, 7) irrelevant topics especially in Home management and Child care and 8) less marks
awarded to practical examinations. A small proportion of students (9.7%) indicated that the programme had no weaknesses.

However, a number of strengths in the object of evaluation were given which are:

1) giving the subject teacher an opportunity to participate in the marking of external examinations, 2) merging of all the units into a unified syllabus, 3) students being more industrious than in the former system, 4) the system is more practical oriented, 5) the curriculum has considered both genders and 6) some felt to some extent the programme prepares them for self employment.

5.2.2 Input related findings

Data revealed that both human and material resources were inadequate, especially in the rural schools. As shown in Table 3 and 4, urban schools tended to have more and qualified teachers. Also the researcher found out that urban schools had more facilities than rural schools. In terms of teachers, the subject is dominated by females. This is disadvantageous to the subject which is supposed to cater for both genders. All the teacher respondents (100%) were females. There is also unpreparedness of teachers in assessment of practical sessions and in the teaching of practical sessions. This was also indicated by 68.2 percent and 50 percent of the teachers respectively. Worse still 63.5 percent expressed inadequacy in the teaching of Clothing and Textiles. Most Home Science teachers can therefore be regarded as ill equipped in the teaching of Clothing and Textiles and assessment of practical sessions.
Results further revealed that generally, teachers are familiar with the two systems of education, although an overwhelming majority (90.9%) were more familiar with the former 7-4-2-3 system as compared to 77.3 percent who indicated that they were more familiar with the current 8-4-4 system of education.

5.2.3 Process related findings

Analysis of problems encountered by teachers and students in the teaching and learning of Home Science practical sessions revealed that, both teachers and students rated inadequate time as the most acute problem. A very high percentage (95.5) of the teachers indicated inadequate time as an acute problem in teaching paper two while 81.8 percent indicated that time in teaching paper three was inadequate. Students' ratings on the time was almost the same, as 76.4 percent rated it as very acute in paper two, while 73.2 percent rated it as very acute in paper three.

Other problems cited were large group of students and lack of a proper Home Science room.

This implies that with more content to be covered because of a unified curriculum, teaching time in Home Science should be increased. Notwithstanding the construction of large and well equipped rooms for proper practice.

5.2.4 Product related findings

Results revealed that both teachers and students are in favour of Home Science practical sessions, coursework and project work.
Hence lack of coursework assessment is demotivating to both teachers and students and should be assessed as indicated by 90.1 percent of the teachers and 85 percent of the students. However, the results revealed that there is a general dislike of Clothing and Textiles by both groups of respondents. Results further revealed that boys felt discriminated against in the setting of questions in both paper two and three. They also felt that the approach used in the teaching of Home management and Child care was not good, and tended to be too feminine. This they felt needed improvement.

On the assessment of Home Science paper three, more teachers comparatively (36.4%) preferred assessment to be carried out by an external examiner as compared to 20.1 percent of the students. Apparently, more students (50%) seemed to be in favour of the current procedure where the subject teacher assesses 90 percent of the students and the external examiner assesses 10% only.

On allocation of marks, the two groups of respondents differed in that 68.5 percent of the students preferred more marks to be allocated to the theory paper while 68.2 percent of the teachers preferred more marks to be allocated to the practical papers.

There was however a big difference between teachers and students perception on the question as to whether the 8-4-4 Home Science prepares the student for further professional training and the world of work. A majority of the students (77.1%) indicated that the system prepared them for further professional training and the world of work, while only 27.3 percent of the teachers felt that the 8-4-4 Home Science prepares the student for further professional
training and the world of work. Also about half (53.5%) of the students indicated that the education they have obtained is both helpful and adequate.

This implies that the 8-4-4 Home Science students are contented with what they are getting. It is evident from the result findings that the 8-4-4 Home Science practical sessions have both positive and negative aspects. It is therefore necessary that the parties concerned namely Ministry of Education, inspectorate, Kenya National Examinations Council ensure that the syllabus is reviewed in an effort to delete irrelevant areas as suggested by the respondents. Also ensure necessary facilities are available, improve on the administration of practical examinations and include assessment of coursework and project work. They should also ensure that teachers are thoroughly equipped with the relevant knowledge to enable them handle the teaching and management of practical examinations effectively.

5.3 Conclusions

On the basis of the findings, the following conclusions were derived on the factors affecting the effective assessment of Secondary school Home Science Practical examinations.

1. The Home Science teachers are professionally trained to teach the 8-4-4 Home Science practical sessions. However, a majority felt that they were not adequately prepared to teach Clothing and Textiles and evaluation of Home Science practical examinations. Hence, lack of
relevant training in assessment affected the effective assessment of Home Science practical examinations.

2. More teachers are familiar with the former 7-4-2-3 system of education than the 8-4-4 system of education. Therefore, lack of familiarity with the new system affected both the teaching and assessment of Home Science practical examinations.

3. Foods and Nutrition is the most enjoyable of all the units in Home Science while Clothing and Textiles is least enjoyed. The major reason given by both teachers and students for not enjoying Clothing and Textiles was that they found the unit difficult and the examination too long. There is therefore the need to revise the Clothing and Textiles syllabus and look for ways and means of making it interesting. This would lead to improved performance in the unit.

4. Urban schools are better placed in terms of qualified teachers and facilities than rural schools. However, the study did not seek to find out which of the urban and rural students performed better in practical examinations. Future researchers can address themselves to such a study.

5. Both teachers and students are in favour of Home Science practical sessions which are coursework, project work, practical paper two and Practical paper three. Lack of emphasis on coursework and project work in the current Home Science syllabus means that both teachers and students are not motivated. As a result they will not take the practical work seriously. This would have a negative effect on the performance of Home Science practical examinations. Lack of assessing the two and especially coursework was found to be a factor
affecting the effective assessment of Home Science practical examinations.

6. Home Science practical examinations have a bias for girls in that the examination tests the making of female related articles such as a baby dress, blouse, skirt, and never a pair of shorts or a shirt. Boys therefore feel discriminated against and this was found to be a factor affecting the effective assessment of Home Science practical examinations.

7. Boys were found to be in favour of Foods and Nutrition and Clothing and Textiles practical papers, but expressed a strong dislike for Child care and Home Management. They indicated that the latter two are too feminine. This negative attitude among boys was found to be a factor affecting the learning and the consequent performance in practical examinations.

8. There was a general feeling by the students that laundry work in the syllabus was too much and also the same in the practical examination. This formed a negative attitude towards laundry work and the entire unit of Home Management.

9. The study confirmed that day students were disadvantaged when a question in practical paper three demanded use of boarding facilities. It is therefore very necessary to have more than one question to alleviate the problem.

10. Time allocated to Home Science teaching was inadequate. This coupled with large groups of students and inadequate facilities were found to be affecting the effective teaching and assessment of Home Science practical examinations.
11. Assessment of Home Science practical paper three was found to be both subjective and very taxing to the subject teacher. There was a general feeling that assessment should be carried out by an external examiner, and if a teacher is used he/she should be rewarded. Using of the subject teacher for most of the assessment and in most cases with no previous training was found to be prejudicial to the effective assessment. Also, some teachers did not take the exercise seriously. However, the problem can be alleviated by including a unit on assessment of Home Science practical examinations during the pre-service training of teachers in colleges and universities.

12. Clothing materials for use in Home Science practical paper two are provided for by the school. Whereas the KNEC requires a specific fabric (poplin) to be used in the examination, it has been found out that students get all types of fabrics to use in the examination. External examiners in paper two have often complained of very poor materials that hardly give the required results. This was therefore found to be a factor hindering effective evaluation of Home Science practical examinations.

13. A course on entrepreneurship was found to be necessary as expressed by a few students. This would equip them with knowledge on how to be self-employed, otherwise the various practical skills acquired can be of no use if proper guidance is not given.

14. Generally, 8-4-4 students are comfortable with the education they are getting, most of them preferred assessment to be carried out by their teachers, while teachers preferred an external examiner. However, both teachers and students felt there was an urgent need to
in-service Home Science teachers on the setting, administration and assessment of Home Science practical examinations.

5.4 Recommendations

In view of the various factors that have emerged from the study as hindrances to the effective assessment of Home Science practical examinations, the researcher made the following recommendations:

1. The K.I.E should carry out vigorous intensive and extensive in-service courses to expose the current Home Science teachers on the setting, administration and assessment of Home Science practical examinations.

2. The colleges and universities should include a unit on assessment during the pre-service training of Home Science teachers.

3. The Ministry of education, in collaboration with K.I.E., should incorporate a unit on entrepreneurship in the secondary school Home Science syllabus. This would equip the Home Science graduates with knowledge on how to be self-employed. This will also enhance the achievement of the goal of education for self-reliance.

4. The Ministry of Education through the inspectorate should ensure that schools offering Home Science up to Form four have the required facilities. Also the number of students taking the subject should be controlled to ensure qualitative teaching.

5. The K.I.E should revise and streamline the secondary school Home Science syllabus by deleting irrelevant topics that are adequately covered in primary schools. In particular the Clothing and Textiles unit also needs streamlining to the effect that both teachers and
students find it interesting. Also, laundry work in the syllabus and practical examinations need to be reduced and leave only the necessary areas.

6. Allocation of more time in the teaching of Home Science and practical examinations should be reviewed by the K.I.E.

7. KNEC to ensure that External examiners carry out the whole assessment exercise, but if Home Science teachers are used, they should be swapped so that no teacher assesses his/her students.

8. K.N.E.C to reduce and simplify practical examinations and especially paper two.

9. K.N.E.C. to set more than one question in both papers two and three so that both genders are given equal opportunities where to improve the academic performance of day students and articles for both boys and girls are set. Also questions set in paper three should consider both day and boarding students.

10. K.N.E.C. and K.I.E should ensure that more emphasis is given to practical work by assessing coursework and project work. The marks should be included in the final grade of the student. Project work need to be revived as this would make the student creative and both active in and out of class.


12. The K.I.E. should include a course on entrepreneurship in the secondary school Home Science syllabus. This will create awareness on self-employment opportunities.
5.5 Areas for Further Research

Home Science with reference to the 8-4-4 secondary school education has not been researched on extensively by scholars. In fact, this study on assessment of practical examinations is the first of its kind. It is therefore the wish of the current researcher that the suggestions given below are areas for further research by future researchers.

1. A replica of this study using a bigger sample in order to draw more solid conclusions.

2. To compare the last 7-4-2-3 and the 8-4-4 Home Science graduates on their readiness for further education and the world of work.

3. To compare the academic performance of day scholars and boarding students in Home Science with special reference to practical examinations.
REFERENCES


An Industrial Psychology Vol. I. No. 10, pg 6, “8-4-4 System of Education.”


The 8-4-4 System of Education (1990 March). Daily Nation, pg.2


APPENDICES: CORRESPONDENCE AND INSTRUMENTS
APPENDIX A: RESEARCH CLEARANCE PERMIT
APPENDIX A: RESEARCH CLEARANCE PERMIT

PAGE 2

THIS IS TO CERTIFY THAT:

Place/Dept/Institute/Address/Miss: KAMAU

ANN WAIITHIRA

of (Address) R.O. BOX 60850

NAIROBI

has been permitted to conduct research in

Location, NAIROBI, KIAMBU District, NAIROBI, CENTRAL Province,
on the topic: Evaluation of factors affecting assessment of Home Science Practical Examinations within the context of 8-4-4 System of Education

for a period ending: NOVEMBER 1992

Research permit No: OP.13/001/22c 92/3
Date of issue: 15TH May 1992
Fee received: KSH 400/-

Signature

Applicant's for: Permanent Secretary, Office of the President
APPENDIX B: LETTER OF INTRODUCTION TO HEADS OF SCHOOLS
THE HEADMASTER,
HIGH SCHOOL OFFERING
HOME SCIENCE UP TO
FORM FOUR IN
KIAMBU AND NAIROBI SECONDARY
SCHOOLS.

Dear Headteacher,

Re: Evaluation of factors affecting the Assessment of Home Science Practical Examinations within the context of 8-4-4 system of education. A study of Kjambu and Nairobi Secondary Schools.

In partial fulfilment of my post graduate studies at Kenyatta University, I have embarked on the above mentioned study. Your school has been selected to take part in this study.

Your Home Science teacher(s) and Form Four Home Science students will be asked to respond to the items given on the attached questionnaire. This will help to improve the assessment of Home Science practical skills so that the 8-4-4 Home Science graduate is better equipped for further professional training and/or self employment.

Confidentiality is strictly guaranteed and the information they will give will in no way be used to assess or jeopardise them.

I kindly request your cooperation in this worthy course.

Thank you for your support in advance.

Yours faithfully,

Anne W. Kamau

Research Permit No. OP.13/001/22C 92/3
APPENDIX C: LETTER OF INTRODUCTION TO HOME SCIENCE TEACHERS
Dear Home Science Teacher,

Re: Evaluation of factors affecting the assessment of Home Science practical Examinations within the context of 8-4-4 system of Education. A Study of Kiambu and Nairobi Secondary Schools.

In partial fulfilment of my post graduate studies at Kenyatta University, I have embarked on the above mentioned study.

You being directly involved in the programme will contribute significantly towards identifying the weaknesses in the programme. This will help to improve the assessment of Home Science practical skills so that the 8-4-4 Home Science graduate is better equipped for further professional training and/or self employment.

Please respond as genuinely as you can to all the items on the attached questionnaire. Confidentiality is strictly guaranteed and the information you will give will in no way be used to assess or jeopardise you in anyway.

Thank you for your support in advance.

Yours faithfully,

Anne W. Kamau

Research Permit No. OP13/001/22C 92/3
APPENDIX D: QUESTIONNAIRE FOR HOME SCIENCE TEACHERS

EVALUATION OF FACTORS AFFECTING THE EFFECTIVE ASSESSMENT OF THE 8-4-4 SECONDARY SCHOOL HOME SCIENCE PRACTICAL EXAMINATIONS IN NAIROBI AND KIAMBU DISTRICT.

Questionnaire for Home Science teachers

1. Please mark with a tick ( ) in the blank to indicate the choice which best answers the questions below.

2. For open ended questions answer in the spaces provided.

1. Place of Interview

( ) 1. Nairobi
( ) 2. Kiambu

2. Are you a Home Science teacher or both teacher and external assessor?

( ) 1. Home Science teacher
( ) 2. Home Science external assessor.

3. What is your professional qualifications?

( ) 1. SI
( ) 2. Dip.Ed. Home Economics
( ) 3. B.Ed. Home Economics
( ) 4. B.Sc. Home Economics
( ) 5. B.A. Home Economics
( ) 6. M.Ed. Home Economics
4. How long have you been teaching?

( ) 1. 0-1 year
( ) 2. 2-5 years
( ) 3. 6-10 years
( ) 4. 11-14 years
( ) 5. 15 years and above

5. Indicate to what extent you are familiar with the 7-4-2-3 and the 8-4-4 systems of Education.

<table>
<thead>
<tr>
<th>7-4-2-3</th>
<th>8-4-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>( ) 1. Very familiar</td>
<td>1. ( )</td>
</tr>
<tr>
<td>( ) 2. Familiar</td>
<td>2. ( )</td>
</tr>
<tr>
<td>( ) 3. Somewhat familiar</td>
<td>3. ( )</td>
</tr>
<tr>
<td>( ) 4. Not very familiar</td>
<td>4. ( )</td>
</tr>
<tr>
<td>( ) 5. Not at all familiar</td>
<td>5. ( )</td>
</tr>
</tbody>
</table>

6. Since the introduction of the 8-4-4 system of Education what area in Home Science do you most enjoy teaching?

( ) 1. Foods and Nutrition
( ) 2. Home Management
( ) 3. Clothing and Textiles

7. Rank the following units in order of priority to you as regards to enjoying teaching the subject (Number 1 being the most
enjoyable). (Foods and Nutrition, Home Management, Clothing and Textiles)

( ) 1. Most enjoyable........................................

( ) 2. Enjoyable............................................

( ) 3. Least enjoyable......................................

8. a) Write down three reasons in order of priority as to why you enjoy most teaching the unit ranked first in question 6 and 7 above.

____________________________________________________
____________________________________________________
____________________________________________________

b) Write down three reasons as to why you least enjoy teaching the unit ranked last in question 7 above.

____________________________________________________
____________________________________________________
____________________________________________________

9. Rank the problems you encounter when teaching the following areas in Home Science within the context of 8-4-4 system of education. Rank them such that number 1 is the greatest problem. (Home Management/Foods and Nutrition and Clothing and Textiles).

- Inadequate time
- Insufficient equipment
- No proper room
Large group of students
Inadequate training
All of the above
None of the above
Other specify.

Home Management and Foods and Nutrition 322/3
Clothing and Textiles 322/2

1. .................................................. 1. ..................................................
2. .................................................. 2. ..................................................
3. .................................................. 3. ..................................................
4. .................................................. 4. ..................................................
5. .................................................. 5. ..................................................
6. .................................................. 6. ..................................................
7. .................................................. 7. ..................................................
8. Other specify................................. 8. Other specify.................................
     .................................................. ..................................................

10. Use the scale below to show the intensity or degree of the problem each of the items poses during the teaching of Home Science.

( ) 1. Very acute
( ) 2. Fairly acute
( ) 3. Acute
( ) 4. Not very acute
( ) 5. Not acute
11. Have you been assessing your own students in Home Science practical paper three? (Home Management/Foods and Nutrition)

( ) 1. Yes
( ) 2. No
12. If your answer in question 11 above is yes answer the following questions 12 (a) 12(b) and 12(c).

If your answer in question 11 is no turn to questions 14 (a) and 14(b)

12 a) Did you have previous training in assessment by the time you assessed your students for the first time?

( ) 1. Yes
( ) 2. No

12. b) If your answer above is yes answer the following questions.

I got the training through

( ) 1. Kenya National Examinations Council
( ) 2. A seminar/IN-service
( ) 3. Learning from other teachers
( ) 4. Experience
( ) 5. Other specify. -------------------------------------------

12 c) For how long have you been assessing your students?

( ) 1. One year
( ) 2. Two years
( ) 3. Three years
4. Other specify-------------------------------------------------------------

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13. What problems do you encounter when assessing Home Science Practical paper three in the 8-4-4 System of Education? Rank the problems from the greatest to the least, one being the greatest of the problems.

( ) Lack of relevant training

( ) Too many students

( ) Lack of motivation

( ) All of the above

( ) None of the above

Other specify-------------------------------------------------------------

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14. Refer to question 12 and answer the following questions 14(a) and 14(b)

14. (a) What type of training would you like to have?----------------------

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14. (b) How long would you like the training to take?

( ) 1. 1 week

( ) 2. 2 - 3 weeks

( ) 3. 1 month

( ) 4. Other specify ________________________________

________________________________________________

________________________________________________

15. Certain characteristics are desirable if Home Science practical Examinations are to Achieve their long-term aims. In evaluating the 7-4-2-3 and the 8-4-4 systems of educations, a sample of desirable characteristics are listed below. Indicate your response according to the scale below.

1. Very satisfactory

2. Satisfactory

3. Neutral

4. Unsatisfactory

5. Very unsatisfactory

7-4-2-3  8-4-4

1  2  3  4  5  1  2  3  4  5

(a) Objectivity in assessing paper three.

( ) ( ) ( ) ( ) ( )

( ) ( ) ( ) ( ) ( )

(b) Emphasis on coursework.

( ) ( ) ( ) ( ) ( )

(c) Enthusiasm among the students

( ) ( ) ( ) ( ) ( )
(d) Teachers' motivation to teach

(e) Time allowed to cover content

(f) Change of attitude among students towards improved standard of living

(g) Facilities available

(h) Teacher well trained for teaching the syllabus

(i) Preparation of the student for the world of work.


( ) 1. By subject teacher only

( ) 2. By external examiner only

( ) 3. 90% by subject teacher and 10% by external examiner.

( ) 4. Undecided

( ) 5. Other specify-----------------------------------------------
17. Use the scale below to respond to the following statements.

(a) Emphasis on Coursework can help improve the students' performance in the final examination in Clothing and Textiles speedest (paper 322/3) 1 2 3

(b) There is need to assess Clothing and Textiles Coursework.

(c) Home Science practical paper three should be assessed by subject teacher 90% and external assessor 10%.

(d) Home Science practical paper three should be assessed by an external examiner only.

(e) Practical paper three should have different questions for students to choose by secret ballot.

(f) All students should do the same question in practical paper three.
(g) All papers in Home Science should have the same allocation in the National examinations

(h) Practical papers/examinations should have more marks than the practical paper

(i) Theory paper/examination should have more marks than the practical paper.

(j) Project work in Home Science should be encouraged and assessed by the subject teacher.

(k) Home Science teachers should be involved in the assessment of Home Science practical paper three to a lesser extent.

(l) There should be less emphasis on practical skills in the National Examinations.

(m) The practical paper should be completely scrapped and only apply principles in the theory paper

There is an urgent need to inservice Home Science teachers on how to:

(n) Set practical examinations.

(o) Administer practical examinations.
18. Write down the strengths you have observed in the 8-4-4 Home Science with regard to practical examinations.

19. Write down the weaknesses you have observed in the 8-4-4 Home Science with regard to practical examinations.

20. Write in order of priority changes you would recommend to further improve on the existing assessment procedures in Home Science.
Science Practical examinations and Clothing and Textiles Coursework.

(a) Practical paper three (Home Management/Foods and Nutrition 322/3) Recommended changes

(b) Clothing and Textiles practical paper two 322/2 (speed test).
Recommended changes

(c) Clothing and Textiles Coursework
Recommended changes

21. Write down other recommendations to the overall 8-4-4 Home Science Practical assessment programme.

THANK YOU FOR ANSWERING THESE QUESTIONS.
Appendix E: Letter of Introduction to Home Science students.
APPENDIX E

Ann W. Kamau,
P.O Box 60850,
NAIROBI.

Date:

FORM FOUR HOME SCIENCE STUDENTS,
SCHOOLS OFFERING HOME SCIENCE
UP TO FORM FOUR IN KIAMBU AND
NAIROBI SECONDARY SCHOOLS.

Dear Student,

RE: Evaluation of factors affecting the assessment of Home
Science practical examinations within the context of 8-4-4
system of education. A Study of Kiambu and Nairobi Secondary School:

You have been selected to participate in a very important
study as indicated above.

You being directly involved in the programme will
contribute significantly towards identifying the weaknesses
in the programme. This will help to improve on the assessment
of Home Science practical skills so that the 8-4-4 Home Science
graduate is better prepared for further professional training
and/or self employment.

Please respond as truthfully as you can to all the questions
on the attached questionnaire. The information you give will
be handled confidentially and will not be divulged to assess or
jeopardise you in any way.

Thank you for your support in advance.

Yours faithfully,

Anne W. Kamau

Research Permit No. OP.13/001/22C 92/3
APPENDIX F

EVALUATION OF FACTORS AFFECTING THE EFFECTIVE ASSESSMENT OF THE 8-4-4 SECONDARY SCHOOL HOME SCIENCE PRACTICAL EXAMINATIONS IN NAIROBI AND KIAMBU DISTRICT.

Questionnaire for Form Four Home Science Students

1. Please mark with a tick ( ) in the blank to indicate the choice which best answer the question below.

2. For open ended questions write down your answers in the spaces provided.

1. Your sex is?
   ( ) a. Female
   ( ) b. Male

2. Are you a boarder or a day student?
   ( ) a. Boarder
   ( ) b. Day

3. Do you think being in a boarding school would help you perform better in Home Science practicals (Clothing and Textiles Coursework, Home Management and Foods and Nutrition)?
   ( ) a. Yes
   ( ) b. No
If your answer in question 3 above is yes, answer question 4 and if your answer is no, answer question 5 below.

4. Write down reasons why you think being in a boarding school would help you improve on your Home Science practicals.


5. Write down reasons why you think being in a day school would have no bad effect on your Home Science practicals.


6. Since you started studying Home Science in secondary school, which area/unit have you enjoyed learning most?

   ( ) a. Food and Nutrition
   ( ) b. Home Management
   ( ) c. Clothing and Textiles
   ( ) d. Childcare
   ( ) e. Consumer Education

7. Rank the following subjects in order of priority to you as regards to enjoying learning the subject and/or its usefulness in your future work.

   Food and Nutrition
   Home Management
   Clothing and Textiles
   Childcare
   Consumer Education
in life. Number one being the most enjoyable. (Clothing and
Textiles, Home Management, Foods and Nutrition).

Most enjoyable  a. ................................................
Enjoyable       b. ................................................
Least enjoyable  c. ................................................

8. (a) Write down reasons in order of priority as to why you like
the unit ranked first in question 2 above

a. .................................................................
b. .................................................................
c. Clothing and Textiles (Paper 12A/B)
d. .................................................................
e. Inadequate data

(b) Write down reasons as to why you least enjoy learning the
subject/unit ranked last in question 2 above

a. .................................................................
b. .................................................................
c. Inadequate data  a. Inadequate data  b. degree of d. .................................................................
interest in the subject  c. lack of involvement or degree e. .................................................................
of the teacher

9. Rank the problems you encounter when learning the following
units in Home Science. (Home Management and Foods and
Nutrition, Clothing and Textiles). Rank them such that number
one is the greatest problem. e.g. Lack of water (1). a. Home Management and Foods and Nutrition (Paper 322/3).

Inadequate time
Insufficient equipment
No proper room
Large group of students
Other specify

b. Clothing and Textiles (Paper 322/3)

Inadequate time
Insufficient equipment
No proper room
Large group of students
Other specify

10. Use the scale below to show the intensity or degree of the problem each of the items poses during the teaching of Home Science practical skills in Home Management, Foods and Nutrition and Clothing and Textiles.

1 Acute
2 Note acute
10(a) **Clothing and Textiles (322/2)**

1. 2

( ) ( ) Inadequate time to cover syllabus

( ) ( ) Insufficient equipment

( ) ( ) No proper room

( ) ( ) Large group of students

( ) ( ) Teacher’s lack of interest to teach

10(b) **Home Management and Foods and Nutrition (322/3)**

1. 2

( ) ( ) Inadequate time to cover syllabus

( ) ( ) Insufficient equipment

( ) ( ) No proper room

( ) ( ) Large group of students

( ) ( ) Teacher’s lack of interest to teach

11. What approach would you recommend for carrying out the final assessment of the Home Science practical paper three?

(Home Management and Foods and Nutrition)

a. By subject teacher only.

b. By external examiner only

c. 90% by subject teacher and 10% by external examiner

d. Undecided

e. Other specify ____________________________

__________________________________________________________________________

__________________________________________________________________________
12. Use the scale below to respond to the following statements:

1 Agree  
2 Undecided  
3 Disagree

(a) Emphasis on Coursework helps to improve the students' performance in the final examination in Clothing and Textiles speedest (paper 322/3)  

(b) There is need to assess Clothing and Textiles Coursework.  

(c) Home Science practical paper three should be assessed by subject teacher 90% and external assessor 10%  

(d) Home Science practical paper three should be assessed by an external examiner only.  

(e) Practical paper three should have different questions for students to choose by secret ballot.  

(f) All students should do the same question in practical paper three
(g) All papers in Home Science should have the same allocation in the National examinations

(h) Practical papers/examinations should have more than 50% of the total marks in the National Examinations

(i) Theory examination (322/1) comprising the whole syllabus should have more marks than the practical examinations.

(j) Project work in Home Science should be encouraged and assessed by the subject teacher.

(k) Home Science teachers should be involved in the assessment of Form Four Home Science practical paper three to a lesser extent.

(l) There should be less emphasis on practical skills in the National Examinations.

(m) The practical paper should be completely scrapped and only principles in the theory paper

There is an urgent need to inservice all Home Science teachers on how to:
(n) Set practical examinations. ( ) ( ) ( )

(o) Administer practical examinations. ( ) ( ) ( )

(p) Assess practical examinations. ( ) ( ) ( )

(q) 8-4-4 Home Science prepares a student for further professional training and the world of work. ( ) ( ) ( )

13. How do you rate the education you have obtained as preparation for self-employment? (Tick one)
   ( ) a. Very helpful and adequate
   ( ) b. Helpful but not adequate
   ( ) c. Neither helpful nor adequate
   ( ) d. Undecided
   ( ) e. Other specify

14. Write down the good things you find in the 8-4-4 Home Science with regard to practical examinations. -------------------------------
    -------------------------------------------------------------------
    -------------------------------------------------------------------
    -------------------------------------------------------------------
    -------------------------------------------------------------------
15. Write down the bad things you find in the 8-4-4 Home Science with regard to practical examinations.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

16. Write your opinions in order of priority on the changes you would recommend to further improve on the existing assessment procedures in Home Science practical examinations and Clothing and Textiles Coursework.

a. Practical paper three (Home Management and Foods and Nutrition)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

b. Clothing and Textiles practical paper two speedtest.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

c. Clothing and textiles Coursework.

________________________________________________________________________
17. Write down other opinions you would give to the overall assessment programme.

THANK YOU FOR ANSWERING THESE QUESTIONS.